Session Numbering Key

100s Monday
200s Tuesday
300s Wednesday
400s Thursday

Sessions are numbered in the Program Book by day and time.
Posters will be on display Monday - Thursday

Changes after 5 December are included only in the online program materials.

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Northrop Grumman
Since the dawn of the space age, Northrop Grumman has put good ideas into orbit and beyond. From systems engineering, spacecraft manufacturing, precision sensors, space instrument design, ground stations development and orbiting space platforms, Northrop Grumman’s space capabilities have transformed lofty concepts into high-flying realities for a wide variety of missions.

Apogee Imaging Systems
Apogee has been manufacturing and supplying cooled CCD cameras to astronomers around the world since it was founded in 1993. Apogee’s Alta camera series is designed to offer a broad range of sensor options attractive to the Astronomy community.

The new Aspen and Ascent cameras further extends the Apogee portfolio providing higher performance and better affordability. In 2013 Apogee was acquired by Andor Technology, adding further expertise in camera development, manufacturing and customer support.

USRA
Universities Space Research Association, an independent, nonprofit research corporation that combines efforts of in-house talent and university-based expertise to advance space science & technology. USRA was founded in 1969, near the beginning of the Space Age, driven by the vision of two individuals, James Webb (NASA Administrator 1961-1968) and Frederick Seitz (National Academy of Sciences President 1962-1969). Together, they worked to create USRA to satisfy not only the ongoing need for innovation in space, but also the need to involve society more broadly so the benefits of space activities would be realized.

Today, USRA works across a wide spectrum of disciplines stemming from the range of challenges originally posed by the space program. From biomedicine to astrophysics, from basic research to facility management and operations, USRA is helping enable the study of the Universe from ground, airborne, and orbiting observatories, the study of Earth from space-based platforms, and more.
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**Registration**

South Lobby
Sunday: 3:00 pm - 8:00 pm  
Monday: 7:30 am - 5:00 pm  
Tuesday-Wednesday: 8:00 am - 5:00 pm  
Thursday: 8:00 am - 12:00 pm

**Exhibit Hall**

Hall 4AB  
Monday - Wednesday: 9:00 am - 6:30 pm  
Thursday: 9:00 am - 2:00 pm

**Exhibit Hall Events**

- **Morning Coffee Break**  
  Monday - Thursday: 9:30 am - 10:00 am

- **Poster Sessions**  
  Monday-Wednesday: 5:30 pm - 6:30 pm with cash bar  
  Thursday: 1:00 pm - 2:00 pm

  *Posters not removed by closing time each day will be recycled.*

**Speaker Ready Room**

Room 603  
Sunday: 3:00 pm - 5:00 pm  
Monday - Friday: 7:30 am - 4:00 pm  
Thursday: 7:30 am - 2:00 pm
Cyber Cafe - Sponsored by Northrop Grumman

Hall 4AB
Monday-Wednesday: 9:00 am - 6:30 pm
Thursday: 9:00 pm - 2:00 pm
Absolutely no food or drink is permitted in the Cyber Café.

Donor and Sponsor Lounge

Attendance by Invitation Only
Room 601
Monday - Wednesday: 7:30 am - 5:30 pm
Thursday: 7:30 am - 2:00 pm

What’s New at the Meeting

For Undergrads & Other Inquiring Minds

• Gamma Ray Bursts and the Birth of Black Holes, Neil A. Gehrels (Goddard Space Flight Center)  
  Monday, 1:15 pm - 2:00 pm, Room 6C

• Dwarf Irregular Galaxies, Deidre A. Hunter (Lowell Observatory)  
  Tuesday, 1:15 pm - 2:00 pm, Room 6C

• Dust in Space, Geoffrey C. Clayton (Louisiana State University)  
  Wednesday, 1:15 pm - 2:00 pm, Room 6C

Job Fair at the Career Networking Event

Meet with representatives to discuss possible employment opportunities. Learn about the various companies advertising with the AAS in the Job Register and Career Center.  
Monday, 6:30 pm - 8:00 pm - Room 4C-3
Using Your Own Laptop or Mobile Device While at the Meeting

• The network is monitored throughout the meeting, and the AAS staff reserves the right to disconnect any device that is causing network problems or harm to other devices.

• Please keep your software up to date and use a firewall and virus/spyware protection when necessary.

• No device should be running as a server for offsite clients.

• Absolutely no routers may be attached to the network without prior authorization from the AAS IT staff.

• Wireless service will be available throughout the entire meeting space, though some areas may experience limited connectivity. Wireless access information is printed on the back of your badge. Please note that the wireless is not encrypted.

• Due to FCC regulations and physical laws, some of the available wireless spectrum can become overcrowded and temporarily unusable, which limits connectivity and speeds. We work hard to avoid this without breaking the laws set by the government or physics.

• Wireless connections will be dropped after 40 minutes of inactivity.

A Special Thank You To Our Abstract Sorters

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<tr>
<th>Gina Brissenden</th>
<th>Kathryn Grasha</th>
<th>Michael Rutkowski</th>
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<td>Nimish Hathi</td>
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<td>Jeff Carlin</td>
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<td>Scott Fleming</td>
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Rodger Doxsey Travel Prize

The Rodger Doxsey Travel Prize, established through the support of his father, John Doxsey, and other friends, family, and colleagues, provides graduate students within one year of receiving or receipt of their PhD a monetary prize to enable the oral presentation of their dissertation research at a winter AAS meeting.

Winners:

Sirio Belli  Behnam Darvish  James Davenport  Brian Friesen

Korey Haynes  Myoungwon Jeon  Claude “Trey” Mack  Brett McGuire

Katherine Rabidoux  Aomawa Shields (photo credit: Martin Cox)

Honorable Mentions:

Camille Avestruz  L. Ilsedore Clevees  Tyler Desjardins  Daniel Foreman-Mackey  Jordan Mirocha
A GUIDE TO AAS MEETING ETIQUETTE

AAS meetings are the largest and most logistically complex astronomy meetings in the world. We ask all attendees to work together to enhance the value of the meetings by keeping in mind the following points.

Executive Summary

• Do wear your AAS identification badge at all times during the meeting.
• Do obey the “golden rule,” i.e., treat others as you would have them treat you.
• Do not hog wireless bandwidth; use the AAS wireless service sparingly.
• Do be quiet during presentations; use computers and mobile devices discretely.
• Do silence all cell phones and other electronic devices with audible alerts.
• Do not blog, tweet, or otherwise post private conversations online.
• Do not panic if reporters attend your talk on results under journal embargo.
• Do pick up after yourself by depositing trash in the appropriate receptacles.

General Considerations

Meetings of the American Astronomical Society are not public events. All attendees must register at the applicable rate; registration types are structured to cover all situations. The only exceptions involve sessions or other activities specifically noted as being open to the public, such as public talks or star parties held in collaboration with local amateur astronomers.

Identification badges must be worn at all times during the meeting. These badges help meeting attendees, AAS staff, and security personnel identify registered participants. Attendees not wearing their name badges will be denied entrance to session rooms, the exhibit hall, and other meeting venues. If you lose your name badge, visit the AAS registration desk to obtain a new one. Note that the design of AAS meeting badges changes regularly to prevent the inappropriate reuse of old badges.

Attendance at AAS meetings is not a right but a privilege, and attendees are expected to behave professionally. The AAS is committed to providing an atmosphere that encourages the free expression and exchange of scientific ideas. The AAS is further dedicated to the philosophy of equality of opportunity and treatment for all members and other meeting attendees, regardless of gender, race, ethnic origin, religion, age, marital status, sexual orientation, disabilities, or any other reason not related to scientific merit. It is AAS policy that all participants in Society activities will enjoy an environment free from all forms of discrimination, harassment, and retaliation. Harassment, sexual or otherwise, is a form of misconduct that undermines the integrity of Society meetings. Violators will be subject to discipline. (Full AAS anti-harassment policy: http://aas.org/policies/anti-harassment-policy)

AAS-meeting staff are trained professionals, expert at organizing and conducting scientific meetings. They work with professional contractors who specialize in providing audio-visual and other services, and with professional hotel and convention-center
staff as well. The AAS retains security services, sometimes through the meeting venue and sometimes privately, to ensure the safety and security of all meeting attendees and exhibitors. Help us ensure a safe, secure, and professional environment by acting appropriately, reporting inappropriate behavior, and paying attention to those around you and your environment.

Attendees who are notably disrespectful or who act in an unprofessional manner toward meeting staff, contractors, other attendees, or hotel or convention-center staff will be required to leave the meeting and may have their registration rescinded without refund. In extreme cases, the AAS may call law-enforcement authorities and/or pursue legal action.

Note that all sessions except those marked “private” by the AAS are open to all registered attendees, including scientists, educators, students, journalists, and guests. All are due the same level of professional respect and courtesy. Only with your help can we ensure the most productive scientific conference.

Computers & Internet Service

The AAS provides wireless Internet service throughout each meeting, but we cannot guarantee full coverage in all locations. We provide priority access in the common areas. This means you may experience limited connectivity in the session rooms.

If you do make use of wireless Internet access during a presentation, or even if you are just taking notes on your computer, please keep your activities as quiet as possible so as to minimize distractions to other attendees and the speaker. If you must use a computer during a session, please consider sitting near the back of the room so as not to distract the speaker or session chair. These same guidelines apply to mobile phones, tablets, and other electronic devices.

One of the cost drivers for meeting registration is provision of adequate bandwidth, which — believe it or not — costs tens of thousands of dollars per meeting. Excessive downloading or uploading of files, software updates, streaming video, and other bandwidth-hungry activities (e.g., gaming, exploring virtual worlds) increases the costs for all attendees. The AAS reserves the right to ban excessive users from its meeting network and to use site blocking, port blocking, and traffic shaping to ensure adequate bandwidth for all.

Mobile Phones & Related Devices

Cell phones, tablets, pagers, and similar electronic devices should be silenced. Before each session begins and before you enter an active session, please silence your cell phone and any other devices that have audible alerts. Switching phones to vibrate rather than ring is not sufficient, as the vibrations can be heard or felt by those nearby.

Do not dial or take a phone call during a session. Please exit the session room before beginning or answering a call. All modern mobile phones have caller-ID and call-back features — please make use of them.
Blogging & Tweeting

If you blog, tweet, or otherwise post near-real-time material from the meeting online, you must follow the guidelines above concerning the use of computers, tablets, mobile phones, and AAS wireless bandwidth.

Please do not publicly report private conversations — only scheduled presentations and public comments are fair game for blogging, tweeting, etc.

Remember that many presentations at AAS meetings concern work that has not yet been peer-reviewed. So think twice before posting a blog entry or tweet that is critical of such work. It is helpful to receive constructive criticism during the Q&A after your talk or while standing next to your poster, but it is hurtful to be raked over the coals online before your session is even over and with no easy way to respond.

*New York Times* editor Bill Keller said it well. When it comes to meetings among colleagues, he explained, “We need a zone of trust, where people can say what is on their minds without fear of having an unscripted remark or a partially baked idea zapped into cyberspace. Think of it as common courtesy.”

Sessions & Questions

If you are giving a presentation, please be sure you have read the speaker and AV instructions on the AAS website (http://aas.org/meetings/aas-speaker-ready-and-audio-visual-information). All oral presentations must be uploaded to the internal network in the Speaker Ready Room. Personal laptops and USB drives will not be permitted for presentations in session rooms. We ask that you upload your presentation at least 24 hours in advance. Be sure to show up at your session on time.

The session chair is in charge of the session. He or she is empowered to stop questioning and to rearrange or otherwise adjust time slots (or not) based on tardiness or non-attendance of a scheduled speaker. The chair cannot extend talk times beyond the common limits of 10 minutes for regular contributions and 20 minutes for dissertation contributions (including time allotted for Q&A). When asking questions of speakers please be professional, courteous, and polite. This is especially important when questioning students presenting their dissertation research. Be considerate of other people wishing to ask questions. If you have multiple or detailed questions, speak with the presenter after the session.

Journalists & Embargoes

If your presentation covers results that have been, or will be, submitted to *Nature* or *Science* or any other journal with a strict embargo policy, be sure you understand how that policy applies to scientific meetings. No journal wishes to hinder communication between scientists. For example, both *Science and Nature* state explicitly that conference presentations do not violate their embargo policies. Both journals also state that if your presentation covers work that has been, or will be, submitted to them, you should limit your interaction with reporters to clarifying the specifics of your presentation. As Science
puts it, “We ask that you do not expand beyond the content of your talk or give copies of the paper, data, overheads, or slides to reporters.” That does not mean you should be rude if a reporter asks you for such materials or poses a question that you do not want to answer — just explain that your results are under embargo at *Science or Nature*, and the reporter will understand why you cannot be more forthcoming.

**Photography & Video**

Many events and presentations at AAS meetings are recorded for posterity by a Society photographer. Some sessions, and all press conferences, are videotaped and eventually posted on the AAS members website as a member benefit. Your attendance at an AAS meeting signifies your agreement to be photographed or videotaped in the course of normal meeting business. Invited and prize lecturers will be asked to sign a form for legal clarity. If you take pictures during the meeting, please be considerate of others. Do not use a flash when taking pictures during sessions.

**Eating, Drinking & Smoking**

Because our meetings are so full of great content, it can be hard to find time to eat breakfast or lunch. If you must eat or drink while attending a session, please do so quietly and be sure to deposit your trash properly after the session ends. Additional cleaning services cost the AAS money and increase registration costs.

Some venues have strict policies against eating or drinking in particular areas. Meeting attendees are expected to follow these policies. Attendees may not bring their own alcoholic beverages or drink them at the meeting venue outside of areas or times when they are sold. Obviously this does not apply to bars, restaurants, or other facilities co-located with our meeting venues. AAS meetings are strictly non-smoking, consistent with laws in the localities where we hold our conferences. When possible, smoking areas will be clearly identified.

**Activities Other than Official AAS Events**

AAS members are reminded that social interactions that occur outside of official AAS activities are not sponsored by AAS and should not be considered AAS activities. AAS’s business and social programs and activities are limited to those that are planned and officially publicized through AAS, and AAS is not responsible for any other activities that may take place before or after such programs and activities. Participation in any such outside activities is purely voluntary. *Any such outside gatherings or events are solely the responsibility of those who decide to participate in them.*

If you choose to attend any outside gathering or participate in any such non-AAS sponsored activity, however, please be mindful that that as AAS members you are still expected to uphold the same standards of personal conduct with respect to fellow members as you would at an AAS-sponsored program or activity. Please also be extremely mindful of your own safety as well as that of your colleagues at all times: if you choose to use alcohol, do so only in moderation; and keep the safety and behavior of yourself and colleagues uppermost in your mind.
### Schedule at-a-Glance

**Saturday, 3 January 2015 • Sunday, 4 January 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>9:00 am</td>
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<td>8:00 am</td>
<td>Registration, 7:30 am - 5:00 pm, Room 6C</td>
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<td>9:00 am</td>
<td>Speaker Ready Room, 7:30 am - 4:00 pm, Room 603</td>
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<td>9:30 am</td>
<td>Exhibition Hall, 9:00 am - 6:30 pm, Hall 4AB</td>
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<tr>
<td>2:00 pm</td>
<td>Engaging Scientists in NASA Astrophysics E/PO, 12:30 pm - 2:00 pm, Room 4C-1</td>
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<tr>
<td>2:15 pm</td>
<td>Press Conference, 10:15 am - 11:15 am, Room 307/308</td>
</tr>
<tr>
<td>3:40 pm</td>
<td>Oral and Special Sessions 119 - 133, 2:00 pm - 3:30 pm</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>For Undergrads &amp; Other Inquiring Minds: Gamma Ray Bursts and the Birth of Black Holes, 1:15 pm - 2:00 pm, Room 6C</td>
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<td>Press Conference, 10:15 am - 11:15 am, Room 307/308</td>
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<td>UV/OIR Space Astronomy beyond the 2020s</td>
<td>Room 6C</td>
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</table>
Monday, 6 January 2015

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>6:00 am</td>
<td>Plenary Session 1: Gaia - ESA’s Galactic Census Mission, Room 6E</td>
</tr>
<tr>
<td>7:00 am</td>
<td>Breakfast</td>
</tr>
<tr>
<td>7:30 am</td>
<td>Oral and Special Sessions 202 - 216</td>
</tr>
<tr>
<td>8:00 am</td>
<td>Press Conference</td>
</tr>
<tr>
<td>8:00 am</td>
<td>AAS Prize Presentations: Weber, Van Biesbroeck, Education, Room 6E</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Exhibits</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Poster Session 240 - 261</td>
</tr>
<tr>
<td>10:00 am</td>
<td>Science with the 3D-HST Survey, Room 6A</td>
</tr>
<tr>
<td>11:00 am</td>
<td>Plenary Session 2: Cannon Award: New Frontiers in Stellar Astrophysics, Room 6E</td>
</tr>
<tr>
<td>12:00 noon</td>
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SCHEDULE AT-A-GLANCE

Tuesday, 6 January 2015

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<td>Science with the 3D-HST Survey, Room 6A</td>
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<td>Plenary Session 13: The Future of the Universe, Room 6E</td>
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<td>Time</td>
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<tr>
<td>2:00 pm</td>
<td>Oral and Special Sessions 219 - 233, 2:00 pm - 3:30 pm</td>
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<tr>
<td></td>
<td>219 Extrasolar Planets: Ground and Space Based Surveys II</td>
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<td>220 Cosmic Microwave Background</td>
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<td>221 AGN, QSO, Blazars IV</td>
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<td>222 The NuSTAR Extended Mission</td>
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<td>223 Luminous Stars in Nearby Galaxies and the Local Group</td>
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<td>224 Extrasolar Planets: Formation and Evolution</td>
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<td>225 Stellar and Intermediate-Mass Black Holes</td>
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<td>226 Tech Industry Careers: AAS Employment Committee Panel Discussion</td>
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<td>227 Spiral Galaxies</td>
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<td>228 The International Year of Light 2015 (IYL2015)</td>
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<td>229 Activity and Variability in Low-Mass Stars</td>
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<td>230 Star Associations, Star Clusters - Galactic &amp; Extra-galactic II</td>
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<td>231 Galaxy Simulations and Techniques</td>
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<td>232 Licensing Astrophysics Codes: What You Need to Know</td>
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<td>233 Celebrating 10 Years of Diversity in Astronomy with Pre-MAP</td>
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<tr>
<td>2:15 pm</td>
<td>Press Conference</td>
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<tr>
<td>3:40 pm</td>
<td>234 Plenary Session: Heineman Prize: The Dark and Light Side of Galaxy Formation, Piero Madau (University of California, Santa Cruz), 3:40 pm - 4:30 pm, Room 6E</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>235 Plenary Session: HEAD Rossi Prize: The Fermi Bubbles; Douglas Finkbeiner, Tracy Slatyer, Meng Su, 4:30 pm - 5:20 pm, Room 6E</td>
</tr>
<tr>
<td>5:30 pm</td>
<td>Evening Poster Session, 5:30 pm - 6:30 pm, Hall 4AB</td>
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<tr>
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<td>Career Hour 4: Transitioning Your Career Beyond Academia, 5:30 pm - 6:30 pm, Room 618/619</td>
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<tr>
<td>6:30 pm</td>
<td>236 Town Hall: JWST Town Hall, 6:30 pm - 8:00 pm, Room 6E</td>
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<td>237 Town Hall: NIAO Town Hall, 6:30 pm - 8:30 pm, Room 4C-3/4</td>
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<tr>
<td></td>
<td>238 Town Hall: HEAD Business Meeting, 6:30 pm - 7:30 pm, Room 6B</td>
</tr>
<tr>
<td></td>
<td>Gemini Open House, 6:30 pm - 8:30 pm, Room 6A</td>
</tr>
<tr>
<td>8:00 pm</td>
<td>Open Mic Night</td>
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</table>

**Tuesday, 6 January 2015 continued**

**Plenary Session**

- **HEINEMAN PRIZE: THE DARK AND LIGHT SIDE OF GALAXY FORMATION**, Piero Madau (University of California, Santa Cruz), 3:40 pm - 4:30 pm, Room 6E
- **HEAD ROSSI PRIZE: THE FERM BUBBLES**, Douglas Finkbeiner, Tracy Slatyer, Meng Su, 4:30 pm - 5:20 pm, Room 6E

**Town Hall**

- **JWST TOWN HALL**, 6:30 pm - 8:00 pm, Room 6E
- **NIAO TOWN HALL**, 6:30 pm - 8:30 pm, Room 4C-3/4
- **HEAD BUSINESS MEETING**, 6:30 pm - 7:30 pm, Room 6B
- Gemini Open House, 6:30 pm - 8:30 pm, Room 6A
- **OPEN MIC NIGHT**, 8:00 pm - 9:00 pm, Room 616/617
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<tr>
<td>7:30 am</td>
<td>Speaker Ready Room, 7:30 am - 4:00 pm, Room 603</td>
</tr>
<tr>
<td>8:00 am</td>
<td>Registration, 8:00 am - 3:00 pm, South Lobby</td>
</tr>
<tr>
<td>8:30 am</td>
<td>Session Chair Breakfast, 8:30 am - 8:45 am, Hall 4AB</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Exhibit Hall, 9:00 am - 5:30 pm, Hall 4AB</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Coffee Break, 9:30 am - 10:00 am, Hall 4AB</td>
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<td>10:00 am</td>
<td>Oral and Special Sessions 301 - 314, 10:00 am - 11:30 am</td>
</tr>
<tr>
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<td>Poster Conference, 10:15 am - 11:15 am, Room 603</td>
</tr>
<tr>
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<td>Press Conference, 10:15 am - 11:15 am, Room 307/308</td>
</tr>
<tr>
<td>11:40 am</td>
<td>316 Plenary Talk: Initiative and Parallel Universes, Science of Fiction, Max Siegfried (MIT), 11:40 am - 12:30 pm, Room 6E</td>
</tr>
<tr>
<td>12:30 pm</td>
<td>Career Hour 5: Interviewing: What You Need to Do Before, During, and After to Get the Job, 12:30 pm - 1:30 pm, Room 618/619</td>
</tr>
<tr>
<td>12:45 pm</td>
<td>317 Town Hall: NASA, Town Hall, 12:45 pm - 1:45 pm, Room 6E</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>For Undergrads &amp; Other Inquiring Minds: Dust in Space, Geoffery C. Layton (Louisiana State University), 1:15 pm - 2:00 pm, Room 6C</td>
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<tr>
<td>7:30 am</td>
<td>Plenary Session: The Interactions of Exoplanets with their Parent Stars, Najia Poppenhaeger (Harvard-Smithsonian Center for Astrophysics), 8:30 am - 9:20 am, Room 6E</td>
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**Wednesday, 7 January 2015**

- **9:30 am**
  - **Cosmology I**
  - Room 6A

- **9:45 am**
  - **Results from the SDSS-III/APOGEE Survey I**
  - Room 6B

- **10:00 am**
  - **AGN, QSO, Blazars V**
  - Room 6C

- **10:15 am**
  - **Galaxy Clusters I**
  - Room 6E

- **10:30 am**
  - **Supermassive Black Holes**
  - Room 610

- **10:45 am**
  - **Extrasolar Planets: Host Stars and Interactions**
  - Room 616/617

- **11:00 am**
  - **Neutron Stars in Binary Systems and Millisecond Pulsars**
  - Room 618/619

- **11:15 am**
  - **Reports from NASA's Program Analysis Groups (CoPAG, PhysPAG and ExoPAG)**
  - Room 606

- **11:30 am**
  - **Elliptical Galaxies**
  - Room 607

- **11:45 am**
  - **White Dwarfs and Variable Stars**
  - Room 608

- **12:00 pm**
  - **Instrumentation: Space Missions - Ground Based or Airborne I**
  - Room 609

- **12:15 pm**
  - **Relativistic Astrophysics, Gravitational Lenses & Waves**
  - Room 611

- **12:30 pm**
  - **Protoplanetary Disks and Stellar Accretion**
  - Room 612

- **12:45 pm**
  - **Intergalactic Medium, QSO Absorption Line Systems I**
  - Room 615

- **1:00 pm**
  - **Astroinformatics and Astrostatistics in Astronomical Research: Steps Towards Better Curricular Room 620**

- **1:15 pm**
  - **Cataclysmic Variables, Stellar Winds and Ejecta, and Eta Carinae Posters**
  - Room 616

- **1:30 pm**
  - **Binary Stellar Systems & X-Ray Binaries Posters**
  - Room 617

- **1:45 pm**
  - **Pulsars and Neutron Star Posters**
  - Room 618

- **2:00 pm**
  - **Black Hole Posters**
  - Room 619

- **2:15 pm**
  - **Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects Posters**
  - Room 620

- **2:30 pm**
  - **Circumstellar Disk Posters**
  - Room 621

- **2:45 pm**
  - **Catalogs, Surveys, and Computation Posters**

- **3:00 pm**
  - **Instrumentation: Ground Based or Airborne Posters**

- **3:15 pm**
  - **GALAXY Clusters I**
  - Room 61

- **3:30 pm**
  - **Results from the SDSS-III/APOGEE Survey I**
  - Room 62

- **3:45 pm**
  - **Supermassive Black Holes**
  - Room 63

- **4:00 pm**
  - **Extrasolar Planets: Host Stars and Interactions**
  - Room 64

- **4:15 pm**
  - **Neutron Stars in Binary Systems and Millisecond Pulsars**
  - Room 65

- **4:30 pm**
  - **Reports from NASA's Program Analysis Groups (CoPAG, PhysPAG and ExoPAG)**
  - Room 66

- **4:45 pm**
  - **Elliptical Galaxies**
  - Room 67

- **5:00 pm**
  - **White Dwarfs and Variable Stars**
  - Room 68

- **5:15 pm**
  - **Instrumentation: Space Missions - Ground Based or Airborne I**
  - Room 69

- **5:30 pm**
  - **Relativistic Astrophysics, Gravitational Lenses & Waves**
  - Room 610

- **5:45 pm**
  - **Protoplanetary Disks and Stellar Accretion**
  - Room 611

- **6:00 pm**
  - **Intergalactic Medium, QSO Absorption Line Systems I**
  - Room 615

- **6:15 pm**
  - **Astroinformatics and Astrostatistics in Astronomical Research: Steps Towards Better Curricular Room 620**

- **6:30 pm**
  - **Cataclysmic Variables, Stellar Winds and Ejecta, and Eta Carinae Posters**
  - Room 616

- **6:45 pm**
  - **Binary Stellar Systems & X-Ray Binaries Posters**
  - Room 617

- **7:00 pm**
  - **Pulsars and Neutron Star Posters**
  - Room 618

- **7:15 pm**
  - **Black Hole Posters**
  - Room 619

- **7:30 pm**
  - **Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects Posters**
  - Room 620

- **7:45 pm**
  - **Circumstellar Disk Posters**
  - Room 621
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>NOAO Data Reduction Mini-Workshop, Near-IR Data, 2:30 pm - 4:00 pm, Room 401</td>
<td>401</td>
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<tr>
<td>2:00 pm</td>
<td>Oral and Special Sessions 318 - 332, 2:00 pm - 3:30 pm</td>
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<tr>
<td>2:15 pm</td>
<td>Press Conference</td>
<td>307/308</td>
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<tr>
<td>3:00 pm</td>
<td>WFIRST Science Planning Workshop: Understanding, Discussing, and Overcoming Imposter Syndrome, 3:30 pm - 7:00 pm, Room 607</td>
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<td>3:30 pm</td>
<td>Evening Poster Session</td>
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<td>Workshop: Imposter Sydrome</td>
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<tr>
<td>8:00 pm</td>
<td>Evening Poster Session</td>
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### Schedule At-A-Glance

**Thursday, 8 January 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30 am</td>
<td>Speaker Ready Room, 7:30 am - 2:00 pm, Room 603</td>
</tr>
<tr>
<td>8:00 am</td>
<td>Registration, 8:00 am - 12:00 pm, South Lobby</td>
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<tr>
<td></td>
<td>Session Chair Breakfast, 8:00 am - 8:30 am, Room 614</td>
</tr>
<tr>
<td>8:30 am</td>
<td><strong>400 Plenary Session</strong>: Planetary Nebulae: Reviews and Previews of a Rapidly Evolving World, Bruce Balick (University of Washington), 8:30 am - 9:20 am, Room 6E</td>
</tr>
<tr>
<td>9:00 am</td>
<td>Exhibit Hall, 9:00 am - 2:00 pm, Hall 4AB</td>
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<td></td>
<td>Cyber Café, 9:00 am - 2:00 pm, Hall 4AB</td>
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<tr>
<td></td>
<td>Coffee Break, 9:30 am - 10:00 am, Hall 4AB</td>
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<tr>
<td>10:00 am</td>
<td><strong>Oral and Special Sessions</strong>: 401 - 415, 10:00 am - 11:30 am</td>
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<td><strong>Hack Day</strong>: 10:00 am - 7:00 pm, Room 4C-2</td>
</tr>
<tr>
<td>10:15 am</td>
<td>Press Conference, 10:15 am - 11:15 am, Room 307/308</td>
</tr>
<tr>
<td>11:40 am</td>
<td><strong>416 Plenary Session</strong>: Alma Presents a Transformational View of the Universe, Al Wootten (NRAO), 11:40 am - 12:30 pm, Room 6E</td>
</tr>
<tr>
<td>12:30 pm</td>
<td>Career Hour 6: Negotiation Strategy and Tactics, 12:30 pm - 1:30 pm, Room 618/619</td>
</tr>
<tr>
<td>12:45 pm</td>
<td><strong>417 Town Hall</strong>: Hubble Space Telescope Town Hall, 12:45 pm - 1:45 pm, Room 6E</td>
</tr>
<tr>
<td>1:00 pm</td>
<td><strong>Afternoon Poster Session</strong>: 1:00 pm - 2:00 pm, Hall 4AB</td>
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</tbody>
</table>

**Schedule Details**

- **Session Chair Breakfast**: 8:00 am - 8:30 am, Room 614
- **Speaker Ready Room**: 7:30 am - 2:00 pm, Room 603
- **Registration**: 8:00 am - 12:00 pm, South Lobby
- **Cyber Café**: 9:00 am - 2:00 pm, Hall 4AB
- **Coffee Break**: 9:30 am - 10:00 am, Hall 4AB
- **Oral and Special Sessions 401 - 415**: 10:00 am - 11:30 am
- **Hack Day**: 10:00 am - 7:00 pm, Room 4C-2
- **Press Conference**: 10:15 am - 11:15 am, Room 307/308
- **Plenary Session**: 11:40 am - 12:30 pm, Room 6E
- **Town Hall**: 12:45 pm - 1:45 pm, Room 6E
- **Afternoon Poster Session**: 1:00 pm - 2:00 pm, Hall 4AB
## SCHEDULE AT-A-GLANCE

### Thursday, 8 January 2015

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>2:00 pm</td>
<td>Oral and Special Sessions 418 - 429, 2:00 pm - 3:30 pm</td>
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<tr>
<td>2:15 pm</td>
<td>Press Conference, 2:15 pm - 3:15 pm, Room 307/308</td>
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<tr>
<td>2:15 pm</td>
<td>Plenary Session: Henry Norris Russell Lecture: A Historical and Scientific Perspective on Harvard College Observatory and CfA, George Field (Harvard-Smithsonian CfA), 3:40 pm - 4:30 pm, Room 6E</td>
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</tr>
<tr>
<td>3:40 pm</td>
<td>Plenary Session: Lancelot M. Berkeley Prize: Cosmological Highlights from the Sloan Digital Sky Survey, David Weinberg (Ohio State University), 4:30 pm - 5:20 pm, Room 6E</td>
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</tr>
<tr>
<td>5:30 pm</td>
<td>Closing Reception, 5:30 pm - 7:00 pm, Monona Ballroom (Grand Hyatt Hotel)</td>
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WHEN THIS IS YOUR BACKYARD, YOU CAN’T HELP BUT EXPLORE.

When you’ve been in space long enough, you start to feel at home.
We’ve been pushing the limits of what’s possible out here since the dawn of the space age. For over 60 years, we at Northrop Grumman have been igniting the flame for space exploration—inspiring generations to stop and look up.
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Triennial Earth-Sun Summit

26 APRIL - 1 MAY 2015
INDIANAPOLIS, IN

A Meeting Uniting the Heliophysics Community

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Abstract Deadline: 22 January 2015

aas.org/meetings/tess2015
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Teach students to question what they know with a text that supports scientific thinking and active learning. The authors emphasize the Process of Science with figures that help students visualize how science is done, while Unanswered Questions boxes at the end of each chapter pose questions that have yet to be answered and help students recognize that we don’t know everything.

Stop by Norton booth #302 to request these books and flip through *The Science of Interstellar* from Kip Thorne.
AAS/DPS Astronomy Ambassadors Outreach Workshop

Sunday, 8:00 am - 5:00 pm; Tucson Ballroom I

Are you excited about what you do and want to gain some skills in sharing that enthusiasm with the public? Do you wonder why they look at you blankly when you discuss small-scale structure of the plasma convection and electron content within the subauroral polarization stream? This workshop is an opportunity to gain some basic communication skills for bringing your research to the public, to discover great resources for outreach activities, and network with others motivated to make outreach an integral part of their professional identity.

Chair(s): Suzanne Gurton (Astronomical Society of the Pacific)

Exoplanet Exploration Program Analysis Group (ExoPAG-11)

Saturday, 9:00 am - 5:00 pm; 6A

NASA’s Exoplanet Exploration Program Analysis Group (ExoPAG) will hold its eleventh meeting in Seattle. ExoPAG meetings are open to the entire scientific community, and offer an opportunity to participate in discussions of scientific and technical issues in exoplanet exploration, and to provide input into NASA's Exoplanet Exploration Program (ExEP). All interested members of the astronomical and planetary science communities are invited to attend and participate. ExoPAG-11 will continue to focus on soliciting input from the wider exoplanet community on ways in which NASA might facilitate exoplanet research over the next few years, as well as input on how it should prioritize its ExEP activities. There will be reports from the active Study Analysis Groups (SAGs), as well as from the newly-constituted Science Interest Group (SIG) entitled “Toward a Near-Term Exoplanet Community Plan”.

Organizer(s): Ozhen Pananyan (JPL)
Chair(s): Stephen Unwin (JPL)

CAE’s Tier I Teaching Excellence 2-Day Workshop

Saturday, 9:00 am - 5:30 pm; 608

Are you a current or future instructor teaching Earth, Astronomy, or Space Science? Would you like your classroom to actively engage your students in discourse about the big ideas of your class; how evidence is used to understand the universe; and the role of science in society? We invite you to come to our CAE Teaching Excellence Workshop. Spend time with your colleagues becoming an effective implementor of active-learning instructional strategies. Learn how to transform your classroom into a vibrant learning environment that will: (1) increase students’ conceptual understandings; (2) improve their abilities to think critically, interpret graphs, and reason about quantitative data; (3) motivate them to actively engage in their learning; and (4) improve their self-efficacy. This Workshop will provide you with the experiences you need to create effective and productive active-learning classroom environments. We will model best practices in implementing many different classroom-tested instructional strategies. But
most importantly, you and your workshop colleagues will gain first-hand experience implementing these strategies yourselves. During our many microteaching events, you’ll have the opportunity to role-play the parts of student and instructor. You’ll assess and critique each other’s implementation in real-time, as part of a supportive learning community. You’ll have the opportunity to face and conquer your fears of unfamiliar teaching in collaboration with kind and gentle friends and mentors before you try them by yourself in front of your students. Workshop topics will include: creating inclusive classroom environments; strategies to improve retention & diversity of STEM majors & grads; collaborative group learning; interactive lectures, demonstrations, and videos; effective use of writing; Think-Pair-Share (Peer Instruction, Clicker Questions); Lecture-Tutorials; Ranking Tasks; assessment strategies (including homework, grading, and exams). Presented by Edward Prather and Gina Brissenden (Center for Astronomy Education (CAE), along with Seth Hornstein (Univ. of Colorado Boulder).

Organizer(s): Gina Brissenden (Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona)

AAS Astronomy Ambassadors Workshop

Saturday, 9:00 am - 5:30 pm; 615

The AAS Astronomy Ambassadors program is designed to support early-career AAS members with training in resources and techniques for effective outreach to K-12 students, families, and the public. Workshop participants will learn to communicate more effectively with public and school audiences; find outreach opportunities and establish ongoing partnerships with local schools, museums, parks, and/or community centers; reach audiences with personal stories, hands-on activities, and jargon-free language; identify strategies and techniques to improve their presentation skills; gain access to a menu of outreach resources that work in a variety of settings; and become part of an active community of astronomers who do outreach. Participation in the program includes a few hours of pre-workshop online activities to help us get to know your needs; the two-day workshop, for which lunches and up to 2 nights’ lodging will be provided; and certification as an AAS Astronomy Ambassador, once you have logged three successful outreach events. The workshop includes presenters from the American Astronomical Society, the Astronomical Society of the Pacific, and the Pacific Science Center. The number of participants is limited, and the application requires consent from your department chair. We invite applications from graduate students, postdocs and new faculty in their first two years after receipt of their PhD, and advanced undergraduates doing research and committed to continuing in astronomy. Early-career astronomers who are interested in doing outreach, but who haven’t done much yet, are encouraged to apply; we will have sessions appropriate for both those who have done some outreach already and those just starting their outreach adventures. We especially encourage applications from members of groups that are presently underrepresented in science.

Organizer(s): Suzanne Gurton (Astronomical Society of the Pacific)
Software Carpentry Bootcamp

Saturday, 9:00 am - 5:30 pm; 609

Computing is now an integral part of every aspect of science, but most scientists are never taught how to build, use, validate, and share software well. As a result, many spend hours or days doing things badly that could be done well in just a few minutes. The goal of AAS 225 Software Carpentry 2 day “bootcamp” is to change that so that astronomers can spend less time wrestling with software and more time doing useful research. Further, good quality, well tested code means science results are easier to verify, share, and update. More information on the Software Carpentry project can be found . The AAS 225 Software Carpentry bootcamp consists of short tutorials alternating with hands-on practical exercises and will cover the core software skills needed build, use, validate, and share software in astronomy: Saturday’s tutorials will comprise shell automation, basic python programming, and unit testing; Sunday’s sessions will shift to focus on advanced python, including numerical and astronomy oriented computing, and version control. Registration is for both days. The target audience for the bootcamp consists of graduate students and early career scientists. The Software Carpentry @ AAS 225 Bootcamp will be run by a set of three certified instructors and a team of helpers. Participants will be required to bring laptops and to install software in advance of the workshop. Some basic familiarity with shell based computing was assumed in setting the bootcamp schedule. See also a FAQ at for more information.

Organizer(s): August Muench (Smithsonian Astrophysical Observatory)

2015 NSF Postdoctoral Fellows Symposium

Saturday, 1:00 pm - 6:00 pm; 606

This is the annual meeting of the NSF Astronomy & Astrophysics Postdoctoral Fellows (AAPF). The NSF AAPF program supports young scientists who carry out an integrated program of independent research and education/public outreach. During this two-day annual symposium, the Fellows gather to give talks on their current research and outreach projects. Several outside speakers are also invited to give keynote talks and participate in discussion panels on a range of topics such as exploring non-traditional outreach methods, addressing the next big problems in astronomy, and exploring alternative careers outside of academia. This meeting provides an opportunity for the current, past, and prospective Fellows to meet and discuss their work with members of the community, learn from each other’s experiences, and to foster new collaborations. All members of the astronomical community are welcome and encouraged to attend.

Organizer(s): Jeffrey Silverman (University of Texas at Austin)
AAS Council Meeting

Sunday, 8:00 am - 4:00 pm; 611

The AAS Council is the board of directors for the AAS, which is a 501(c)3 non-profit corporation incorporated in the District of Columbia. The Council meeting, which is open to AAS members except for any executive sessions (note: limited seating is available due to space constraints), allows for routine corporate business (such as approval of prize winners and setting each year’s budget) as well as discussion of current conditions in the field of astronomy and closely related sciences, setting of long-term goals, and allocation of resources to achieve these goals.

CAE’s Tier I Teaching Excellence 2-Day Workshop

Sunday, 8:00 am - 5:30 pm; 608

Are you a current or future instructor teaching Earth, Astronomy, or Space Science? Would you like your classroom to actively engage your students in discourse about the big ideas of your class; how evidence is used to understand the universe; and the role of science in society? We invite you to come to our CAE Teaching Excellence Workshop. Spend time with your colleagues becoming an effective implementor of active-learning instructional strategies. Learn how to transform your classroom into a vibrant learning environment that will: (1) increase students’ conceptual understandings; (2) improve their abilities to think critically, interpret graphs, and reason about quantitative data; (3) motivate them to actively engage in their learning; and (4) improve their self-efficacy. This Workshop will provide you with the experiences you need to create effective and productive active-learning classroom environments. We will model best practices in implementing many different classroom-tested instructional strategies. But most importantly, you and your workshop colleagues will gain first-hand experience implementing these strategies yourselves. During our many microteaching events, you’ll have the opportunity to role-play the parts of student and instructor. You’ll assess and critique each other’s implementation in real-time, as part of a supportive learning community. You’ll have the opportunity to face and conquer your fears of unfamiliar teaching in collaboration with kind and gentle friends and mentors before you try them by yourself in front of your students. Workshop topics will include: creating inclusive classroom environments; strategies to improve retention & diversity of STEM majors & grads; collaborative group learning; interactive lectures, demonstrations, and videos; effective use of writing; Think-Pair-Share (Peer Instruction, Clicker Questions); Lecture-Tutorials; Ranking Tasks; assessment strategies (including homework, grading, and exams). Presented by Edward Prather and Gina Brissenden (Center for Astronomy Education (CAE), along with Seth Hornstein (Univ. of Colorado Boulder).

Organizer(s): Gina Brissenden (Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona)
Astropi Tutorial

Sunday, 8:00 am - 11:00 am; 612

This tutorial will cover the features and capabilities of astropy and affiliated packages.

Organizer(s): Perry Greenfield

Exoplanet Exploration Program Analysis Group (ExoPAG-11)

Sunday, 8:00 am - 2:00 pm; 6A

NASA's Exoplanet Exploration Program Analysis Group (ExoPAG) will hold its eleventh meeting in Seattle. ExoPAG meetings are open to the entire scientific community, and offer an opportunity to participate in discussions of scientific and technical issues in exoplanet exploration, and to provide input into NASA's Exoplanet Exploration Program (ExEP). All interested members of the astronomical and planetary science communities are invited to attend and participate. ExoPAG-11 will continue to focus on soliciting input from the wider exoplanet community on ways in which NASA might facilitate exoplanet research over the next few years, as well as input on how it should prioritize its ExEP activities. There will be reports from the active Study Analysis Groups (SAGs), as well as from the newly-constituted Science Interest Group (SIG) entitled “Toward a Near-Term Exoplanet Community Plan”

Organizer(s): Ozhen Pananyan (JPL)
Chair(s): Stephen Unwin (JPL)

COR - Spitzer Observing Campaigns prior to JWST

Sunday, 8:30 am - 11:30 am; 306

The COPAG serves as a community-based, interdisciplinary forum for analysis in support of Cosmic Origins objectives and of their implications for mission planning, technology prioritization and for future studies and exploration. It provides findings and analysis to NASA through the NASA Advisory Council (NAC) via the COPAG Chair, who is a member of the Astrophysics Subcommittee. We will present a description of the on-going COPAG activities, in particular focusing on efforts to formulate science drivers for near-term mission concepts, primarily for the UV/Visible but not precluding other wavelengths, and on technology development activities. All interested parties are encouraged to participate and provide their thoughts and suggestions.

Organizer(s): Susan Neff (NASA's GSFC)
COR - UV/Visible Science and Technology

Sunday, 9:00 am - 12:00 am; 304

The COPAG serves as a community-based, interdisciplinary forum for analysis in support of Cosmic Origins objectives and of their implications for mission planning, technology prioritization and for future studies and exploration. It provides findings and analysis to NASA through the NASA Advisory Council (NAC) via the COPAG Chair, who is a member of the Astrophysics Subcommittee. We will present a description of the on-going COPAG activities, in particular focusing on efforts to formulate science drivers for near-term mission concepts, primarily for the UV/Visible but not precluding other wavelengths, and on technology development activities. All interested parties are encouraged to participate and provide their thoughts and suggestions.

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All members of the astronomical community are welcome and encouraged to attend.

Organizer(s): Jeffrey Silverman (University of Texas at Austin)

AAS Astronomy Ambassadors Workshop

Sunday, 9:00 am - 5:30 pm; 615

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Organizer(s): Suzanne Gurton (Astronomical Society of the Pacific)

Connecting with the International Year of Light 2015

Sunday, 9:00 am - 5:00 pm; 620

Improving people’s perceptions of science and technology through hands-on experiences are the goals of many UN-sanctioned international years. In 2009, The International Year of Astronomy amazed the world with its programs on astronomy. The International Year of Light (IYL) is in 2015 and the National Optical Astronomy Observatory would like to connect astronomers with two themes from IYA: Dark Skies Awareness and Galileoscopes. These two areas are part of the Cosmic Light cornerstone selected for IYL 2015. As a Cosmic Light cornerstone project, NOAO is designing and building “Quality Lighting Teaching Kits” to encourage the best use of light for illumination. The U.S. National Optical Astronomy Observatory (NOAO) and its partners, CIE, IDA and SPIE, are developing this program, building on our work in the last ten years on lighting and optics education. Our goal is to increase student and public awareness of quality lighting issues and solutions through tutorial videos, Google+ Hangouts, teaching kits and hands-on activities. The kit materials for the activities will help students identify and reduce wasteful/inefficient lighting, minimizing energy consumption and cost. The Galileoscope, another Cosmic Light cornerstone project, is a low-cost, high optical quality telescope kit designed for the International Year of Astronomy (IYA) in 2009. The Galileoscope gives students the ability to recreate Galileo’s historic observations. The process of assembling the telescope gives students insight into how a telescope works and the principles of optics that a telescopes employs to focus light. NOAO is developing new optics activities to support the use of the Galileoscope during IYL 2015. Workshop participants will explore the Galileoscope and Quality Lighting kits in new ways and will learn about how these two sets of kits and activities can be incorporated into IYL events at their home institutions. We will also describe some of the other cornerstone projects.
Organizer(s): Constance Walker (NOAO)
COR Far-Infrared Science and Technology

Sunday, 9:30 am - 12:30 pm; 309

The COPAG serves as a community-based, interdisciplinary forum for analysis in support of Cosmic Origins objectives and of their implications for mission planning, technology prioritization and for future studies and exploration. It provides findings and analysis to NASA through the NASA Advisory Council (NAC) via the COPAG Chair, who is a member of the Astrophysics Subcommittee. We will present a description of the on-going COPAG activities, in particular focusing on efforts to formulate science drivers for near-term mission concepts, primarily for the UV/Visible but not precluding other wavelengths, and on technology development activities. All interested parties are encouraged to participate and provide their thoughts and suggestions.

Organizer(s): Susan Neff (NASA's GSFC)

Leadership and Teambuilding for Astronomers

Sunday, 9:00 am - 4:00 pm; 614

In this interactive, day-long workshop, you will be introduced to techniques that with practice will enhance your skill in effectively leading and managing innovative research teams. These skills will be developed beginning with conceptual study and then applied in structured activities. Specific topics will include:

- Leadership: Recognize the difference between leadership and management, review the characteristics of an effective leader, and seize opportunities to develop and hone your own leadership skills.
- Project Management: Apply the basic elements of strategic project management, starting with the creation of a strategic hypothesis, and develop that into a logical framework of measureable goals, purpose and outcomes.
- Management and Teambuilding: Build and organize higher functioning teams, enhance innovation and motivate people.
- Conflict Management: Identify the underlying conditions that lead to conflict, and apply techniques to move away from blame to more constructive action.

Audience: Postdocs and early-career faculty will find this workshop especially helpful as they begin to build and lead their research groups. Enrollment will be limited to 30 participants.

NASA Physics of the Cosmos - XRSIG Meeting

Sunday, 9:00 am - 12:00 pm; 6C

NASA's Physics of the Cosmos Program Analysis Group will hold their community meeting. The PhysPAG is a forum for soliciting and coordinating input from the science community to advance the science objectives of the Physics of the Cosmos program. The five Science Analysis Groups in the areas of X-rays, Gravitational Waves, Inflation Probe, Gamma Rays and Cosmic Rays will report on progress within their groups and there will also be discussion of dark energy science. All interested members of the community are encouraged to participate.

Organizer(s): Ann Hornschemeier (NASA GSFC)
NASA Physics of the Cosmos - GammaSIG

Sunday, 9:00 am - 12:00 pm; 6B

NASA’s Physics of the Cosmos Program Analysis Group will hold their community meeting. The PhysPAG is a forum for soliciting and coordinating input from the science community to advance the science objectives of the Physics of the Cosmos program. The five Science Analysis Groups in the areas of X-rays, Gravitational Waves, Inflation Probe, Gamma Rays and Cosmic Rays will report on progress within their groups and there will also be discussion of dark energy science. All interested members of the community are encouraged to participate.

Organizer(s): Ann Hornschemeier (NASA GSFC)

Next Generation Very Large Array

Sunday, 9:00 am - 6:00 pm; 616/617

Organized by the National Radio Astronomy Observatory (NRAO), this workshop will discuss the long-term scientific, technological, and community development for the Jansky Very Large Array (VLA), the Atacama Large Millimeter/submillimeter Array (ALMA), and the next decade successors to current long-wavelength arrays such as the Hydrogen Epoch of Reionization Array (HERA), Murchison Widefield Array, and Long Wavelength Array. NRAO has received numerous ideas from the community regarding future ALMA development, how the VLA might bridge to a next-generation facility, and the development of other key research facilities. This workshop will broaden our discussions with the community, develop a deeper understanding of the future science opportunities at meter to submillimeter wavelengths, and foster new interactions with the US university community. With the recent completion of ALMA construction and the VLA upgrade, this is an excellent time to consider the new science that these instruments and others could address in ten and twenty years. What new science opportunities should drive radio-wavelength technology development in the next decade? The VLA upgrade greatly improved the array’s sensitivity, bandwidth, frequency coverage, and more; but it did not improve angular resolution or collecting area. Imagine a VLA with five times the current collecting area operating across 1-100 GHz (30 - 0.3 cm) at ten times the current resolution. What should ALMA be in 2035? Imagine increasing ALMA’s resolution by an order of magnitude, and both ALMA and the VLA with phased array feeds. What other facilities are required to address the community’s highest priority science? Imagine a HERA capable of full tomographic imaging. What science frontiers would these instruments open, and how would they complement the capabilities of the James Webb Space Telescope, the Large Synoptic Survey Telescope, and a Phase-1 Square Kilometre Array? How can the US university community and international partners participate in any new endeavors?

Organizer(s): Bryan Butler (NRAO) Chris Carilli (NRAO)
SciCoder@AAS: Intro to Databases for Astronomers

Sunday, 9:00 am - 5:00 pm; 607

The volume of data available to astronomers today is enormous. The standard pattern of working with flat files doesn’t scale to what’s available now, let alone with the increasing amount of data that is coming. Every astronomer should have the skills to work with databases both for their own data sets and what is publicly available. This workshop will teach how a database is designed, how to create your own, how to populate it with data, how to query that data, how to work with other databases, and how to write scripts against a database. Exercises and examples will be geared to astronomical data but will be applicable to nearly any data. Participants should have a basic comfort level with Python and will be required to install some software on their laptops before the workshop. The workshop will be presented by Demitri Muna (Ohio State University), creator of the SciCoder workshop, and Alex Hagen (Pennsylvania State University).

Organizer(s): Demitri Muna (New York University)

Software Carpentry Bootcamp

Sunday, 9:00 am - 5:30 pm; 609

Computing is now an integral part of every aspect of science, but most scientists are never taught how to build, use, validate, and share software well. As a result, many spend hours or days doing things badly that could be done well in just a few minutes. The goal of AAS 225 Software Carpentry 2 day “bootcamp” is to change that so that astronomers can spend less time wrestling with software and more time doing useful research. Further, good quality, well tested code means science results are easier to verify, share, and update. More information on the Software Carpentry project can be found. The AAS 225 Software Carpentry bootcamp consists of short tutorials alternating with hands-on practical exercises and will cover the core software skills needed build, use, validate, and share software in astronomy: Saturday’s tutorials will comprise shell automation, basic python programming, and unit testing; Sunday’s sessions will shift to focus on advanced python, including numerical and astronomy oriented computing, and version control. Registration is for both days. The target audience for the bootcamp consists of graduate students and early career scientists. The Software Carpentry @ AAS 225 Bootcamp will be run by a set of three certified instructors and a team of helpers. Participants will be required to bring laptops and to install software in advance of the workshop. Some basic familiarity with shell based computing was assumed in setting the bootcamp schedule. See also a FAQ at for more information.

Organizer(s): August Muench (Smithsonian Astrophysical Observatory)
Astrostatistics

Sunday, 9:30 am - 6:00 pm; 618/619

The fields of astronomy and statistics diverged in the 20th century so that astronomers are often not well informed about the wealth of powerful modern methodologies developed by statisticians. Statistics is needed for: characterizing astronomical images, spectra and lightcurves; inferring properties of underlying populations from limited samples; linking astronomical observations to astrophysical theories; and many other aspects of data and science analysis. An additional difficulty has been the inaccessibility of software implementing modern statistical methods for most astronomers. Fortunately, a large, integrated and user-friendly public domain software system has emerged in recent years to implement modern methods. R with its >5000 add-on CRAN packages has >100,000 statistical functionalities, extensive graphics, links to other languages, and more. Over 100 recipe books and extensive on-line support provide guidance for the sophisticated R user. The AAS astrostatistics tutorials are presented by astronomer Eric D. Feigelson and statistician G. Jogesh Babu, authors of the textbook 'Modern Statistical Methods for Astronomy with R Applications' that won the PROSE Award for best astronomy book of 2012. Participants should bring laptops with R installed (http://www.r-project.org). R scripts and astronomical datasets will be provided. Schedule for Sunday January 4: 9:30-10:30 Introduction to astrostatistics (lecture) 10:30-11:30 Fundamentals of statistical inference (lecture) 11:30-12:30 Introduction to R (tutorial) -- Lunch (not provided) -- 2:00-3:00 Density estimation or data smoothing (tutorial) 3:00-4:00 Fitting models to data (lecture) 4:00-5:00 Multivariate clustering and classification (tutorial)

Organizer(s): Eric Feigelson (Penn State Univ.)

Collaborating Online with Github and Other Tools

Sunday, 12:00 pm - 5:00 pm; 303

Distributed collaboration is a hallmark of modern international astronomical research. We collaborate on everything from software development to paper and grant writing to sharing new results, plots, and data files. The goal of this workshop to provide new tools and techniques for productive efficient collaboration online. This workshop will begin with a hands on tutorial of GitHub. This will include reviewing distributed version control systems and learning collaboration workflows using the GitHub system. During the second part of the workshop we will explore an array of other online tools, ranging from cloud storage (DropBox, Google Drive) to collaborative document creation (Google Documents, online LaTeX editors) to feature tracking platforms (Trello, Jira) and much more. We intend to provide concrete workflows and to imbue you with tips and tricks for using these online tools in your research groups. The target audience for the workshop consists of astronomers at all points in their careers. Presenters will include Arfon Smith, PhD Astronomer turned Zooniverse developer turned Github Science head, Brent Beer, a GitHub Trainer, and August Muench (Smithsonian). Participants will be required to bring laptops and to install software in advance of the workshop. Familiarity with git or other version control systems is not a prerequisite.

Organizer(s): August Muench (Smithsonian Astrophysical Observatory)
NASA Physics of the Cosmos

Sunday, 12:00 pm - 6:00 pm; 6C

NASA’s Physics of the Cosmos Program Analysis Group will hold their community meeting. The PhysPAG is a forum for soliciting and coordinating input from the science community to advance the science objectives of the Physics of the Cosmos program. The five Science Analysis Groups in the areas of X-rays, Gravitational Waves, Inflation Probe, Gamma Rays and Cosmic Rays will report on progress within their groups and there will also be discussion of dark energy science. All interested members of the community are encouraged to participate.

Organizer(s): Ann Hornschemeier (NASA GSFC)

PAG Session With Paul Hertz

Sunday, 12:30 pm - 2:30 pm; 6B

The current Head of the Astrophysics Division at NASA HQ will address the three Program Analysis Groups to discuss current status and plans for NASA’s Astrophysics Program, in the current environment.

Organizer(s): Susan Neff (NASA’s GSFC)

90 HAD I: Astronomy and the First World War

Sunday, 1:30 pm - 3:30 pm; 610

World War II (1939-45) has been called the physicists’ war, for radar, rockets, and nuclear bombs, and World War I the chemists’ war, for advances in nitrogen fixation, synthetic rubber, poison gases, and much else. But in fact both wars and the years between caused and witnessed enormous changes in all the sciences, including astronomy. The session (currently consisting of 7 talks of varying length) will glance at chemistry and physics and a bit about WWII (whose centenary we may not all be here to observe), but will focus on the significance of WWI for astronomy, its practitioners, institutions, infrastructure, and available tools and resources. A logical starting point is the Russian imprisonment of a German solar eclipse expedition that had gone to the Crimea to observe the 21 August 1914 event under Erwin Freundlich. Since they had hoped to measure gravitational bending of light by the sun, you might choose the 1919 British expedition that did measure the effect as your end point. An alternative is the founding of the International Astronomical Union in Brusselles in 1919, spearheaded by George Ellery Hale, whose International Solar Union had been dissolved by the war and resulting treaties, just as the members were planning to expand the organization to include all of astronomy.

Chair(s): Virginia Trimble (UC, Irvine)

90.01 Physics in WWI: Fighting the Acoustic War

Author(s): Daniel Kevles¹

Institution(s): ¹ Yale University
90.02 Two Eclipses, a Theory, and a World War
Author(s): Alan H. Batten
Institution(s): 1. retired

90.03 G.W. Ritchey’s Optical Work for the Army during WWI.
Author(s): Peter Abrahams
Institution(s): 1. Independent

90.04 The War’s Positive Impact on the Canadian Astronomical Community
Author(s): Peter Broughton
Institution(s): 1. RASC

90.05 Impact of World War I on Chemistry
Author(s): Virginia L. Trimble
Institution(s): 1. UC, Irvine

90.06 The Impacts of Military, Industrial, and Private Support on Modern Astronomy
Author(s): Martin Harwit
Institution(s): 1. Cornell University

ExoPAG/COPAG Joint Meeting
Sunday, 2:00 pm - 5:00 pm; 6A
Organizer(s): Susan Neff (NASA’s GSFC)

91 HAD II: Ideas of Evolution Inside and Outside of Astronomy during the Long 19th Century
Sunday, 4:00 pm - 6:00 pm; 610
Chair(s): Woodruff Sullivan (Univ. of Washington)

91.01 William Herschel during the 1780-1810 era: A natural historian studies “maturation” of stars over immeasurable time
Author(s): Woody Sullivan
Institution(s): 1. U. of Washington

91.02 John Herschel, Charles Lyell, and the planet Earth
Author(s): Gregory Good
Institution(s): 1. AIP

91.03 Thermodynamics, Life, the Universe and Everything
Author(s): Elizabeth Neswald
Institution(s): 1. Brock University

91.04 The William Ellery Hale Lectures at the National Academy of Sciences, 1914-1918
Author(s): David H. DeVorkin
Institution(s): 1. Smithsonian Inst.
K12 Educator Reception

Sunday, 5:00 pm - 6:30 pm; Redwood A, Sheraton Hotel

Join us for an opportunity for Astronomers and K12 Educators to meet and mingle in a relaxed social environment, hosted by InsightSTEM and the Association for Astronomy Education. Our K12 Educator Reception brings together Astronomy Research professionals, Astronomy Education professionals, and K12 Astronomy Educators to share the latest in research and education in astronomy ahead of the semi-annual meeting of the American Astronomical Society. Please join us to reconnect with colleagues, and to form new partnerships and contacts. Drinks and light snacks are provided. Space is limited: please register at http://bit.ly/K12seattle

Organizer(s): Gina Brissenden (Center for Astronomy Education (CAE), Steward Observatory, Univ. of Arizona)

Undergraduate Orientation

Sunday, 5:30 pm - 7:00 pm; 4C

Undergraduate students, their advisors, and those interested in attracting undergraduate students to their graduate program, or undergraduate research opportunity are invited to attend this event. Members of the AAS Council and of the Astronomy Education Board will be there to meet and chat with students. For the benefit of those students attending an AAS meeting for the first time, we will explain how to get the most out of an AAS meeting and outline how the meeting works. Sign up, free of charge to all undergrads, their advisors and those offering research opportunities (or jobs) to undergraduates, through the meeting registration form. Light snacks and refreshments will be provided.

Opening Reception

Sunday, 7:00 pm - 9:00 pm; Grand Ballroom, Sheraton Hotel

Open to all attendees and registered guests, the Opening Reception at the Sheraton Seattle kicks off the 225th meeting of the American Astronomical Society.
101 Kavli Foundation Lecture: New Results About the Earth’s Van Allen Radiation Belts

Monday, 8:30 am - 9:20 am; 6E
Chair(s): C. Megan Urry (Yale University)

Daniel Baker (University of Colorado)
The Kavli Foundation Plenary Lectureship is awarded to Dr. Daniel Baker, Director of the Laboratory for Atmospheric and Space Physics, for his outstanding scientific work with the Van Allen Probes mission, which has provided a new and deeper understanding of the structure and dynamics of MeV particles in the radiation belts surrounding the Earth, including the discovery of a new third relativistic electron storage ring in the outer Van Allen belt.

101.01 New Results About the Earth’s Van Allen Radiation Belts
Author(s): Daniel Baker
Institution(s): ¹ University of Colorado

Careers 101: Career Planning Workshop and Panel for Graduate Students and Postdocs

Monday, 9:30 am - 11:30 am; 618/619
This FREE workshop and panel discussion will center on the current and expanding crisis in the job and career market for astronomers. Specifically targeted towards graduate students and Postdocs, this workshop will identify and investigate the shortage of traditional astronomy jobs, and how early-career scientists can best prepare for this challenge. Our focus will be on career planning for traditional astronomy positions. We will demonstrate how to orchestrate a personal career plan and develop a Plan B and Plan C for contingencies. We will discuss what early-career astronomers should do now to enhance their CVs and research reputations, and what they should look for in and how they can leverage a Postdoc appointment to that can set themselves up for success in the field. We will also discuss non-traditional jobs and career paths in astronomy, and introduce the skills that are needed to pursue these. Q and A between panelists and workshop participants will be highly encouraged.
Organizer(s): Alaina Levine (Quantum Success Solutions)

102 The Milky Way, The Galactic Center I

Monday, 10:00 am - 11:30 am; 6A
Chair(s): Q. Wang (Univ. of Massachusetts)

102.01 Does the Milky Way lie on the Tully-Fisher Relation?
Author(s): TimothyLicquia¹, Jeffrey Newman¹
Institution(s): ¹ University of Pittsburgh
102.02 A New Luminosity Function for Stars in the Galactic Bulge
Author(s): Emily Gilbert\textsuperscript{1}, Sean Terry\textsuperscript{1}, Ryan Pfeifle\textsuperscript{1}
Institution(s): \textsuperscript{1} NASA Goddard Space Flight Center

102.03 The Best and Brightest Metal-Poor Stars
Author(s): Kevin Schlaufman\textsuperscript{1}
Institution(s): \textsuperscript{1} MIT Kavli Institute for Astrophysics and Space Research

102.04 The GALAH Survey: overview and goals
Author(s): Jonathan Bland-Hawthorn\textsuperscript{1}
Institution(s): \textsuperscript{1} The University of Sydney
Contributing team(s): The GALAH Team

102.05 The GALAH Survey: observational overview
Author(s): Sarah L. Martell\textsuperscript{1}
Institution(s): \textsuperscript{1} University of New South Wales
Contributing team(s): GALAH Survey team

102.06 The GALAH Survey: Early Science Results
Author(s): Daniel B. Zucker\textsuperscript{1}
Institution(s): \textsuperscript{1} Macquarie University
Contributing team(s): GALAH Team

102.07 Galactic Center Source G1 and other G2-like Sources
Author(s): Breann Sitarski\textsuperscript{4}, Andrea M. Ghez\textsuperscript{2}, Mark Morris\textsuperscript{4}, Gunther Witzel\textsuperscript{4}, Jessica R. Lu\textsuperscript{3}, Tuan Do\textsuperscript{2}, Anna Boehle\textsuperscript{4}, Randall Campbell\textsuperscript{5}, Leo Meyer\textsuperscript{4}, Sylvana Yelda\textsuperscript{4}, Keith Matthews\textsuperscript{5}
Institution(s): \textsuperscript{1} Caltech, \textsuperscript{2} Dunlap Institute, University of Toronto, \textsuperscript{3} Institute for Astronomy, University of Hawaii, \textsuperscript{4} UCLA, \textsuperscript{5} W. M. Keck Observatory

102.08 G2’s closest approach to the Galactic Center black hole
Author(s): Gunther Witzel\textsuperscript{2}, Andrea M. Ghez\textsuperscript{2}, Mark Morris\textsuperscript{2}, Breann Sitarski\textsuperscript{2}, Anna Boehle\textsuperscript{2}, Randall Campbell\textsuperscript{1}
Institution(s): \textsuperscript{1} Keck observatory, \textsuperscript{2} UCLA

102.09 An Update on Chandra/VLA Galactic Center Campaigns Targeting Sgr A* and G2
Author(s): Daryl Haggard\textsuperscript{1}, Frederick K. Baganoff\textsuperscript{2}, Gabriele Ponti\textsuperscript{3}, Craig O. Heinke\textsuperscript{5}, Nanda Rea\textsuperscript{2}, Joseph Neilsen\textsuperscript{2}, Michael Nowak\textsuperscript{2}, Sera Markoff\textsuperscript{2}, Nathalie Degenaar\textsuperscript{8}, Farhad Yusef-Zadeh\textsuperscript{4}, Douglas A. Roberts\textsuperscript{4}, Christaan Brinkerink\textsuperscript{9}, Casey J. Law\textsuperscript{5}, Stefan Gillessen\textsuperscript{5}, Riley Connors\textsuperscript{7}
Institution(s): \textsuperscript{1} Amherst College, \textsuperscript{2} Massachusetts Institute of Technology, \textsuperscript{3} Max-Planck-Institut für extraterrestrische Physik, \textsuperscript{4} Northwestern University/CIERA, \textsuperscript{5} UC Berkeley, \textsuperscript{6} University of Alberta, \textsuperscript{7} University of Amsterdam, \textsuperscript{8} University of Michigan, \textsuperscript{9} University of Nijmegen
MONDAY, 5 JANUARY 2015

103 AGN, QSO, Blazars I

Monday, 10:00 am - 11:30 am; 6B

Chair(s): D. Harris (HEA- Center for Astrophysics)

103.01 AGN Space Telescope and Optical Reverberation Mapping Project. I. Hubble Space Telescope Spectroscopy of NGC 5548
Author(s): Bradley M. Peterson
Institution(s): 1 Ohio State Univ.
Contributing team(s): The AGN STORM Team

103.02 AGN Space Telescope and Optical Reverberation Mapping Project II. Ultraviolet and Optical Continuum Analysis
Author(s): Michael Fausnaugh
Institution(s): 1 Department of Astronomy, The Ohio State University
Contributing team(s): The AGN STORM Team

103.03 AGN Space Telescope and Optical Reverberation Mapping Project. III. Optical Emission Line Analysis of NGC 5548
Author(s): Liuyi Pei
Institution(s): 1 University of California Irvine
Contributing team(s): The AGN STORM Team

103.04 AGN Space Telescope and Optical Reverberation Mapping Project. IV. Velocity-Delay Mapping of Broad Emission Lines in NGC 5548
Author(s): Keith D. Horne
Institution(s): 1 Univ. of St. Andrews
Contributing team(s): The AGN STORM Team

103.05 AGN Space Telescope and Optical Reverberation Mapping Project V. Continuum Time Delays and Disk Inclinations
Author(s): David Starkey
Institution(s): 1 University of St Andrews
Contributing team(s): The AGN STORM Team

103.06 AGN Space Telescope and Optical Reverberation Mapping Project VI. Variations of the Intrinsic Absorption Lines in NGC 5548
Author(s): Gerard A. Kriss
Institution(s): 1 STScI
Contributing team(s): AGN STORM Team

103.07 New insights from deep JVLA data on the candidate recoiling super massive black hole CID-42
Author(s): Francesca M. Civano, Mladen Novak, Vernesa Smolcic
Institution(s): 1 University of Zagreb, 2 Yale University

103.08D Modeling Reverberation Mapping Data: Precise Black Hole Masses and Constraints on the Geometry and Dynamics of the Broad Line Region
Author(s): Anna Pancoast, Brendon J. Brewer, Tommaso Treu, Catherine Grier
Institution(s): 1 Penn State, 2 University of California Los Angeles, 3 University of Auckland, 4 University of California Santa Barbara
Contributing team(s): LAMP 2008
104 Supernovae I

Monday, 10:00 am - 11:30 am; 6C
Chair(s): Christopher Stockdale (Marquette University)

104.01 Interaction of a Type Ia Supernovae with Circumstellar Mass
Author(s): Chelsea Harris¹, Peter E. Nugent², Daniel Kasen¹, Nathaniel Roth¹
Institution(s): ¹ California - Berkeley, University of, ² Lawrence Berkeley National Laboratory

104.02 Spectrum formation at late times in type Ia supernovae
Author(s): Brian Friesen¹
Institution(s): ¹ University of Oklahoma

104.03 Helium Shells on Sub-Chandrasekhar White Dwarfs: Ignition and Convection
Author(s): Adam M. Jacobs², Michael Zingale², Andrew Nonaka¹, Ann Almgren¹, John Bell¹
Institution(s): ¹ Lawrence Berkeley National Laboratory, ² Stony Brook University

104.04 The Progenitor System of the Type Iax SN 2012Z
Author(s): Curtis McCully³, Saurabh Jha³, Ryan J. Foley¹
Institution(s): ¹ University of Illinois at Urbana-Champaign, ² Las Cumbres Observatory Global Telescope Network, ³ Rutgers, The State University of New Jersey

104.05 Superluminous Supernovae: A Pan-STARRS1 Perspective
Author(s): Ragnhild Lunnan¹, Ryan Chornock¹, Edo Berger¹
Institution(s): ¹ Harvard University, ² Ohio University
Contributing team(s): Pan-STARRS1 CfA/JHU Transient Team

104.06 Superluminous Supernovae in the Dark Energy Survey
Author(s): Christopher D’Andrea¹, Andreas Papadopoulos¹, Mark Sullivan², Robert Nichol¹
Institution(s): ¹ Institute of Cosmology and Gravitation, University of Portsmouth, ² University of Southampton
Contributing team(s): The Dark Energy Survey

105 Extrasolar Planets: Kepler’s Legacy I

Monday, 10:00 am - 11:30 am; 6E
Chair(s): Laura Schaefer (Washington Univ.)

105.01 Increasing the sensitivity of Kepler to Earth-like exoplanets
Author(s): Daniel Foreman-Mackey², David W. Hogg², Bernhard Schölkopf¹, Dun Wang²
Institution(s): ¹ Max Planck Institute for Intelligent Systems, ² New York University

105.02 Implications for the False-positive Rate in Kepler Planet Systems from Transit Duration Ratios
Author(s): Robert C. Morehead¹, Eric B Ford¹
Institution(s): ¹ The Pennsylvania State University
105.03 New Constraints on the False Positive Rate for Short-Period Kepler Planet Candidates  
Author(s): Knicole D. Colón¹, Robert C. Morehead², Eric B. Ford²  
Institution(s): ¹ Lehigh University, ² The Pennsylvania State University

105.04 Kepler’s Missing Planets: Using QATS to Search for Planets with TTVs  
Author(s): Ethan Kruse¹, Eric Agol¹  
Institution(s): ¹ University of Washington

105.05 The distribution of period ratios in Kepler planetary systems  
Author(s): Jason H. Steffen¹, Jason A. Hwang¹  
Institution(s): ¹ Northwestern University

105.06 Dissecting Kepler’s Objects of Interest: Complete Uniform MCMC modeling of the KOI Database  
Author(s): Jason Rowe⁴, Thomas Barclay², Natalie M. Batalha³, Christopher J. Burke⁴, Joseph Catanzarite⁴, Jessie Christiansen¹, Jeffrey Coughlin⁴, Michael R Haas², Kelsey L. Hoffman⁴, Fergal Mullally⁴, Elisa V. Quintana³, Susan E. Thompson⁴  
Institution(s): ¹ BAERI, ² NASA-Ames Research Center, ³ NExSci, ⁴ SETI Institute  
Contributing team(s): Kepler Team

105.07 Delivering on the promise of transit timing variations  
Author(s): Eric Agol², Katherine Deck¹  
Institution(s): ¹ Caltech, ² Univ. of Washington

105.08 Planet Hunters 2 in the K2 Era  
Author(s): Megan E. Schwamb², Debra Fischer⁵, Tabetha S. Boyajian⁵, Matthew J. Giguere⁵, Sascha Ishikawa¹, Chris Lintott⁴, Stuart Lynn¹, Joseph Schmitt⁵, Chris Snyder¹, Ji Wang⁵, Thomas Barclay³  
Institution(s): ¹ Adler Planetarium, ² Institute of Astronomy & Astrophysics, Academia Sinica (ASIAA), ³ NASA Ames Research Center, ⁴ University of Oxford, ⁵ Yale University

106 HEAD I: Centennial of General Relativity: An Astrophysical Perspective

Monday, 10:00 am - 11:30 am; 610

To celebrate the centenary of the publication of Einstein’s Field Equations, the AAS High Energy Astrophysics Division and NASA’s Physics of the Cosmos program are pleased to co-host two special sessions on Theory of General Relativity. The first session provides a historical perspective on the development of the theory of general relativity and astrophysical constraints of General Relativity. The second session looks forward from current astrophysical constraints to next-generation measurements ranging from space-based measurements of gravitational waves and the powerful tests made possible through studies of binary pulsars through to cosmological tests of General Relativity.  
Chair(s): Ann Hornschemeier (NASA GSFC)
106.01 A History of High Energy Astrophysics, the Subject and the Section  
Author(s): Virginia L. Trimble
Institution(s): 1. UC, Irvine

106.02 Testing General Relativity in the Strong-Field Dynamical Regime  
Author(s): Clifford M. Will
Institution(s): 1. Univ. of Florida

106.03 The Black Hole concept circa 1960 with recent comments  
Author(s): Charles W Misner
Institution(s): 1. University of Maryland

107 Extrasolar Planets: Atmospheres I  
Monday, 10:00 am - 11:30 am; 616/617  
Chair(s): Evgenya Shkolnik (Lowell Observatory)

107.01 An Open-Source Bayesian Atmospheric Radiative Transfer (BART) Code, with Application to WASP-12b  
Author(s): Joseph Harrington, Jasmina Blecic, Patricio Cubillos, Patricio Rojo, Thomas J. Loredo, M. Oliver Bowman, Andrew S. D. Foster, Madison M. Stemm, Nate B. Lust  
Institution(s): 1. Cornell University, 2. Universidad de Chile, 3. University of Central Florida

107.02D Observations and Thermochemical Calculations for Hot-Jupiter Atmospheres  
Author(s): Jasmina Blecic, Joseph Harrington, M. Oliver Bowman, Patricio Cubillos, Madison Stemm  
Institution(s): 1. University of Central Florida

107.03D Exoplanet Atmospheres: From Light-Curve Analyses to Radiative-Transfer Modeling  
Author(s): Patricio Cubillos, Joseph Harrington, Jasmina Blecic, Patricio Rojo, Madison Stemm, Nathaniel B. Lust, Andrew S. Foster, Thomas J. Loredo  
Institution(s): 1. Cornell University, 2. Universidad de Chile, 3. University of Central Florida

107.04 Features in the broad-band eclipse spectra of exoplanets: signal or noise?  
Author(s): Nicolas B. Cowan, Christopher James Hansen, Joel Colin Schwartz  
Institution(s): 1. Amherst College, 2. Northwestern University

107.05 Balancing the Energy Budget of Short-Period Giant Planets  
Author(s): Joel Colin Schwartz, Nicolas B. Cowan  
Institution(s): 1. Amherst College, 2. Northwestern University

Author(s): Björn Benneke  
Institution(s): 1. Caltech

107.07 Magnetohydrodynamic Simulations of Hot Jupiter Thermospheres  
Author(s): Duncan Christie, Phil Arras, Zhi-Yun Li  
Institution(s): 1. University of Virginia
The traditional view of the formation and evolution of planetary nebulae (PNe) as the simple interaction of two epochs of spherical mass loss -- a slow wind from an expiring asymptotic giant branch (AGB) star, followed by a fast wind from the newly-exposed, proto-white dwarf at the AGB star’s core -- has been challenged by observations from modern telescopes and satellite observatories. From the radio to X-ray, the emerging view of PNe is reshaping and potentially redefining our understanding of these iconic celestial objects. Multiwavelength observations of PNe hold the potential to test theories invoking, e.g., magnetic fields, jets, and binary interactions in generating asymmetric PN outflows and structures. In this Special Session we showcase the new perspectives of PNe afforded by multiwavelength observations, and the efforts to reconcile theory and observations, with emphasis on the latest results from the Chandra (X-ray) and Herschel (far-IR) Planetary Nebula Surveys (ChanPlaNS and HerPlaNS).

Chair(s): Djazia Ladjal (University of Denver) & Rodolfo Montez (Vanderbilt University)

108.01 ChanPlaNS: The Chandra Planetary Nebula Survey
Author(s): Joel Kastner\textsuperscript{1}, Rodolfo Montez\textsuperscript{2}, Marcus Freeman\textsuperscript{1}
Institution(s): \textsuperscript{1} Rochester Institute of Technology, \textsuperscript{2} Vanderbilt University
Contributing team(s): ChanPlaNS Team

108.02 Emerging Trends Gleaned from Central Star and Hot Bubble X-ray Emission of ChanPlaNS Planetary Nebulae
Author(s): Rodolfo Montez\textsuperscript{2}, Joel H. Kastner\textsuperscript{1}, Marcus Freeman\textsuperscript{1}
Institution(s): \textsuperscript{1} Center for Imaging Science, Rochester Institute of Technology, \textsuperscript{2} Vanderbilt University
Contributing team(s): ChanPlaNS Team

108.03 Herschel Planetary Nebula Survey: Spectroscopic Probing of the Nebular Components
Author(s): Toshiya Ueta\textsuperscript{2}, Djazia Ladjal\textsuperscript{1}, Rebecca Rattray\textsuperscript{2}
Institution(s): \textsuperscript{1} Gemini Observatory, \textsuperscript{2} University of Denver
Contributing team(s): The HerPlaNS team

108.04 The HerPlaNS far-IR photometric survey of Planetary Nebulae and its contribution to the Emerging Multi-wavelength View
Author(s): Djazia Ladjal\textsuperscript{1}
Institution(s): \textsuperscript{1} Gemini Observatory
Contributing team(s): the HerPlaNS Consortium

108.05 Herschel Planetary Nebula Survey (HerPlaNS): First Detection of OH+ in Planetary Nebulae
Author(s): Isabel Aleman\textsuperscript{8}, Toshiya Ueta\textsuperscript{12}, Djazia Ladjal\textsuperscript{12}, Katrina Exter\textsuperscript{6}, Joel Kastner\textsuperscript{8}, Rodolfo Montez\textsuperscript{14}, Xander Tielens\textsuperscript{5}, You-Hua Chu\textsuperscript{13}, Hideyuki Izumiura\textsuperscript{6}, Iain McDonald\textsuperscript{10}, Raghvendra Sahai\textsuperscript{7}, Natasza Siódmiak\textsuperscript{7}, Ryszard Szczerba\textsuperscript{7}, Peter A. M. van Hoof\textsuperscript{8}, Eva Villaver\textsuperscript{11}, Wouter Vlemmings\textsuperscript{1}, Markus Wittkowski\textsuperscript{2}, Albert Zijlstra\textsuperscript{10}

108.06 The new MQ/AAO/Strasbourg mutli-wavelength and spectroscopic PNe database: MASPN
Author(s): Quentin Andrew Parker
Institution(s): 1. Macquarie University
Contributing team(s): And the MASPN database Team (key members: Dr Ivan Bojicic, Dr David Frew, Prof Agnes Acker)

108.07 What Are M31 Disk Planetary Nebulae Trying to Tell Us?
Author(s): Karen B. Kwitter, Bruce Balick, Richard B. C. Henry, Romano L.M. Corradi

108.08 Observing Planetary Nebulae with JWST and Extremely Large Telescopes
Author(s): Raghvendra Sahai
Institution(s): 1. JPL, Caltech

108.09 Binary Interactions and the Formation of Planetary Nebula
Author(s): Adam Frank
Institution(s): 1. Univ. of Rochester

109 Molecular Clouds, HII Regions, Interstellar Medium I

Monday, 10:00 am - 11:30 am; 607
Chair(s): Jason Glenn (Univ. of Colorado)

109.01 A 20pc Resolution Dust Map of M31 from the Panchromatic Hubble Andromeda Treasury (PHAT)
Author(s): Julianne Dalcanton, Morgan Fouesneau, David W. Hogg, Dustin Lang, Adam K. Leroy, Karl D. Gordon, Karin Sandstrom, Daniel R. Weisz, Benjamin F. Williams
Institution(s): 1. CMU, 2. MPIA, 3. New York University, 4. STScI, 5. The Ohio State University, 6. Univ. of Washington, 7. University of Arizona
Contributing team(s): The Panchromatic Hubble Andromeda Treasury Team

109.02D Probing the Multiphase Interstellar Medium and Star Formation in Nearby Galaxies through Far Infrared Emission
Author(s): Rodrigo Herrera-Camus, Alberto D. Bolatto, Mark G. Wolfire, John-David T. Smith, Robert Kennicutt, Daniela Calzetti, Kevin V. Croxall, David B. Fisher
Institution(s): 1. Centre for Astrophysics and Supercomputing, Swinburne University of Technology, 2. The Ohio State University, 3. University of Cambridge, 4. University of Maryland, 5. University of Massachusetts, 6. University of Toledo
Contributing team(s): KINGFISH, Beyond the Peak
109.03 Comparing polarized submm emission and near-infrared extinction polarization in the Vela C giant molecular cloud
Author(s): Fabio P. Santos, Peter A. R. Ade, Peter Ashton, Francesco E Angilè, Steven J. Benton, Mark J. Devlin, Bradley J. Dober, Laura M. Fissel, Yasuo Fukui, Nicholas Galitzki, Natalie N. Gandilo, Jeffrey Klein, Andrei L. Korotkov, Zhi-Yun Li, Lorenzo Moncelsi, Tristan G. Matthews, Fumitaka Nakamura, Calvin B. Netterfield, Giles Novak, Enzo Pascale, Frédérick Poidevin, Giorgio Savini, Douglas Scott, Jamil A. Shariff, Juan D. Soler, Nicholas E. Thomas, Carole E. Tucker, Gregory S. Tucker, Derek Ward-Thompson
Contributing team(s): BLASTPol

109.04 Are PAH molecules the carriers of Unidentified Infrared Emission bands?
Author(s): Sun Kwok, Yong Zhang
Institution(s): 1. The University of Hong Kong

109.05 NGC 1976 in the Radio Range with the Green Bank Telescope
Author(s): Thomas L. Wilson, Thomas M. Bania, Dana S. Balser

109.06 The role of the magnetic field in the formation of structure in molecular clouds as revealed by Planck
Author(s): Juan Diego Soler
Institution(s): 1. Institute d’Astrophysique Spatiale
Contributing team(s): the Planck Collaboration

109.07 Magnetic field in Photodissociation Regions (PDRs) : A case study of PDR in NGC 2024
Author(s): D. Anish Roshi, Miller Goss, S. Jeyakumar

110 Star Formation I
Monday, 10:00 am - 11:30 am; 608
Chair(s): Scott Wolk (SAO)

110.01 A survey of ionized carbon in starburst galaxies at high redshift
Author(s): Joaquin D. Vieira
Institution(s): 1. University of Illinois at Urbana-Champaign
Contributing team(s): SPT SMG
110.02D Formation of Magnetized Prestellar Cores in Turbulent Cloud  
Author(s): Che-Yu Chen\(^2\), Eve C. Ostriker\(^1\)  
Institution(s): \(^1\) Princeton University, \(^2\) University of Maryland  
Contributing team(s): CLASSy Team

110.03 CARMA observations of magnetic fields in star-forming filaments  
Author(s): Chat Hull\(^1\), Melvyn Wright\(^4\), Thushara Pillai\(^5\), Jun-Hui Zhao\(^1\), Goran H. L. Sandell\(^9\)  
Institution(s): \(^1\) Harvard, \(^2\) MPIfR, \(^3\) NASA Ames, \(^4\) UC Berkeley

110.04D Filament and core formation in nearby molecular clouds: results from the CARMA Large Area Star Formation Survey  
Author(s): Shaye Storm\(^4\), Lee G. Mundy\(^4\), Manuel Fernández-López\(^3\), Katherine I Lee\(^3\), Eve C. Ostriker\(^2\), Leslie Looney\(^3\), Che-Yu Chen\(^4\)  
Institution(s): \(^1\) Instituto Argentino de Radioastronomia, \(^2\) Princeton University, \(^3\) University of Illinois, \(^4\) University of Maryland  
Contributing team(s): The CLASSy Collaboration

110.05 The SMA Legacy Survey of the Central Molecular Zone  
Author(s): Cara Battersby\(^2\), Eric R. Keto\(^2\), Qizhou Zhang\(^2\), Jens Kauffmann\(^5\), Thushara Pillai\(^5\), Xing Lu\(^2\), Steve Longmore\(^4\), Daniel Walker\(^4\), Mark Graham\(^2\), Adam Ginsburg\(^1\), John Bally\(^4\), Diederik Kruijssen\(^5\), Nimesh A. Patel\(^2\), Volker Tolls\(^2\), Luis C. Ho\(^3\)  
Institution(s): \(^1\) European Southern Observatory, \(^2\) Harvard-Smithsonian Center for Astrophysics, \(^3\) Kavli Institute for Astronomy and Astrophysics at Peking University, \(^4\) Liverpool John Moores University, \(^5\) Max Planck Institute for Radio Astronomy, \(^6\) University of Colorado at Boulder

110.06 Investigating the Milky Way Using the Cosinusoidal Potential  
Author(s): John Perry Cumalat\(^1\)  
Institution(s): \(^1\) University of Colorado, Boulder

110.07 Cosinusoidal Potential with Separate Z’s for the formation of Galaxies and Clusters of Galaxies  
Author(s): David F. Bartlett\(^1\)  
Institution(s): \(^1\) Univ. of Colorado

111 Evolution of Early-type Galaxies

Monday, 10:00 am - 11:30 am; 609  
Chair(s): Christine Jones (Harvard-Smithsonian, CfA)

111.01 Shocked Post-starburst Galaxy Survey: Candidate Post-Starburst Galaxies with Narrow Emission Line Ratios Arising from Shocks  
Author(s): Sabrina Cales\(^5\), Katherine A. Alatalo\(^3\), Philip N. Appleton\(^3\), Ute Lisenfeld\(^2\), Jeffrey Rich\(^3\), Kristina Nyland\(^3\), Mark Lacy\(^4\), Lisa J. Kewley\(^1\)  
Institution(s): \(^1\) Australian National University, \(^2\) Departamento de Fisica Teorica y del Cosmos, \(^3\) IPAC, \(^4\) NRAO, \(^5\) Yale University
111.02 Using SDSS and WISE to Catch Quenching Galaxies
Author(s): Katherine A. Alatalo¹, Sabrina Cales²
Institution(s): ¹ IPAC/Caltech, ² Yale University
Contributing team(s): The SPOGS Team

111.03D On the Formation of Elliptical Galaxies via Mergers in Galaxy Groups
Author(s): Dan Taranu¹, John Dubinski¹, Howard K. C. Yee¹
Institution(s): ¹ University of Toronto, Dept. of Astronomy & Astrophysics

111.04 Dissecting the Assembly Histories of Spheroidal Post-merger and Unusually
Blue Elliptical Galaxies from the SDSS
Author(s): Daniel H. McIntosh⁴, Tim Haines³, Sebastian Sanchez¹, Christina A. Tremonti³, Gregory Rudnick¹
Institution(s): ¹ Instituto de Astronomia, Universidad Nacional Autonoma de Mexico, ² U Kansas, ³ U Wisconsin, ⁴ University of Missouri-Kansas City

111.05D Star formation in the most massive galaxies
Author(s): Michael J. I. Brown¹, Amelia Fraser-McKelvie¹, Nicolas Bonne¹
Institution(s): ¹ Monash Univ.

111.06 How did Quiescent Galaxies Grow in Size? New Results from Deep Keck
Spectroscopy
Author(s): Sirio Belli¹, Andrew Newman², Richard S. Ellis¹
Institution(s): ¹ California Institute of Technology, ² The Observatories of the Carnegie Institution for Science

111.07 Extreme gas velocity dispersions in progenitors of massive, compact quiescent
galaxies at z~2
Author(s): Guillermo Barro³, Jonathan Trump³, David C. Koo³, Avishai Dekel²,  
Susan A. Kassin¹, Dale Kocevski², Sandra M. Faber³
Institution(s): ¹ Space Telescope Science Institute, ² The Hebrew University, ³ University of California Santa Cruz, ⁴ University of Kentucky
Contributing team(s): CANDELS

114 Fundamental Properties of Low and Intermediate
Mass Stars
Monday, 10:00 am - 11:30 am; 611
Chair(s): Douglas Geisler

114.01 Absolute Optical Photometry and a Photometric Metallicity Relation for the
Nearby Cool Stars from the MEarth Project
Author(s): Jason Dittmann¹, Jonathan Irwin², David Charbonneau¹, Elisabeth R. Newton¹
Institution(s): ¹ Harvard University, ² Harvard-Smithsonian Center for Astrophysics

114.02DM Dwarf Multiplicity in the Solar Neighborhood
Author(s): Jennifer G. Winters¹
Institution(s): ¹ Georgia State University
112.03 The Age of the Ursa Major Moving Group from Interferometric Measurements of Its A-type Members
Author(s): Jeremy Jones3, Russel J. White3, Tabetha S. Boyajian5, Gail Schaefer3, Ellyn K. Baines4, Michael Ireland2, Jenny Patience1, Harold A. McAlister3, Theo Ten Brummelaar3
Institution(s): 1 Arizona State University, 2 Australian National University, 3 Georgia State University, 4 Naval Research Laboratory, 5 Yale University

112.04 Calibrating Gyrochronology using Kepler Asteroseismic Targets
Author(s): Ruth Angus1
Institution(s): 1 University of Oxford
Contributing team(s): Suzanne Aigrain, Amy McQuillan, Daniel Foreman-Mackey, William J. Chaplin, Tsevi Mazeh

112.05 Properties of 75 Solar-type Kepler Targets from the Asteroseismic Modeling Portal
Author(s): Travis S. Metcalfe1
Institution(s): 1 Space Science Institute
Contributing team(s): Kepler Asteroseismic Science Consortium

112.06D Characterizing M dwarf planet hosts and enabling precise radial velocities in the near-infrared
Author(s): Ryan Terrien1, Suvra Th Mahadevan1, Rohit Deshpande1, Chad F. Bender1, Lawrence W. Ramsey1
Institution(s): 1 Pennsylvania State University

112.07 Confronting predictions of stellar evolution theory: the case of single field M dwarf stars
Author(s): Gregory A. Feiden3, Andrew W. Mann1, Eric Gaidos2
Institution(s): 1 The University of Texas at Austin, 2 University of Hawai‘i at Manoa, 3 Uppsala University

113 Catalogs/Surveys/Computation - SDSS and Radio

Monday, 10:00 am - 11:30 am; 612
Chair(s): Zeljko Ivezic (Univ. of Washington)

113.01 First Results from the Survey of the MAgellanic Stellar History (SMASH)
Author(s): David L. Nidever19, Knut A. Olsen11, Robert A. Gruendl18, Gurtina Besla13, Abi Saha11, Edward Olszewski15, Ricardo Munoz14, Carme Gallart8, Matteo Monelli8, Alistair R. Walker8, Robert D. Blum11, Catherine C. Kaleida2, Kathy Vivas3, Steven R. Majewski22, Dennis F. Zaritsky15, Roeland P. Van Der Marel12, Eric F. Bell19, Blair Conn6, Guy S. Stringfellow8, Shoko Jin16, Lara Monteagudo Nervion9, Maria-Rosa Cioni17, Noelia Noel20, Nicolas Martin13, Antonela Monachesi9, Thomas de Boer7, You-Hua Chu4, Hwihyun Kim2, David Martinez-Delgado1, Lent C. Johnson22, Andrea Kunder3
Institution(s): 1 ARI Heidelberg, 2 Arizona State University, 3 Astronomisches Institut Potsdam, 4 Colorado State University, 5 CTIO, 6 Gemini Observatory, 7 Institute of Astronomy, Cambridge University, 8 Instituto de Astrofisica
113.02 The Time Domain Spectroscopic Survey: Taking Spectra of 250,000 Optical Variables

Author(s): Eric Morganson¹, Paul J. Green¹, Scott F. Anderson², John J. Ruan²
Institution(s): ¹ CFA, ² University of Washington
Contributing team(s): SMASH

113.03 Science with the VLA Sky Survey (VLASS)

Author(s): Eric J. Murphy¹, Stefi Alison Baum¹, W. Niel Brandt¹, Claire J. Chandler⁸, Tracy E. Clarke⁸, James J. Condon⁷, James M. Cordes², Susana E. Deustua¹³, Mark Dickinson⁶, Nicole E. Gugliucci¹¹, Gregg Hallinan¹, Jacqueline Hodge⁷, Cornelia C. Lang¹⁵, Casey J. Law¹⁴, Joseph Lazio⁸, Sui Ann Mao¹⁷, Steven T. Myers⁵, Rachel A. Osten¹³, Gordon T. Richards¹, Michael A. Strauss¹¹, Richard L. White¹³, Bevin Zauderer⁴
Institution(s): ¹ Caltech, ² Cornell University, ³ Drexel University, ⁴ Harvard University, ⁵ IPAC, ⁶ JPL, ⁷ NOAO, ⁸ NRAO, ⁹ NRL, ¹⁰ Penn State University, ¹¹ Princeton University, ¹² SIUE, ¹³ STSCI, ¹⁴ UC Berkeley, ¹⁵ University of Iowa, ¹⁶ University of Manitoba, ¹⁷ University of Wisconsin
Contributing team(s): Extragalactic Science Working Group, Galactic Science Working Group, Transient Science Working Group

113.04 Technical Implementation Plan for the VLA Sky Survey (VLASS)

Author(s): Steven T. Myers⁹, Casey J. Law¹⁵, Stefi Alison Baum¹⁷, W. Niel Brandt¹, Claire J. Chandler⁹, Tracy E. Clarke¹⁰, James J. Condon⁹, James M. Cordes², Susana E. Deustua¹⁴, Mark Dickinson⁹, Nicole E. Gugliucci¹¹, Gregg Hallinan¹, Joseph Lazio⁶, Jacqueline Hodge⁸, Cornelia C. Lang¹⁶, Sui Ann Mao¹⁸, Eric J. Murphy⁵, Rachel A. Osten¹⁴, Gordon T. Richards³, Michael A. Strauss¹¹, Richard L. White¹⁴, Bevin Zauderer⁴
Institution(s): ¹ Caltech, ² Cornell University, ³ Drexel University, ⁴ Harvard University, ⁵ IPAC, ⁶ JPL, ⁷ NOAO, ⁸ NRAO, ⁹ NRL, ¹⁰ Penn State University, ¹¹ Princeton University, ¹² SIUE, ¹³ STSCI, ¹⁴ UC Berkeley, ¹⁵ University of Iowa, ¹⁶ University of Manitoba, ¹⁷ University of Wisconsin

113.05D Exploring the Dynamic Radio Sky

Author(s): Kunal P Mooley¹, Gregg Hallinan¹, Dale A. Frail², Steven T. Myers³, Shrinivas R. Kulkarni¹, Stephen Bourke¹, Assaf Horesh¹
Institution(s): ¹ California Institute of Technology, ² NRAO
113.06 The LWA1 Low Frequency Sky Survey
Author(s): Jayce Dowell¹, Gregory B. Taylor¹
Institution(s): ¹ University of New Mexico
Contributing team(s): LWA Collaboration

113.07 Advancing Astrometry: Revisiting the VLBA Calibrator Surveys
Author(s): Anthony J. Beasley¹
Institution(s): ¹ National Radio Astronomy Observatory
Contributing team(s): VCS Team

113.08 Murchison Widefield Array (MWA) - 1st Year Science Results
Author(s): Judd D. Bowman¹
Institution(s): ¹ Arizona State University
Contributing team(s): Murchison Widefield Array (MWA) Collaboration

114 HAD IV: Preserving the Material Legacy of the American Observatory Movement

Monday, 10:00 am - 11:30 am; 615

The “American Observatory Movement” was a term coined by historian David Musto who identified the motives of private individuals, colleges and communities who succeeded in building the first wave of astronomical observatories in the United States in the first half of the 19th Century. The Federal government joined in building the USNO in what was the second wave, fueled by the spectacular growth of American philanthropy in the second half of the century, when the movement produced some of the largest and most powerful telescopes in the world, and continued to do so in the first half of the 20th as corporate philanthropy was added to the recipe. While the major institutions that grew out of this movement still thrive, their founding observatories have closed, are closing, or are threatened with closure. This special session examines the state of preservation of the original structures and facilities of four observatories that helped to establish the world-wide dominance of the United States in observational astronomy and astrophysics, and explores the strategies their descendant institutions have chosen to preserve them as national assets. The four observatories to be represented are: Lick Observatory (Sandra Faber); Yerkes (Doyal Harper); Mount Wilson (Hal McAlister), and Lowell (Jeff Hall). Each speaker will describe present and planned efforts to preserve the material legacy of their observatories (instruments, buildings, libraries, archives, plate vaults, infrastructure) through programmatic fund raising schemes (public and private), endowments, educational and public programming, and specific business models that have been applied, including collaborations, consortia, educational services. After they speak, there will be open discussion between the speakers and the audience that will be directed to searching for viable schemes that might be helpful to other important American observatories now in distress.

Organizer(s): David DeVorkin (Smithsonian Inst.)
115 The Sun and Solar System in Perspective

Monday, 10:00 am - 11:30 am; 620
Chair(s): John Armstrong (Weber State Univ.)

115.01 Is the Alfvén wave propagation in the solar atmosphere affected by cutoff frequencies or not?
Author(s): Zdzislaw E. Musielak2, Harsha K. Perera2, Krzysztof Murawski1
Institution(s): 1. Uni. Marie Curie-Sklodowska, 2. Univ. of Texas, Arlington

115.02 The Corona at Solar Maximum as Imaged during the Total Solar Eclipses of 2012 November 13-14 and 2013 November 3-4
Author(s): Shadia R. Habbal4, Miloslav Druckmuller2, Constantinos Emmanouilides3, Huw Morgan1
Institution(s): 1. Aberystwyth University, 2. Brno University of Technology, 3. HELIOS, 4. Univ. of Hawaii at Manoa

115.03 Comparing Accretion Histories of Earth, Mars, and Theia Analogs
Author(s): Nathan A. Kaib1, Nicolas B. Cowan1
Institution(s): 1. Northwestern University

115.04 Transit Spectra of a Hazy World Revealed by Titan
Author(s): Tyler D. Robinson1, Luca Maltagliati2, Mark S. Marley1
Institution(s): 1. NASA Ames Research Center, 2. Université Pierre et Marie Curie

115.05DTNOs as probes of planet building: the Plutino size- & colour-distributions
Author(s): Mike Alexandersen3, Brett Gladman5, JJ Kavelaars2, Jean-Marc Petit4, Stephen Gwyn3, Rosemary E. Pike2, Cory Shankman2
Institution(s): 1. Institut UTINAM, Observatoire de Besancon, 2. National Research Council of Canada, 3. University of British Columbia

115.06 Near-infrared spatially resolved spectroscopy of 136108 Haumea's multiple system
Author(s): Christophe Dumas1, Florian Gourgeot5, Benoit Carry2, Pedro Lacerda3, Frederic Merlin4, Frederic Vachier2, Maria Antonieta Barucci4, Jerome Berthier2

115.07 The Whipple Mission: Exploring the Kuiper Belt and the Oort Cloud
Author(s): Matthew J. Holman5, Charles Alcock2, Almus T. Kenter2, Ralph P. Kraft2, Paul Nulsen2, Matthew John Payne2, Jan M. Vrtilek3, Stephen S. Murray3, Ruth Murray-Clay6, Hilke Schlichting5, Michael E. Brown1, John H Livingston4, Amy R Trangsrud4, Michael W. Werner4
Science Policy Plenary Talk: What Do We Expect of a Space Program?

Monday, 11:40 am - 12:30 pm, 6E
Chair(s): C. Megan Urry (Yale University)

John M. Logsdon (Space Policy Institute, The George Washington University)

Dr. Logsdon is the “dean” of space policy, as the founder of GWU’s Space Policy Institute and a leading authority on the U.S. space program. He recently authored a book about President Kennedy’s role in the Apollo program and a new book on President Nixon’s pivotal post-Apollo policy decisions is due out this spring. His remarks will cover the current policy landscape for our national space program, how it got here, and prospects for the future.

117 NSF Town Hall

Monday, 12:30 pm - 1:30 pm; 6A

National Science Foundation personnel will discuss progress on decadal survey recommendations, status of facilities, mid-scale, and individual investigator programs, budget outcomes and plans, and other topical items of current interest to the AAS community.
Chair(s): James Ulvestad (National Science Foundation)

Career Hour 1: Accessing Hidden Career Opportunities through Networking and Reputation Management

Monday, 12:30 pm - 1:30 pm; 618/619

Most jobs and other game-changing career opportunities are not advertised, and even if they are, there is usually a short-list of candidates already in mind. So how do you find out about and access the 90% of jobs and other opportunities that are “hidden”? In this workshop, we will focus on strategies and tactics to identify new opportunities, locate decision-makers within organizations, solidify your reputation and brand in the minds of those who hire, and gain access to hidden jobs and career-changing opportunities. Our guiding mantra is: seek out as many opportunities as you can; if you don’t see an opportunity that you need, ask for it; if you ask and it doesn’t exist, create it yourself!
Organizer(s): Alaina Levine (Quantum Success Solutions)

Engaging Scientists in NASA Astrophysics E/PO

Monday, 12:30 pm - 2:00 pm, 4C-1

This 90-minute session will provide an opportunity for scientists and the NASA Science Mission Directorate (SMD) Astrophysics education and public outreach (E/PO) community to connect directly with each other, increase awareness and accessibility of NASA SMD E/PO resources and activities, and assist scientists in enhancing their E/PO efforts. The scientist-educator partnership is a key strength of the NASA SMD E/PO program, and one we hope to help foster though this session.
The NASA SMD Astrophysics E/PO portfolio includes a large number of peer-reviewed, externally evaluated resources and opportunities. The session will provide an opportunity to become more familiar with a variety of E/PO resources and programs, how they can be accessed by scientists and educators, and how the Astrophysics E/PO community can assist. This session will include an introduction to the SMD E/PO community and its efforts to engage the scientific community in various aspects of E/PO. We will facilitate awareness, access, and use of resources. Following the short introduction, participants will explore a selection of E/PO resources designed for use in the college or university setting; K-12 classrooms; museums and planetariums, after-school programs; and, public outreach venues. Resources and strategies to enhance scientists’ efforts to share their work and passion with students and the public will also be highlighted. The session will provide demonstrations and hands-on experience with NASA SMD E/PO resources and one-on-one conversations with professionals. Participants will leave with an introductory inventory of resource samplers and quick-start guides.

Organizer(s): Bonnie Meinke (STScI)

118 HAD Business Meeting

Monday, 12:45 pm - 1:45 pm; 610
Chair(s): Jay Pasachoff (Williams College)

For Undergrads & Other Inquiring Minds: Gamma Ray Bursts and the Birth of Black Holes, Neil A. Gehrels (Goddard Space Flight Center)

Monday, 1:15 pm – 2:00 pm; 6C

Gamma-ray bursts (GRBs) are powerful explosions, visible across the universe, and thought to be the signature of black hole formation. The NASA Swift observatory was designed specifically to observe GRBs and has detected more than 900 since launch in 2004. The observatory has a novel design that allows it to rapidly repoint itself when a GRB is detected and alert the world in minutes. This talk will highlight the latest discoveries from Swift including bursts from coalescing neutron stars and from the early stars in the distant universe.

119 The Milky Way, The Galactic Center II

Monday, 2:00 pm - 3:30 pm; 6A
Chair(s): Verne Smith (NOAO)

119.01 The CRRP and SMHASH programs: Mapping the Milky Way and its neighbours with RR Lyraes in the mid IR
Author(s): Victoria Scowcroft1, Wendy L. Freedman1, Kathryn V. Johnston2, Barry Madore1
Institution(s): 1 Carnegie Institution for Science, 2 Columbia University
Contributing team(s): CRRP team, SMHASH team

119.02 Inferring the Galactic gravitational potential with Gaia and friends
Author(s): Robyn Ellyn Sanderson2, Johanna Hartke3, Amina Helmi3, David W. Hogg1
119.03D Hypervelocity Stars in the Sloan Digital Sky Survey
Author(s): Lauren E. P. Campbell1, Kelly Holley-Bockelmann1
Institution(s): 1. Vanderbilt University

119.04 Reinterpreting The Sagittarius Dwarf Tidal Debris
Author(s): Matthew T. Newby1, Heidi Jo Newberg1, Jeffery M. Thompson1, Jake Weiss1
Institution(s): 1. Rensselaer Polytechnic Institute

119.05 Orbit of the Ophiuchus Stream
Contributing team(s): Pan-STARRS1 Collaboration

119.07 Rings and Radial Waves in the Disk of the Milky Way
Author(s): Heidi Jo Newberg4, Yan Xu3, Jeffrey L. Carlin4, Chao Liu3, Licai Deng3, Jing Li2, Ralph Schoenrich3, Brian Yanny1

120 AGN, QSO, Blazars II

Monday, 2:00 pm - 3:30 pm; 6B
Chair(s): Ryan Hickox (Dartmouth College)

120.01 Bayesian analysis of X-ray jet features of the high redshift quasar jets observed with Chandra
Author(s): Kathryn McKeough1, Aneta Siemiginowska2, Vinay Kashyap2, Nathan Stein4, Chi C. Cheung3

120.02 A census of gas outflows in type 2 AGNs out to z ~ 0.2
Author(s): Jong-Hak Woo1, Hyun-Jin Bae1
Institution(s): 1. Seoul National University

120.03 Superluminal Motions at 500 Mpc: New Results on Nearby AGN Jets with HST
Author(s): Eileen T. Meyer2, Markos Georganopoulos3, William B. Sparks2, John A. Biretta2, Roeland P. Van Der Marel2, Jay Anderson2, Marco Chiaberge2, Eric S. Perlman1, Colin Arthur Norman2
Institution(s): 1. FIT, 2. Space Telescope Science Institute, 3. UMBC
MONDAY, 5 JANUARY 2015

120.04 5-day photo-polarimetric WEBT Campaign on Blazar 5S 0716+714 – a Study of Microvariability in Blazar

**Author(s):** Gopal Bhatta4, Michal Ostrwoski5, Lukasz Stawarz13, Staszek Zola6, Damian Jablka1, R Bachev12, Erika Benitez14, Sarah M. Dhalla10, Andy Cason17, Daniele Carosati15, Goran Damjlanovic6, A. Frasca15, Shao Ming Hu18, Svetlana G. Jorstad11, O Kurtanidze3, Valeri Larionov4, Giuseppe Leto15, Alan P. Marscher11, Joseph Moody16, Johhanes Ohlert7, Nicola Rizzi19, Alberto C. Sadun3, Mahito Sasada1, Sergey Sergeev6, Anton Strigachev22, Oliver Vince6, James Raymond Webb10


Contributing team(s): Whole Earth Blazar Telescope

120.05 Investigating a Correlation Between AGN Inclination and Mid-IR Color

**Author(s):** D. Michael Crenshaw1, Travis C. Fischer1, Steven B. Kraemer3, Henrique R. Schmitt2

**Institution(s):** 1. Georgia State Univ., 2. Naval Research Laboratory, 3. The Catholic University of America

120.06 Implications of Asymmetric Broad-Line Reverberation for Binary Black Hole Searches

**Author(s):** Aaron J. Barth1

**Institution(s):** 1. UC Irvine

Contributing team(s): LAMP2011 Collaboration

120.07 Exploring AGN Unification through Mid-Infrared Spectroscopic Analysis

**Author(s):** Grant D. Thompson2, Murray E. Macnamara1

**Institution(s):** 1. Georgia Regents University Augusta, 2. Wingate University

120.08 High Resolution Radio Imaging of Powerful, Distant, Heavily Obscured Active Galaxies

**Author(s):** Colin J. Lonsdale2, Carol J. Lonsdale3, Rachel Thorp1, Mark Lacy1, Mark Whittle4, Andrew Blain5, Amy E. Kimball3, Palavi Patil4, Adam Tripp4

**Institution(s):** 1. California Institute of Technology, 2. MIT Haystack Observatory, 3. NRAO, 4. Univ. of Virginia, 5. University of Leicester

120.09 Observational signatures of Intermediate Mass Black Holes in AGN disks

**Author(s):** K.E. Saavik Ford2, Barry McKernan2, Bence Kocsis3, Wladimir Lyra4, Lisa M. Winter1

**Institution(s):** 1. Atmospheric and Environmental Research, 2. Borough of Manhattan Community College - CUNY, 3. Institute for Advanced Study, 4. Jet Propulsion Laboratory
121 Supernovae II

Monday, 2:00 pm - 3:30 pm; 6C

Chair(s): Peter Garnavich (Univ. of Notre Dame)

121.01 Strongly Lensed Supernovae from the HST Frontier Fields
   Author(s): Steven A. Rodney
   Institution(s): 1. Johns Hopkins University
   Contributing team(s): the FrontierSN Team

121.02 Exploring the unified class of Type II Supernovae with the Las Cumbres Observatory Global Telescope Network
   Author(s): Stefano Valenti, Dale Andrew Howell, David J. Sand, Iair Arcavi, Griffin Hosseinzadeh, Curtis McCully
   Institution(s): 1. Las Cumbres Observatory Global Telescope Network, 2. Texas Tech University

121.03 Explaining the Type II supernova rate-mass relation as a combination of galaxy downsizing and star-formation rates
   Author(s): Or Graur, Maryam Modjaz
   Institution(s): 1. New York University

121.04 The first homogeneous, multi-color photometric and spectroscopic sample of Stripped Envelope Supernovae and what it can tell us about their progenitors
   Author(s): Federica Bianco, Maryam Modjaz, Yuqian Liu
   Institution(s): 1. New York University
   Contributing team(s): the CfA supernova group

121.05 Neutrino Emission from Core-Collapse Supernovae
   Author(s): Evan O’Connor
   Institution(s): 1. North Carolina State University

121.07D Nucleosynthesis in Axisymmetric Ab Initio Core-Collapse Supernova Simulations of 12-25 M☉ Stars
   Author(s): James Austin Harris, William R. Hix, Merek A Chertkow, Stephen W. Bruenn, Eric J. Lentz, O. E. Bronson Messer, Anthony Mezzacappa, John M. Blondin, Pedro Marronetti, Konstantin Yakunin

121.08 Impact of the third dimension on simulations of core-collapse supernovae
   Author(s): Eric J. Lentz, Stephen W. Bruenn, William R. Hix, O. E. Bronson Messer, Anthony Mezzacappa, John M. Blondin, Eirik Endeve, James Austin Harris, Pedro Marronetti, Konstantin Yakunin
   Institution(s): 1. FAU, 2. NCSU, 3. NSF, 4. ORNL, 5. Univ. of Tennessee
122 Extrasolar Planets: Kepler’s Legacy II

Monday, 2:00 pm - 3:30 pm; 6E

Chair(s): Joshua Pepper (Vanderbilt University)

122.01D The Power of a Planet Population: Kepler’s Super-Earth Compositions, Mass-Radius Relation, and Host Star Multiplicity
Author(s): Angie Wolfgang
Institution(s): 1. University of California, Santa Cruz

122.02 Characterizing K2 Planet Discoveries
Author(s): Andrew Vanderburg1, Benjamin Montet1, John Johnson3, Lars A Buchhave1, Li Zeng1, Allyson Bieryla3, David W. Latham2, David Charbonneau3
Institution(s): 1. California Institute of Technology, 2. Harvard University, 3. Harvard-Smithsonian Center for Astrophysics
Contributing team(s): The HARPS-N Collaboration, The Robo-AO team

122.03 The Kepler Q1 - Q16 Planet Candidate Catalog
Author(s): Fergal Mullally
Institution(s): 1. NASA Ames/SETI
Contributing team(s): Kepler Team

122.04 Planet Population Statistics With Kepler Q1-Q16: Stellar Effective Temperature Dependence
Author(s): Christopher J. Burke3, Fergal Mullally3, Jessie Christiansen2, Daniel Huber1, Shawn Seader1, Joseph Catanzarite3, Steve Bryson1, Jeffrey Coughlin3, Jason Rowe3, Susan E. Thompson3, Bruce Clarke3, Peter Tenenbaum3, Natalie M. Batalha1, Michael R Haas1, Jon Michael Jenkins1
Institution(s): 1. NASA Ames Research Center, 2. NASA Exoplanet Science Institute/Caltech, 3. SETI Institute
Contributing team(s): Kepler Project

122.05 Expected Exoplanet Yields of Direct-Imaging Missions, Based on the Kepler Population
Author(s): Wesley A. Traub
Institution(s): 1. Jet Propulsion Laboratory

122.06 A Transit Timing Posterior Distribution Catalog for all Kepler Planet Candidates
Author(s): Benjamin Montet1, Juliette Becker3, John Johnson2

122.07 Statistical Eclipses of Kepler Neptune-like Candidates
Author(s): Holly A. Sheets1, Drake Deming2
Institution(s): 1. University of Maryland

122.08 Preparing for the Kepler K2 Microlensing Survey: A Call to Arms
Author(s): Matthew Penny1
Institution(s): 1. Ohio State University
123 HEAD II: Centennial of General Relativity: Looking Forward

Monday, 2:00 pm - 3:30 pm; 610

To celebrate the centenary of the publication of Einstein’s Field Equations, the AAS High Energy Astrophysics Division and NASA’s Physics of the Cosmos program are pleased to co-host two special sessions on Theory of General Relativity. The first session provides a historical perspective on the development of the theory of general relativity and astrophysical constraints of General Relativity. The second session looks forward from current astrophysical constraints to next-generation measurements ranging from space-based measurements of gravitational waves and the powerful tests made possible through studies of binary pulsars through to cosmological tests of General Relativity.

Organizer(s): Ann Hornschemeier (NASA GSFC)

123.01 Binary Pulsar Constraints on General Relativity
Author(s): Michael Kramer¹
Institution(s): ¹ Max-Planck-Institut fuer Radioastronomie

123.02 Cosmological tests of GR
Author(s): Rachel Bean¹
Institution(s): ¹ Cornell Univ.

123.03 The Centennial of GR: Looking forward to Black Hole Mergers at Cosmic Dawn
Author(s): Neil J. Cornish¹
Institution(s): ¹ Montana State Univ.

124 Extrasolar Planets: Atmospheres II

Monday, 2:00 pm - 3:30 pm; 616/617

Chair(s): Victoria Meadows (University of Washington)

124.01D Super-Earths, Warm Neptunes, and Hot Jupiters: Transmission Spectroscopy for Comparative Planetology
Author(s): Jonathan D. Fraine³, Drake Deming³, Andres Jordan², Heather Knutson¹
Institution(s): ¹ California Institute of Technology Division of Geological & Planetary Sciences, ² Pontificia Universidad Católica de Chile Instituto de Astrofísica, ³ University of Maryland

124.02D Spectral Fingerprints of Earth-like Planets Orbiting Other Stars
Author(s): Sarah Rugheimer², Lisa Kaltenegger¹, Dimitar Sasselov²
Institution(s): ¹ Cornell University, ² Harvard University

124.03 On the Confidence of Molecular Detections in the Atmospheres of Exoplanets from Secondary Eclipse Spectra
Author(s): Jacob A Lustig-Yaeger³, Michael R. Line¹, Jonathan J. Fortney¹
Institution(s): ¹ University of California, Santa Cruz, ² University of Washington

124.04 The Thermal Emission and Albedo of Super-Earths with Flat Transmission Spectra
Author(s): Caroline Morley², Jonathan J. Fortney³, Mark Marley¹
Institution(s): ¹ NASA Ames Research Center, ² University of CA - Santa Cruz
124.05 Characterizing Transiting Exoplanet Atmospheres with Gemini/GMOS: First Results  
Author(s): Catherine Huitson\textsuperscript{4}, Jean-Michel Desert\textsuperscript{4}, Jacob Bean\textsuperscript{3}, Jonathan J. Fortney\textsuperscript{2}, Kevin B. Stevenson\textsuperscript{3}, Marcel Bergmann\textsuperscript{1}  
Institution(s): \textsuperscript{1} NOAO/Gemini, \textsuperscript{2} University of California at Santa Cruz, \textsuperscript{3} University of Chicago, \textsuperscript{4} University of Colorado at Boulder  

124.06 Probing exoplanet atmospheres through their Rayleigh scattering signatures  
Author(s): Diana Dragomir\textsuperscript{3}, Ian Crossfield\textsuperscript{2}, Bjoern Benneke\textsuperscript{1}, Kyle Pearson\textsuperscript{2}, Lauren I Biddle\textsuperscript{2}  
Institution(s): \textsuperscript{1} CALTECH, \textsuperscript{2} University of Arizona, \textsuperscript{3} University of California Santa Barbara  

124.07 Highly Evolved Exoplanet Atmospheres  
Author(s): Renyu Hu\textsuperscript{1}  
Institution(s): \textsuperscript{1} Jet Propulsion Laboratory  

125 Final Results from BOSS  
Monday, 2:00 pm - 3:30 pm; 618/619  
The Baryon Oscillation Spectroscopic Survey (BOSS) of the Sloan Digital Sky Survey III has completed a 6-year effort to map the spatial distribution of luminous galaxies and quasars and probe the inter-galactic medium. The goals of the survey were to constrain the characteristic scale imprinted by baryon acoustic oscillations in the early universe, the growth of structure through redshift space distortions, the matter power spectrum and the evolution of massive galaxies and quasars. This session highlights science results from the completed survey. This special session follows the final data release of the SDSS-III/BOSS data. This includes spectra and redshifts for 1.35 million unique Luminous Red Galaxies spanning redshifts 0.15 < z < 0.7 and 230,000 quasars of which 169,000 are at z > 2.15 and appropriate for Lyman-alpha forest studies. These objects cover of footprint of 10,2000 square degrees of the extragalactic sky at declinations -11 < dec < +69 deg.  
Organizer(s): David Schlegel (LBNL)  

125.01 Overview of the Baryon Acoustic Oscillation Survey (BOSS)  
Author(s): David J. Schlegel\textsuperscript{1}  
Institution(s): \textsuperscript{1} LBNL  
Contributing team(s): SDSS-III collaboration  

125.02 Cosmology from BOSS Galaxy Clustering and Redshift-Space Distortions  
Author(s): Ashley J Ross\textsuperscript{1}  
Institution(s): \textsuperscript{1} CCAPP, Ohio State University  
Contributing team(s): SDSS-III collaboration  

125.03 Cosmology from the BOSS Lyman-Alpha Forest  
Author(s): Andreu Font-Ribera\textsuperscript{1}  
Institution(s): \textsuperscript{1} Lawrence Berkeley National Laboratory  
Contributing team(s): SDSS-III collaboration  

125.04 What BOSS has taught us about Quasars  
Author(s): Nicholas Ross\textsuperscript{1}  
Institution(s): \textsuperscript{1} Drexel University  
Contributing team(s): The SDSS-III BOSS Quasar Science Working Group
125.05 The BOSS Cosmological Model  
Author(s): Daniel Eisenstein1  
Institution(s): 1 Harvard Univ.  
Contributing team(s): SDSS-III Collaboration

125.06 The Start of SDSS-IV and eBOSS  
Author(s): Jeremy Tinker1  
Institution(s): 1 New York University  
Contributing team(s): SDSS-IV Collaboration

126 Astronomy Across Africa: A New Dawn - II  
Monday, 2:00 pm - 3:30 pm; 606

In January 2013 we requested two special sessions entitled, “Astronomy Across Africa: A New Dawn.” The AAS received a record number of requests for special sessions for that meeting but the Society was able to grant us one session, which was scheduled on Thursday morning. All of our speakers, including four from Africa, were able to attend the meeting and the session. We had an incredible turnout with a standing room only crowd and at least six current directors and a previous director of major facilities and observatories in the audience. The session has since been featured in a number of news articles and various member of the AAS community have expressed an interest in becoming more involved in collaborating with the young and fast growing astronomy community on the African continent. With this proposal we request another special session to continue our goal of increasing awareness, interactions and collaboration between US and African astronomers and educators. We would also like to request that the session be scheduled on the first or second day of the meeting so that there is additional time for the speakers from Africa to communicate and interact with AAS members and vice-versa. As noted in our past proposal an explosion of cutting edge multi-wavelength facilities have begun or are expected to be operating namely SALT, HESS, MITRA, AVN, PAPER, MeerKAT, African VLBI and the SKA. The CTA is also likely to be situated in Namibia, which combined with HESS will engage in premier high energy astrophysics activity. At the same time countries across the continent are developing human capacity in science and technology using astronomy as a gateway science. As astronomy is set to explode across Africa, its astronomy community, facilities and on-going science remain relatively unknown to the US community.

With this second special session we seek to highlight the latest developments in astronomy in Africa, specifically the African-VLBI network, CTA and HESS – the high energy astrophysics facilities, and education / development projects across the continent in Ethiopia, Nigeria and Burkina Faso. We will also highlight the efforts by the US State Department in growing scientific interactions and connections with the African continent. Finally we note that the session is co-sponsored by AUI / NRAO, Committee for Status of Minorities in Astronomy (CSMA), South Africa's Department of Science and Technology (DST), and South Africa’s National Research Foundation (NRF), and by members of the National Society of Black Physicists (specifically Dr. Charles Mcgruder and Dr. Lawrence Norris). All of the sponsors are particularly interested in improving diversity and broadening participation in astronomy and the advancement of African astronomers is well-aligned with the mission of the sponsors. Challenges faced by African astronomers are very
similar to those faced by minority groups in the US and lessons can be learned between
the two. For NRAO/AUI, an additional reason for the sponsorship is its mission statement
to help train the next generation of scientists in radio astronomy.

Chair(s): Kartik Sheth (NRAO)

126.01 KAT-7 Science Verification Highlights
Author(s): Danielle M. Lucero¹, Claude Carignan¹
Institution(s): ¹ University of Cape Town
Contributing team(s): KAT-7 Science Data and Processing Team, KAT-7 Science Commissioning Team

126.02 The African VLBI network project
Author(s): Anita Loots¹
Institution(s): ¹ AVN/SKA-Africa

126.03 Astronomy Development in Nigeria: Challenges and Advances
Author(s): James Okwe Chibueze¹
Institution(s): ¹ National Astronomical Observatory of Japan

126.04 The NRAO NINE Program: Faculty & Student Partnerships Across Africa
Author(s): Kartik Sheth¹
Institution(s): ¹ NRAO

126.05 Astronomy Landscape in Africa
Author(s): Takalani Nemaungani¹
Institution(s): ¹ South African Government

126.06 Joint Exchange Development Initiative (JEDI) with the SKA Africa
Author(s): Nadeem Oozeer², Bruce A Bassett¹
Institution(s): ¹ AIMS, 2. SKA Comissioning Team

126.07 An Inquiry-based Astronomy Summer School in West Africa
Author(s): Linda Strubbe¹, Bonaventure Okere⁴, James Chibueze⁴, Kelly Lepo⁴, Heidi White⁵, Jielai Zhang⁵, Daniel Okoh⁴, Mike Reid⁴, Lisa Hunter⁴
Institution(s): ¹ Canadian Institute for Theoretical Astrophysics, ² NAOJ, ³ University of California, ⁴ University of Nigeria, ⁵ University of Toronto

126.08 H.E.S.S. and CTA - Southern Africa’s Involvement
Author(s): Markus Bottcher¹
Institution(s): ¹ North-West University

127 Molecular Clouds, HII Regions, Interstellar Medium II

Monday, 2:00 pm - 3:30 pm; 607
Chair(s): Lori Allen (NOAO)

127.01 Measuring the Mass-to-Flux Ratio in Molecular Clouds via Zeeman Observations
Author(s): Kristen L. Thompson¹, Thomas H. Troland³, Carl E. Heiles²
Institution(s): ¹ Davidson College, ² University of California, ³ University of Kentucky
127.02 Observations of Turbulence Dissipating in Low Velocity Shocks in the Perseus B1-E5 Starless Core
Author(s): Andy Pon1, Doug Johnstone2, Michael J. Kaufman3, Paola Caselli1, Rene Plume4
Institution(s): 1 Max Planck Institute for Extraterrestrial Physics, 2 NRC-Herzberg Institute for Astrophysics, 3 San Jose State University, 4 University of Calgary

127.03D Line Ratio Diagnostics Along the Disc of Two Edge-on Lenticular Galaxies, NGC 4710 and NGC 5866
Author(s): Selcuk Topal1
Institution(s): 1 University of Oxford

127.04 The Envelope of the Molecular Cloud L1599B
Author(s): Paul Goldsmith1, Jorge Pineda1, William Langer1, Thangasamy Velusamy1
Institution(s): 1 JPL

127.05 New perspective on the Fan Region: Polarized synchrotron emission tracing Galactic structure beyond the Perseus Arm
Author(s): Alex S. Hill3, T. L. Landecker2, E Carretti1, Kevin A. Douglas5, Xiaohui Sun6, Bryan M. Gaensler7, Sui Ann Mao4, Naomi M. McClure-Griffiths1, Maik Wolleben5, Marijke Havercorn6, Dominic Schnitzeler4
Institution(s): 1 CSIRO Astronomy and Space Science, 2 DRAO, 3 Haverford College, 4 Max Planck Institute for Radio Astronomy, 5 Okanagan College, 6 Radboud University Nijmegen, 7 University of Sydney

127.06 Collision of the Smith Cloud and its dark matter halo with the magnetized Galactic disk
Author(s): Jason Galyardt1, Robin L. Shelton1
Institution(s): 1 University of Georgia

127.07 Resolving Molecular Clouds in the Nearby Galaxy NGC 300
Author(s): Christopher Faesi1, Charles J. Lada2, Jan Forbrich3
Institution(s): 1 Harvard Univ., 2 Harvard-Smithsonian Center for Astrophysics, 3 University of Vienna

128 Star Formation II

Monday, 2:00 pm - 3:30 pm; 608

Chair(s): Hans Guenther

128.01 The Relationship Between Gas and Star Formation in the Magellanic Clouds
Author(s): Katherine Jameson4, Alberto D. Bolatto3, Adam K. Leroy1, Margaret Meixner1, Julia Roman-Duval1, Karl D. Gordon2
Institution(s): 1 NRAO, 2 STScI, 3 University of Maryland
Contributing team(s): HERITAGE Collaboration

128.02DA Multi-Wavelength Survey of Intermediate-Mass Star-Forming Regions
Author(s): Michael J. Lundquist2, Henry A. Kobulnicky2, Charles R. Kerton1
Institution(s): 1 Iowa State University, 2 University of Wyoming
128.03 Identification of Young Stars and Sub-Clusters in Rich Cluster Environments
Author(s): Sarah Willis1, Joseph L. Hora1, Gozde Saral1
Institution(s): 1. Harvard-Smithsonian CfA

128.04 Do filaments cross core “boundaries”?
Author(s): Alyssa A. Goodman2, Hope Chen2, Jaime E. Pineda3, Stella Offner3
Institution(s): 1. ETH Zurich, 2. Harvard-Smithsonian, CfA, 3. UMass Amherst

128.05D The ALFALFA Hα Survey
Author(s): Angela Van Sistine3
Institution(s): 3. Indiana University

128.06 A Complete Census of Dense Cores in Chamaeleon I: Results from an ALMA Cycle 1 Survey
Author(s): Michael Dunham2, Scott Schnee6, Jaime E. Pineda1, Stella Offner9, Daniel Price5, Hector G. Arce10, James Di Francesco3, Doug I. Johnstone3, Tyler L. Bourke8, John J. Tobin4, Xuepeng Chen7

128.07 Detailed Magnetic Field Morphology of the Vela C Molecular Cloud from the BLASTPol 2012 flight
Author(s): Laura Marion Fissel9, Peter Ade3, Francesco E Angilè13, Peter Ashton9, Steven J Benton14, Mark J. Devlin13, Bradley Dober13, Yasuo Fukui5, Nicholas B Galitzki13, Natalie Gandilo14, Jeff Klein13, Andrei Korotkov1, Zhi-Yun Li15, Lorenzo Moncelsi2, Tristan Matthews9, fumitaka nakamura8, Calvin Barth Netterfield14, Giles Novak9, Enzo Pascale3, Frédéric Poidevin5, Giorgio Savini10, Fábio Pereira Santos9, Douglas Scott11, Jamil Shariff14, Juan Diego Soler4, Nicholas Thomas7, carole tucker3, Gregory S. Tucker1, Derek Ward-Thompson12

129 Dwarf and Irregular Galaxies I

Monday, 2:00 pm - 3:30 pm; 609

Chair(s): Peter Yoachim (University of Washington)

129.01 Interpreting Resolved Stellar Populations in Local Group Dwarfs
Author(s): Alyson Brooks4, Maureen Teyssier1
Institution(s): 1. Rutgers University

129.02D Exploring Dwarf Galaxy Evolution through Metallicity Distributions
Author(s): Teresa Ross1
Institution(s): 1. New Mexico State University
129.03 Uncovering Blue Diffuse Dwarf Galaxies
Author(s): Bethan James¹, Sergey Koposov¹, Daniel Stark², Vasily Belokurov¹, Max Pettini¹, Edward W. Olszewski²
Institution(s): ¹ Institute of Astronomy, ² University of Arizona

129.04 Two Local Dwarf Galaxies Discovered in HI
Author(s): Erik Jon Tollerud¹
Institution(s): ¹ Yale University

129.05 Are dwarf galaxies killed by reionization?
Author(s): Kenza S. Arraki¹, Anatoly A. Klypin¹, Sebastian Trujillo-Gomez¹, Daniel Ceverino², Joel R. Primack³
Institution(s): ¹ New Mexico State University, ² Universidad Autonoma de Madrid, ³ University of California, Santa Cruz, ⁴ University of Zurich

129.06D Satellite Quenching and the Lifecycle of Dwarf Galaxies
Author(s): Colin Slater¹, Eric F. Bell¹
Institution(s): ¹ University of Michigan

129.07 First Spectacular Panoramic UV Images of the Magellanic Clouds from GALEX
Author(s): David Schiminovich², Mark Seibert¹
Institution(s): ¹ Carnegie Observatories, ² Columbia University
Contributing team(s): GALEX Science Team

130 Low-Mass Stars and Brown Dwarfs

Monday, 2:00 pm - 3:30 pm; 611
Chair(s): Gerard Van Hoven

130.01 Reliable Radii for M Dwarf Stars
Author(s): Andrew Mann¹, Gregory A. Feiden³, Eric Gaidos¹
Institution(s): ¹ University of Hawaii, ² University of Texas at Austin, ³ Uppsala University

130.02 Surface gravity analysis of the NIRSPEC Brown Dwarf Spectroscopic Survey
Author(s): Emily Martin², Ian S. McLean², Gregory N. Mace², Sarah E. Logsdon², Emily L. Rice¹
Institution(s): ¹ College of Staten Island, CUNY, ² UCLA, ³ UT Austin

130.03 Atmospheric Characterization of T-Dwarfs via Bayesian Retrieval Methods
Author(s): Michael R. Line², Mark Marley¹, Jonathan J. Fortney²
Institution(s): ¹ NASA-Ames, ² University of California-Santa Cruz

130.04D Constraining the Properties of the Dust Haze in the Atmospheres of Young Brown Dwarfs
Author(s): Kay Hiranaka³, Kelle L. Cruz², Mark S. Marley³, Stephanie Douglas¹
Institution(s): ¹ Columbia University, ² Hunter College, ³ NASA Ames Research Center
Contributing team(s): BDNYC
**MONDAY, 5 JANUARY 2015**

130.05 Clouds in the Coldest Brown Dwarfs  
**Author(s):** Jacqueline K. Faherty¹, Christopher G. Tinney², J. Davy Kirkpatrick³, Andrew Skemer⁴  
**Institution(s):** ¹ Caltech, ² Carnegie Institution of Washington, ³ University of Arizona, ⁴ UNSW

130.06 Watching the Weather in Real Time: Spitzer Light Curves of Variable L/T Transition Brown Dwarfs  
**Author(s):** Jacqueline Radigan¹, Nicolas B. Cowan², Adam P. Showman³, Daniel Apai⁴, Stanimir Metchev⁵, Mark Marley⁶, Etienne Artigau⁷, Adam Burgasser⁸, Ray Jayawardhana⁹, Bertrand Goldman¹⁰  
**Institution(s):** ¹ STScI, ² Amherst College, ³ LPL, ⁴ University of Arizona, ⁵ University of Western Ontario, ⁶ NASA Ames, ⁷ University of Montreal, ⁸ University of San Diego, ⁹ York University, ¹⁰ MPIA

130.07 T Dwarf Variability Amplitudes Are Likely Stronger in the Optical  
**Author(s):** Aren Heinze¹, Stanimir Metchev², Kendra Kellogg²  
**Institution(s):** ¹ State University of NY, Stony Brook, ² University of Western Ontario

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**131 Infrared Properties of Galaxies**

Monday, 2:00 pm - 3:30 pm; 612

**Chair(s):** Pauline Barmby *(Univ. of Western Ontario)*

131.01D Origin and evolution of high-redshift ultraluminous infrared galaxies  
**Author(s):** Chao-Ling Hung¹, David B. Sanders¹, Caitlin Casey³, Howard Alan Smith³  
**Institution(s):** ¹ Institute for Astronomy, University of Hawaii, ² Smithsonian Astrophysical Observatory, ³ University of California at Irvine

131.02 Gravitationally Lensed Dusty Star-forming Galaxies Discovered by Herschel: A Unique Tool to Study Galaxy Evolution  
**Author(s):** R. Shane Bussmann², Dominik A. Riechers², Anastasia Fialkov², Chris Hayward¹, Francesco De Bernardis³, Abraham Loeb³, Ismael Perez-Fournon⁴  
**Institution(s):** ¹ Caltech, ² Cornell University, ³ Harvard University, ⁴ Instituto Astrofísico de Canarias, ⁵ International Center for fundamental Physics at Ecole Normale Superieure  
**Contributing team(s):** HerMES, H-ATLAS

131.03D Optical and Infrared Morphologies of Local Luminous Infrared Galaxies  
**Author(s):** Kirsten L. Larson¹, David B. Sanders¹  
**Institution(s):** ¹ University of Hawaii  
**Contributing team(s):** GOALS Team

131.04 The Modes of Star Formation in Luminous and Ultraluminous Infrared Galaxies  
**Author(s):** Jeyhan S. Kartaltepe¹  
**Institution(s):** ¹ National Optical Astronomy Observatory  
**Contributing team(s):** CANDELS Team
131.05 Are Dusty Galaxies Blue? Insights on UV Attenuation from Dust-Selected Galaxies  
Author(s): Caitlin Casey, Nicholas Scoville, David B. Sanders, Nicholas Lee, Asantha R. Cooray, Peter L. Capak, Alexander J. Conley, Gianfranco De Zotti, Duncan Farrah, Hai Fu, Emeric Le Floc’h, Olivier Ilbert, Rob Ivison, Tsutomu T Takeuchi  

131.06 Evolution of Dust Obscured Star Formation  
Author(s): Hanae Inami, Mark Dickinson  
Institution(s): 1. NOAO  
Contributing team(s): Herschel+CANDELS Team

132 HAD V: Contributed Talks & Osterbrock Book Prize Talk  
Monday, 2:00 pm - 3:30 pm; 615  
Chair(s): Marc Rothenberg (National Science Foundation)

132.01 The pre-history of the University of Washington Astronomy Department: 1891-1965  
Author(s): Woodruff T. Sullivan  
Institution(s): 1. Univ. of Washington

132.02 History of the University of Washington Astronomy Department: 1965-1995  
Author(s): Julie H. Lutz  
Institution(s): 1. Univ. of Washington

132.03 Why Spectroscopy Went South  
Author(s): Nora Mills Boyd  
Institution(s): 1. University of Pittsburgh

132.04 Unravelling Starlight: William and Margaret Huggins and the Rise of the New Astronomy  
Author(s): Barbara J. Becker  
Institution(s): 1. UC Irvine

133 Stellar Abundances and Metallicity Effects  
Monday, 2:00 pm - 3:30 pm; 620  
Chair(s): Natalie Gosnell (University of Texas at Austin)

133.01 Ultraviolet Spectroscopy of Metal-Poor Stars: New Detections of Phosphorus, Germanium, Arsenic, Selenium, Cadmium, Tellurium, Lutetium, Osmium, Iridium, Platinum, Gold, and More!  
Author(s): Ian U. Roederer  
Institution(s): 1. University of Michigan
133.02D Characterizing The Nearest Young Moving Groups Through High Resolution Spectroscopy
Author(s): Kyle McCarthy¹, Ronald J. Wilhelm¹
Institution(s): ¹ University of Kentucky

133.03D Magnesium isotopes in giants in the Milky Way inner disk and bulge: First results with 3D stellar atmospheres
Author(s): Anders Thygesen³, Luca Sbordone², Norbert Christlieb³, Martin Asplund¹
Institution(s): ¹ Australian National University, ² Pontificia Universidad Catolica de Chile, ³ ZAH Landessternwarte, Heidelberg University

133.04 Magnetorotational instability in the presence of composition gradients
Author(s): Jeffrey S. Oishi¹, Kristen Menou²
Institution(s): ¹ Farmingdale State College, ² University of Toronto

133.05 A Photometric Method for Discovering Extremely Metal Poor Stars
Author(s): Adam Miller¹
Institution(s): ¹ JPL/Caltech

133.06 The C/M ratio in the disk of M31
Author(s): Katherine Hamren², Martha L Boyer¹, Puragra Guhathakurta²
Institution(s): ¹ NASA Goddard Space Flight Center, ² University of California Santa Cruz
Contributing team(s): SPLASH collaboration, PHAT collaboration

133.07 Is the Globular Cluster Colour-Metallicity Relation Universal?
Author(s): Christopher Usher¹
Institution(s): ¹ Swinburne University of Technology
Contributing team(s): The SLUGGS Survey Team

134 Plenary Talk: Back to the Beginning: The Rosetta Mission at Comet 67P/Churyumov-Gerasimenko

Monday, 3:40 pm - 4:30 pm; 6E
Chair(s): Paula Szkody (Univ. of Washington)

134.01 Back to the Beginning: The Rosetta Mission at Comet 67P/Churyumov-Gerasimenko
Author(s): Paul R. Weissman¹
Institution(s): ¹ Jet Propulsion Laboratory/Caltech

135 Plenary Talk: The Discovery of High Energy Astrophysical Neutrinos: First Light, New Questions

Monday, 4:30 pm - 5:20 pm; 6E
Chair(s): Jack Burns (Univ. of Colorado at Boulder)
Career Hour 2: Leveraging Social Media for Networking and Career Advancement

Monday, 5:30 pm - 6:30 pm; 618/619

More and more recruiters, job decision-makers and hiring managers are using the web to find and research potential candidates. How can you make sure that you are not only found, but are ahead of the pack? In this session, we will discuss how decision-makers use LinkedIn and Facebook, and how you can use LinkedIn to establish yourself as a leader in your field, enhance your research reputation, and seek out and take advantage of innovative opportunities. We will demonstrate how to optimize your presence on Twitter, and create a winning LinkedIn profile, and how to use its multitude of features (such as joining and commenting in groups) to generate solid leads for your career.

Organizer(s): Alaina Levine (Quantum Success Solutions)

Thirty Meter Telescope Open House

Monday, 5:30 pm - 6:30 pm; 6B

The Thirty Meter Telescope has entered a new phase, with the formation of the TMT International Observatory (TIO) Corporation and the start of construction on Mauna Kea. At this Open House, we will present the status of the observatory, and highlight new developments in instrumentation, adaptive optics, and science planning. TMT will have a 30-meter, filled aperture segmented primary mirror. Its first light instruments range from wide-field, multi-object, seeing-limited spectrometers to an imager and integral field spectrograph operating at the 30-m diffraction limit, and enable a vast range of new, ground-breaking science. The international TMT partnership includes Canada, China, India, Japan, Caltech, and the University of California. AURA is an Associate Member of TMT, and NOAO executes AURA’s TMT-related activities on behalf of the US community. We will discuss continuing activities to develop a model for potential US national participation in TMT. The US TMT Science Working Group (SWG) consists of astronomers from institutions across the US, and is evaluating the community’s interests and aspirations for science with TMT. Together with AURA's representatives on the TIO Board of Governors and Science Advisory Committee, the SWG is developing a US TMT participation plan on behalf of the NSF. This plan describes the scientific, technological, educational, and programmatic benefits of TMT participation for the US community, and considers the choices and decisions that would maximize those benefits.

At the Open House, members of the US TMT SWG will report on the development of this...
participation plan, and there will be ample time for audience questions and discussion. The session will also highlight ways in which astronomers everywhere can become involved in TMT, including opportunities for instrumentation development, membership in the TMT International Science Development Teams, and attendance at the annual TMT Science Forum. Complimentary refreshments and hors d’oeuvres will be provided. 

**Organizer(s): Mark Dickinson (NOAO)**

### 136 AAS Publications Town Hall

**Monday, 6:30 pm - 7:30 pm; 6A**

The AAS publishing program continues to evolve, and this Town Hall offers the community an opportunity to hear from and interact with the leaders of the program about current issues and concerns as well as new initiatives and future directions.

**Chair(s): Greg Schwarz (American Astronomical Society (AAS))**

### Career Discovery Networking Reception and Job Fair

**Monday, 6:30 pm - 8:00 pm; 4C-3 & 4C-4**

The AAS Employment Committee invites employers and potential employees to the the Career Discovery Networking Reception. Learn about the various career services offered at the meeting and by the association, including the Career Center, Job Register, career hours, workshops and much more.

### Observatory Site Protection: Challenges & Solutions

**Monday, 6:30 pm - 8:30 pm, 608**

In the 1970s optical astronomers publicly identified the degradation of the night sky from the increase in lighting associated with development and growth. Although many communities have passed anti-light pollution ordinances, there is still need to protect dark skies near our research and college observatories and surrounding communities. Radio astronomers have also been interacting with industry and regulatory agencies to protect critical frequencies against broadcast interference and to establish radio-quiet zones around research facilities. The AAS Committee on Light Pollution, Radio Frequency Interference (RFI) and Space Debris; IAU’s Commission 50 on Observatory Site Protection; and the International Dark-Sky Association (IDA) are teaming to propose a splinter session on these topics for the third consecutive year.

Chris Smith (Head of Mission, AURA, Chile), Lori Allen (Director, KPNO), Jeff Hall (Director, Lowell Observatory) and Richard Wainscoat (Pan-STARRS PI, U. Hawaii) will give presentations on the latest challenges and solutions that impact their major observatories sites. Similarly, Rick Perley (NRAO) will talk about the most significant challenges in RFI facing the radio astronomy community. Scott Kardel (Acting Executive Director, IDA) will address issues on LEDs and spectral effects of lighting at night. After the presentations, the splinter session will hold a discussion moderated by Pat Seitzer (Chair, Committee on Light Pollution, RFI and Space Debris) on how we (AAS, IAU, IDA) can help astronomical communities protect dark skies and the radio spectrum.
Along with the image exhibit “Light: Beyond the Bulb”, the splinter session will be a part of a suite of International Year of Light (IYL) 2015 “Cosmic Light” themed events during the AAS conference: on Sunday, a workshop on IYL Cosmic Light programs, (hopefully) on Monday evening, the proposed splinter session, on Tuesday, the oral session on IYL education/outreach, and tentatively on Wednesday, a public evening at the Pacific Science Center. Organizer(s): Constance Walker (NOAO), Patrick Seitzer (Univ. of Michigan)

**LGBTIQ Networking Dinner**

**Monday, 6:30 pm - 8:30 pm; AAS Registration Desk, South Lobby**

The AAS Working Group on LGBTIQ Equality (WGLE) works to promote equality for lesbian, gay, bisexual, transgender, intersex, and questioning individuals within our profession. Join us for dinner on Monday evening, January 5. We’ll meet in front of the AAS Meeting Registration Desk at 6:30 and walk to a local restaurant. Please bring a method of payment for this dinner. Organizer(s): William Dixon (Space Telescope Science Institute)

**SOFIA Mission Status and Science Update**

**Monday, 6:30 pm - 8:00 pm; 6E**

The Stratospheric Observatory for Infrared Astronomy, SOFIA, is a 2.5 meter infrared telescope mounted in a Boeing 747SP that operates at altitudes up to 45,000 feet (14 km). It is a joint program of NASA and the German Aerospace Center, DLR. SOFIA will complete its second annual Cycle of guest investigator observations in February, and start the third Cycle in March 2015. We will update the community on the progress of the observatory and its scientific instruments, including the upcoming commissioning of HAWC. We will outline our plans for the Cycle 4 Call for Proposals, during which we expect to offer over 500 hours of observing to the US community. Organizer(s): Ravi Sankrit (SOFIA/USRA)

**SPS Evening of Undergraduate Science**

**Monday, 6:30 pm - 8:30 pm; 4C-2**

The Society of Physics Students (SPS) sponsors this meeting and invites all undergraduates attending the AAS Meeting. At this meeting they have an opportunity to display their posters and showcase their research. A noted astronomer (TBD at this time) will give a short talk on astronomy as a personal endeavor, providing a perspective on the field and its future, as well as an introduction to his/her extensive research interests. The session provides an opportunity to slow down and savor the field and the accomplishments of one’s colleagues. Organizer(s): Daniel Golombek (STScI)
MONDAY, 5 JANUARY 2015

The NASA K2 Mission

Monday, 7:30 pm - 8:30 pm; 606

This Special Session will present the current status of the NASA K2 Mission. Spacecraft operation, programmatic items, K2 science, and Guest Observer status will be discussed. It is anticipated that the latest scientific discoveries by the community using K2 observations will be presented as well.

Organizer(s): Steve Howell (NASA ARC)

UVOIR Space Astronomy beyond the 2020s

Monday, 7:30 pm - 9:00 pm; 6C

The Association of Universities for Research in Astronomy (AURA) has commissioned a report entitled “Beyond JWST: The Future of UVOIR Space Astronomy.” The committee, co-chaired by Profs. Julianne Dalcanton and Sara Seager, has been charged with studying future space-based options for UV and optical astronomy that significantly advance our understanding of the origin and evolution of the cosmos and the life within it. Specifically, the committee is tasked with constructing a coherent and well-justified path leading to a next-generation UVOIR mission with the highest possible scientific impact in the era immediately following JWST. The committee will present its main findings at this public splinter session. Presentations will include summaries of the top science cases for the next major UV-optical observatory, the technology developments that will need to be achieved in the current decade to enable its construction, and the path forward that will lead to a viable flight proposal for consideration by the NRC in their 2020 Astronomy and Astrophysics Decadal Review.

Organizer(s): Marc Postman (Space Telescope Science Institute)
POSTERS

137 The Sun and Solar System in Perspective Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

137.01 Predicting Ground Illuminance
Author(s): Michael V. Lesniak¹, Brett D. Tregoning¹, Alexandra E. Hitchens¹
Institution(s): ¹ U.S. Naval Observatory

137.02 The Pisgah Astronomical Research Institute
Author(s): J. Donald Cline¹
Institution(s): ¹ Pisgah Astronomical Research Institute

137.03 Angular Variation of Solar Feature Contrast in Full-Disk G-Band Images
Author(s): Sarah Caroline Blunt¹, Serena Criscuoli³, Ilaria Ermolli², Fabrizio Giorgi²
Institution(s): ¹ Brown University, ² INAF Osservatorio Astronomico di Roma, ³ The National Solar Observatory

137.04 The relation between umbral magnetic field strength and area density of umbral dots
Author(s): Sierra Ferguson², Christian Beck¹
Institution(s): ¹ National Solar Observatory, ² Northern Arizona University

137.05 Comparing High-speed Transition Region Jets in Coronal Holes and Quiet Sun Regions
Author(s): Rebecca Tate Arbacher¹, Hui Tian³, Steven R. Cranmer²
Institution(s): ¹ Columbia University, ² Harvard-Smithsonian Center for Astrophysics

137.06 Automated Kinematics Analysis of Off-Limb Coronal Bright Fronts Observed with SDO/AIA
Author(s): Alexander K Kendrick², Kamen A. Kozarev¹
Institution(s): ¹ Harvard-Smithsonian Center For Astrophysics, ² Harvey Mudd College

137.07 Modelling Magnetic Reconnection and Nano-flare Heating in the Solar Corona
Author(s): George Biggs², Mahboubeh Asgari-Targhi³
Institution(s): ² Harvard- Smithonian Center for Astrophysics, ³ The University of Edinburgh

137.08 X-ray Flare Associated with a Quiescent Filament Eruption and Coronal Mass Ejection
Author(s): Adi Foord¹, Gordon D. Holman¹
Institution(s): ¹ NASA GSFC

137.09 Analysis of Polar Reversals of Solar Cycle 22 and 23
Author(s): Sophie Ettinger¹
Institution(s): ¹ National Solar Observatory
137.10 A Moderate Migration Scenario for Jupiter to form the Terrestrial Planets
Author(s): Zoe Todd1, Steinn Sigurdsson1
Institution(s): 1 Penn State University

137.11 Direct Wind Measurements in Io’s Atmosphere
Author(s): Michelle Nowling2, Arielle Moullet1
Institution(s): 1 NRAO, 2 University of Houston

137.12 Update on VLBA Astrometry of Cassini
Author(s): Dayton L. Jones1, William M. Folkner1, Robert A. Jacobson1, Christopher S. Jacobs1, Jon Romney2, Vivek Dhawan2, Edward B. Fomalont2
Institution(s): 1 JPL/Caltech, 2 NRAO

137.13 A Hazy Situation: Using exoplanet retrieval techniques to characterize Titan’s atmosphere from a Cassini transit spectrum
Author(s): Dillon J Teal1, Michael R. Line1, Caroline V Morley1, Jonathan J. Fortney1
Institution(s): 1 University of California, Santa Cruz

137.14 The Mimas 5:3 Bending Wave at Equinox: Initial Models
Author(s): Brandon Curd2, Matthew S. Tiscareno1
Institution(s): 1 Cornell University, 2 University of Oklahoma

137.15 Trio of stellar occultations by Pluto One Year Prior to New Horizons’ Arrival
Author(s): Jay M. Pasachoff1, Michael J. Person2, Amanda S. Bosh2, Amanda A. S. Gulbis4, Carlos A Zuluaga3, Stephen Levine1, David J. Osip3, Adam R. Schiff6, Christina H. Seeger6, Bryce A Babcock6, Patricio Rojo5, Molly R. Kosiarek2, Elise Servajean5
Institution(s): 1 Lowell Obs., 2 MIT, 3 OCIW, 4 SAAO, 5 U. Chile, 6 Williams College

137.16 A Targeted Search for Trojan Asteroids in Kepler Lightcurves
Author(s): David Bordenave1, Sarah Ballard1
Institution(s): 1 University of Washington

137.17 Characterizing Asteroids Multiply-Observed at Infrared Wavelengths
Author(s): Seth Koren3, Edward L. Wright2, Amy Mainzer1, Carolyn Nugent1
Institution(s): 1 Jet Propulsion Laboratory, 2 University of California, Los Angeles, 3 University of Pennsylvania

137.18 Near-Earth Asteroid Characterisation: Gotta catch ‘em All!
Author(s): Tarik Joseph Zegmott1, Jose Luis Galache5, Martin Elvis1
Institution(s): 1 Harvard-Smithsonian Center for Astrophysics, 2 Minor Planet Center, Harvard-Smithsonian Center for Astrophysics

137.19 Using the One Degree Imager to Study Active Asteroids
Author(s): Samantha Brunker2, Jayadev Rajagopal1, Susan E. Ridgway1
Institution(s): 1 National Optical Astronomy Observatory, 2 The University of Kansas

137.20 Planetary Embryo Bow Shocks as a Mechanism for Chondrule Formation
Author(s): Christopher Mann2, Aaron C. Boley2, Melissa A. Morris1
Institution(s): 1 Center for Meteorite Studies, ASU, 2 University of British Columbia
137.21 Using an integral-field unit spectrograph to study radical species in cometary coma
Author(s): Benjamin Lewis¹, Donna M. Pierce¹, Charles M Vaughan¹, Anita Cochran²
Institution(s): ¹ Mississippi State University, ² University of Texas at Austin

137.22 LCOGT Network observations of spacecraft target comets
Author(s): Tim Lister¹, Matthew M. Knight³, Colin Snodgrass¹, Nalin H. Samarasinghe⁴
Institution(s): ¹ Las Cumbres Observatory, ² Lowell Observatory, ³ Open University, ⁴ PSI

137.23 Far-UV observations of comet C/2012 S1 (ISON) with FORTIS
Author(s): Stephan R. McCandliss², Paul D. Feldman², Harold A. Weaver³, Brian Fleming¹, Keith Redwine³, Mary J. Li⁴, Alexander Kutyrev⁴, Samuel H. Moseley⁴
Institution(s): ¹ CU, 2. JHU, 3. JHU/APL, ⁴ NASA’s GSFC

137.24 Photonic Local Oscillator Test System for Atacama Large Millimeter/submillimeter Array (ALMA) - Summer Student Project
Author(s): Cathleen Gross¹
Institution(s): ¹ National Radio Astronomy Observatory
Contributing team(s): Christophe Jacques, Jason Castro, Bill Shillue

138 Low Mass Stars and Brown Dwarfs Posters
Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

138.01 Accuracy of Astrometric Positions, Parallaxes, and Proper Motions
Author(s): Hugh C. Harris¹, Conard C. Dahn¹, John P Subasavage¹
Institution(s): ¹ U.S. Naval Obs.

138.02 The RECONS 25 Parsec Database
Author(s): Todd J. Henry¹, Wei-Chun Jao¹, Tiffany Pewett¹, Adric R. Riedel¹, Michele L. Silverstein¹, Kenneth J. Slatten¹, Jennifer G. Winters¹
Institution(s): ¹ RECONS
Contributing team(s): RECONS Team

138.03 Circumstellar Environments of Southern M Dwarfs in the Solar Neighborhood
Author(s): Michele L. Silverstein¹, Todd J. Henry¹, Wei-Chun Jao¹, Jennifer G. Winters¹
Institution(s): ¹ RECONS
Contributing team(s): RECONS Team

138.04 Dynamical Evolution of the Alpha and Proxima Centauri Triple System
Author(s): Rachel Worth¹, Steinn Sigurdsson¹
Institution(s): ¹ The Pennsylvania State University

138.05 V and K-band Mass-Luminosity Relations for M dwarf Stars
Author(s): G. Fritz Benedict⁴, Todd J. Henry⁴, Barbara McArthur³, Otto G. Franz², Lawrence H. Wasserman², Sergio Dieterich³
Institution(s): ¹ Carnegie-DTM, ² Lowell Observatory, ³ McDonald Observatory, ⁴ RECONS Institute
138.06 A SUPERBLINK look at the Hyades and Pleiades clusters
Author(s): Sebastien Lepine
Institution(s): 1 Georgia State University

138.07 Investigating the Low-Mass Stellar Initial Mass Function in Draco
Author(s): Sorouch Sotoudeh, Daniel R. Weisz, Andrew E. Dolphin, Evan D. Skillman
Institution(s): 1 Raytheon, 2 University of Minnesota, 3 University of Washington

138.08 Preliminary M-dwarf Binary Statistics from Kepler
Author(s): Yutong Shan, John Johnson
Institution(s): 1 Harvard University

138.09 The Baryon Oscillation Spectroscopic Survey SLOWPoKES Catalog
Author(s): Angela P. Massey, Saurav Dhital, Andrew A. West, Keivan Stassun
Institution(s): 1 Boston University, 2 Embry-Riddle Aeronautical University, 3 Vanderbilt University

138.10 Using APOGEE Data to Examine Late-K and Early-M Dwarfs
Author(s): Sarah J. Schmidt, Erika L. Wagoner, Jennifer Johnson, Jose Gregorio Fernandez Trincado, Annie Robin, Celine Reyle, Ryan Terrien, Carlos Allende-Prieto, Fred Heartly, Steven R. Majewski, Ricardo P. Schiavon
Institution(s): 1 Besancon Astronomical Observatory, 2 Instituto de Astrofisica de Canarias, 3 Liverpool John Moores University, 4 Ohio State University, 5 Pennsylvania State University, 6 University of Arizona, 7 University of Virginia

138.11 Accurate Alpha Abundance and C/O of Low-mass Stars
Author(s): Mark Veyette, Philip Muirhead, Andrew Mann
Institution(s): 1 University of Texas at Austin, 2 Boston University

138.12 Measuring Fundamental Stellar Properties with Theremin
Author(s): Casey Deen, Gregory N. Mace, Aaron Juarez, Wolfgang Brandner, Thomas Henning, Daniel Thomas Jaffe
Institution(s): 1 Max Planck Institute for Astronomy, 2 University of Texas at Austin

138.13 SME@XSEDE: An automated spectral synthesis tool for stellar characterization
Author(s): Leslie Hebb, Phillip Cargile
Institution(s): 1 Harvard Center for Astrophysics, 2 Hobart and William Smith Colleges

138.14 Resolving the Discrepancy of Low-Mass Stars with IGRINS
Author(s): Andrew Riddle, Adam L. Kraus
Institution(s): 1 University of Texas at Austin

138.15 Stratified Convection in Stellar Interiors
Author(s): Benjamin Brown, Keaton Burns, Daniel Lecoanet, Jeffery Oishi, Geoffrey Vasil
Institution(s): 1 Farmingdale State College, 2 Massachusetts Institute of Technology, 3 University of California, 4 University of Colorado, 5 University of Sydney
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<thead>
<tr>
<th>Poster Number</th>
<th>Title</th>
<th>Authors</th>
<th>Institutions</th>
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<tr>
<td>138.16</td>
<td>Testing Stellar Evolution Models: Absolute Dimensions of the Low-Mass</td>
<td>Allison Matthews², Guillermo Torres¹</td>
<td>¹ Harvard-Smithsonian Center for Astrophysics, ² Lafayette College</td>
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<td>Eclipsing Binary Star V651 Cassiopeiae</td>
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<td>138.17</td>
<td>Rotation periods for nearby, mid-to-late M dwarfs estimated from the MEarth Project</td>
<td>Elisabeth R. Newton¹, Jonathan Irwin¹, David Charbonneau¹, Zachory K. Berta-Thompson², Jason Dittmann¹</td>
<td>¹ Harvard-Smithsonian Center for Astrophysics, ² MIT Kavli Institute</td>
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<tr>
<td>138.18</td>
<td>Anchoring the age-rotation relation with the ZAMS cluster α Per</td>
<td>David Jaimes¹, Marcel A. Agueros¹, Kevin R. Covey³, Adam L. Kraus³, Nicholas M. Law²</td>
<td>¹ Columbia University, ² University of North Carolina, ³ University of Texas at Austin, ⁴ Western Washington University</td>
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<tr>
<td>138.19</td>
<td>Rotation and Activity in Praesepe and the Hyades</td>
<td>Stephanie T. Douglas¹, Marcel A. Agueros¹, Kevin R. Covey³, Emily C. Bowsher¹, John J. Bochanski³, Phillip A. Cargile⁷, Adam L. Kraus⁶, Nicholas M. Law⁵, Jenna Jo Lemonyias¹, Hector G. Arce⁸, David F. Fierroz¹, Alisha Kundert⁶</td>
<td>¹ Columbia University, ² Haverford College, ³ Lowell Observatory, ⁴ University of North Carolina, ⁵ University of Texas at Austin, ⁶ University of Wisconsin-Madison, ⁷ Vanderbilt University, ⁸ Yale University</td>
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<td>138.20</td>
<td>Chromospheric and coronal variation across stellar activity cycles</td>
<td>Cedric Hagen², Brendan P. Miller¹, Elena Gallo⁶, Jason Wright³, Howard T. Isaacson⁵, Gregory W. Henry⁴</td>
<td>¹ College of St. Scholastica, ² Macalester College, ³ Pennsylvania State University, ⁴ Tennessee State University, ⁵ University of California, Berkeley, ⁶ University of Michigan</td>
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<td>138.21</td>
<td>Finding X-ray Coronal Cycles in Low Mass Stars</td>
<td>Maurice Wilson¹, Hans Moritz Guenther², Katie Auchettl²</td>
<td>¹ Embry-Riddle Aeronautical University, ² Harvard-Smithsonian Center for Astrophysics</td>
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<td>138.22</td>
<td>Connecting Flares and Transient Mass Loss Events in Active Stars</td>
<td>Rachel A. Osten², Scott J. Wolk¹</td>
<td>¹ Center for Astrophysics, ² Space Telescope Science Institute</td>
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<tr>
<td>138.23</td>
<td>Flares and Antiflares on Young Solar Analog EK Draconis</td>
<td>Thomas R. Ayres³</td>
<td>¹ University of Colorado</td>
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<td>138.24</td>
<td>Exploring a Threat to Foreign Worlds: Detecting Coronal Mass Ejections on Nearby Stars</td>
<td>Jackie Villadsen¹, Gregg Hallinan¹, Stephen Bourke¹</td>
<td>¹ California Institute of Technology</td>
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</tbody>
</table>
138.25 The Heating of Helium Across Interplanetary Shocks in front of Coronal Mass Ejections
Author(s): Alexander James
Institution(s): 1. Smithsonian Astrophysical Observatory

138.26 HAZMAT II: Modeling the Evolution of Extreme-UV Radiation from M Stars
Author(s): Sarah Peacock, Travis S. Barman, Evgenya Shkolnik
Institution(s): 1. Lowell Observatory, 2. University of Arizona, LPL

138.27 A comprehensive statistical assessment of star-planet interaction
Author(s): Brendan P. Miller, Elena Gallo, Jason Wright, Elliott Pearson

138.28 Constraining Kepler Eclipsing Binary Properties with Time-Series and Multi-band Photometry
Author(s): Diana Windemuth, Eric Agol
Institution(s): 1. University of Washington

138.29 Eclipsing the Need for Spectroscopy: Constraining Eclipsing Binary Parameters Using Only Kepler Photometry

138.30 Ground-based Data on Kepler Eclipsing Binaries

138.31 Star-spot crossing transits in long-cadence Kepler data: a search for correlations between spot and stellar properties
Author(s): Michelle Gomez, Leslie Hebb, Jacqueline Radigan, Peter R. McCullough

138.32 A Catalog of Nearby Ultracool Dwarfs
Author(s): Angelle M. Tanner, Christopher Ramos, Jonathan Gagne, Adric R. Riedel, Todd J. Henry
Institution(s): 1. American Museum of Natural History, 2. Georgia State University, 3. Mississippi State University, 4. Université de Montréal, Physics
Contributing team(s): RECONS

138.33 HLIMIT 2.0: Towards a Deeper Understanding of the Low Mass End of the Main Sequence
Author(s): Sergio B. Dieterich, Alan P. Boss, Alycia J. Weinberger, Todd J. Henry, Jennifer G. Winters, Wei-Chun Jao
Institution(s): 1. Carnegie Inst. of Washington, 2. Georgia State University, 3. RECONS
Contributing team(s): RECONS
138.34 Fundamental Parameters for an Age Calibrated Sequence of the Lowest Mass Stars to the Highest Mass Planets  
**Author(s):** Joe Filippazzo\(^4\), Emily L. Rice\(^2\), Jacqueline K. Faherty\(^2\), Michael Cushing\(^6\), Kelle L. Cruz\(^3\), Adric R. Riedel\(^3\), Mollie Van Gordon\(^3\)  
**Institution(s):** \(^1\) American Museum of Natural History, \(^2\) Carnegie Department of Terrestrial Magnetism, \(^3\) College of Staten Island, \(^4\) CUNY Graduate Center, \(^5\) Hunter College, \(^6\) University of Toledo  
**Contributing team(s):** BDNYC

138.35 Identification of Young Ultracool Dwarf Candidates from the BOSS Ultracool Dwarf (BUD) Sample  
**Author(s):** Amber Medina\(^1\), Sarah J. Schmidt\(^1\), Jennifer Johnson\(^1\)  
**Institution(s):** \(^1\) The Ohio State University

138.36 Searching for Proper-Motion Brown Dwarfs in the Mid-IR  
**Author(s):** Zequn Li\(^1\), Matthew Ashby\(^1\), Joseph L. Hora\(^1\)  
**Institution(s):** \(^1\) Harvard-Smithsonian Center for Astrophysics

138.37 Untangling Physical Parameters of Warm Brown Dwarfs  
**Author(s):** Kelle L. Cruz\(^2\), Stephanie Douglas\(^1\)  
**Institution(s):** \(^1\) Columbia U., \(^2\) Hunter College, CUNY  
**Contributing team(s):** BDNYC

**Author(s):** Adric R. Riedel\(^2\), Jacqueline K. Faherty\(^1\), Kelle L. Cruz\(^3\), Emily L. Rice\(^2\)  
**Institution(s):** \(^1\) Carnegie Institute of Washington, \(^2\) CUNY/College of Staten Island, \(^3\) CUNY/Hunter College  
**Contributing team(s):** BDNYC

138.39 Medium-resolution Analysis of Unusually Red and Blue L Dwarfs  
**Author(s):** Sara Camnasio\(^3\), Munazza Khalida Alam\(^3\), Emily L. Rice\(^2\), Kelle L. Cruz\(^3\), Jacqueline K. Faherty\(^1\), Gregory N. Mace\(^4\), Emily Martin\(^1\), Sarah E. Logsdon\(^4\), Ian S. McLean\(^4\)  
**Institution(s):** \(^1\) Carnegie Institution of Washington, \(^2\) CUNY College of Staten Island, \(^3\) CUNY Hunter College, \(^4\) UCLA  
**Contributing team(s):** BDNYC

138.40 High-Resolution Spectral Analysis of KI Lines in Unusually Red & Blue L Dwarfs  
**Author(s):** Munazza Khalida Alam\(^3\), Sara Camnasio\(^3\), Emily L. Rice\(^2\), Kelle L. Cruz\(^3\), Jacqueline K. Faherty\(^1\), Gregory N. Mace\(^4\), Emily Martin\(^4\), Sarah E. Logsdon\(^4\), Ian S. McLean\(^4\)  
**Institution(s):** \(^1\) Carnegie Institution of Washington, \(^2\) CUNY College of Staten Island, \(^3\) CUNY Hunter College, \(^4\) UCLA  
**Contributing team(s):** Brown Dwarfs in New York City (BDNYC)

138.41 Simulating Unresolved Binary Brown Dwarfs for Cameras on the Hubble Space Telescope  
**Author(s):** Douglas B. Gardner\(^1\), Thomas E. Stephens\(^1\), Denise C. Stephens\(^1\), Elora N. Salway\(^1\)  
**Institution(s):** \(^1\) Brigham Young University
138.42 Extended Baseline Photometry of Rapidly Changing Weather Patterns on the Brown Dwarf Binary, Luhman-16
Author(s): Rachel Street
Institution(s): 1 Las Cumbres Global Telescope Network, Inc.

138.43 Brown dwarf science at Project 1640: the case of HD 19467 B
Institution(s): 1 California Institute of Technology, 2 American Museum of Natural History, 3 College of Staten Island, 4 Jet Propulsion Laboratory, 5 Johns Hopkins University, 6 NASA Exoplanet Science Institute, 7 Space Telescope Science Institute, 8 University of Notre Dame

138.44 T Dwarfs Model Fits for Spectral Standards at Low Spectral Resolution
Author(s): Paige Giorla, Emily L. Rice, Stephanie T. Douglas, Gregory N. Mace, Ian S. McLean, Emily C. Martin, Sarah E. Logsdon
Institution(s): 1 College of Staten Island, 2 Columbia University, 3 UCLA

139 The Emerging Multiwavelength View of Planetary Nebulae Posters
Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

139.01 ChanPlaNS: Investigating the Diffuse X-ray Emission within Compact Planetary Nebulae
Author(s): Marcus Freeman, Rodolfo Montez, Joel H. Kastner
Institution(s): 1 Rochester Institute of Technology, 2 Vanderbilt University
Contributing team(s): ChanPlaNS Team

139.02 Cospatial Longslit UV-Optical Spectra of Ten Galactic Planetary Nebulae with HST STIS: Description of observations, global emission-line measurements, and empirical CNO abundances
Author(s): R. J. Dufour, K. B. Kwitter, R. A. Shaw, B. Balick, R. B. C. Henry, T. R. Miller, R. L. M. Corradi
Institution(s): 1 IAC, 2 NOAO, 3 Rice University, 4 Univ. of Oklahoma, 5 Univ. of Washington, 6 Williams College

139.03 New CNO Elemental Abundances in Planetary Nebulae from Spatially Resolved UV/Optical Emission Lines
Author(s): Richard A. Shaw, Karen B. Kwitter, Richard B. C. Henry, Reginald J. Dufour, Bruce Balick, Romano Corradi
Institution(s): 1 IAC, 2 NOAO, 3 Rice University, 4 University of Oklahoma, 5 University of Washington, 6 Williams College
139.04 Geometry of the Dusty Mass Loss from Low- to Intermediate Mass Stars  
Author(s): Rachael Tomasino, Toshiya Ueta, Issei Yamamura, Satoshi Takita, Hideyuki Izumiura  

139.05 Spatially Resolved Far-Infrared Spectroscopic Analysis of Planetary Nebulae  
Author(s): Rebecca Rattray, Toshiya Ueta  
Institution(s): 1. University of Denver

139.06 HST Search for Planetary Nebulae in Local Group Globular Clusters  
Author(s): Howard E. Bond  
Institution(s): 1. Pennsylvania State University

139.07 Exploring the Late Evolutionary Stages of Sun-like Stars with LSST  
Author(s): Margaret Morris, Rodolfo Montez  
Institution(s): 1. Brandeis, 2. Vanderbilt University

139.08 Multiwavelength Spatial and Spectral Study of Shock Conditions in the Young Planetary Nebula NGC 7027  
Author(s): Rodolfo Montez, Joel H. Kastner  
Institution(s): 1. Center for Imaging Science, Rochester Institute of Technology, 2. Vanderbilt University

140 Supernova, SNe Remnants and Planetary Nebulae Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

140.01 Multi-epoch, Ultraviolet Spectroscopy of Type Ia Supernovae  
Author(s): Aaron Beaudoin, Ryan J. Foley  
Institution(s): 1. University of Illinois

140.02 A 3D Kinematic Study of the Northern Ejecta “Jet” of the Crab Nebula  
Author(s): Christine Black, Robert A. Fesen  
Institution(s): 1. Dartmouth College

140.03 SweetSpot Data Release 1: 70 Type Ia Supernovae in the Near Infrared in the Nearby Hubble Flow  
Author(s): W. Michael Wood-Vasey, Anja Weyant, Lori Allen, Nathan Trevino Barton, Peter M. Garnavich, Nabila Farhin Jahan, Saurabh Jha, Jessica Rose Kroboth, Kara Ann Ponder, Richard R. Joyce, Thomas Matheson, Armin Rest  

140.04 Systematic X-ray Mapping of Metal-Rich Ejecta in Bright Supernova Remnants.  
Author(s): Andrew Schenck, Sangwook Park, Jayant Bhalerao, Seth Post, Neslihan Alan, Mujahed Abualfoul  
Institution(s): 1. University of Texas at Arlington
140.05 Observing Supernovae and Supernova Remnants with JWST  
Author(s): George Sonneborn¹, Tea Temim¹, Brian J. Williams¹, William P. Blair²  
Institution(s): ¹ NASA's GSFC, ² The Johns Hopkins University

140.06 Supernova Host Galaxy Identification in the Dark Energy Survey  
Author(s): Ravi R. Gupta¹, Stephen Kuhlmann¹, Eve Kovacs¹, Harold Spinka¹  
Institution(s): ¹ Argonne National Laboratory  
Contributing team(s): Dark Energy Survey

140.07 The LCOGT Supernova Key Project  
Author(s): Dale Andrew Howell¹, Iair Arcavi¹, Griffin Hosseinzadeh¹, Curtis McCully¹, Stefano Valenti¹  
Institution(s): ¹ Las Cumbres Global Telescope Network, Inc.  
Contributing team(s): The LCOGT Supernova Key Project

140.08 Diversity in Type Ibn supernovae  
Author(s): Griffin Hosseinzadeh¹, Stefano Valenti¹, Iair Arcavi¹, Dale Andrew Howell¹, Curtis McCully¹  
Institution(s): ¹ Las Cumbres Observatory Global Telescope Network  
Contributing team(s): iPTF, PESSTO

140.09 The Los Alamos Supernova Light Curve Project: Current Projects and Future Directions  
Author(s): Brandon Kerry Wiggins¹  
Institution(s): ¹ Brigham Young University  
Contributing team(s): Los Alamos Supernovae Research Group

140.10 A Census of Galactic and Extragalactic Double Supernovae  
Author(s): Dan Milisavljevic¹  
Institution(s): ¹ Harvard-Smithsonian, CfA

140.11 Extragalactic Transients Discovered by the All-Sky Automated Survey for Supernovae  
Author(s): Thomas Warren-Son Holoien¹  
Institution(s): ¹ The Ohio State University  
Contributing team(s): ASAS-SN Team

140.12 Photometric Classification of Supernovae  
Author(s): Daniel Zimmerman², John Cunningham², Steve Kuhlmann¹, Ravi Gupta¹, Eve Kovacs¹, Harold Spinka¹  
Institution(s): ¹ Argonne National Laboratories, ² Loyola University Chicago

140.13 Building a Type Ia Supernova Model with SNfactory Spectrophotometric Time Series  
Author(s): Clare Saunders¹  
Institution(s): ¹ Lawrence Berkeley National Laboratory  
Contributing team(s): The Nearby Supernova Factory

140.14 Locating Type Ia Supernovae in HST Archival Data via an Artificial Neural Network  
Author(s): Kristin Shahady¹, Louis-Gregory Strolger²  
Institution(s): ¹ Florida Institute of Technology, ² Space Telescope Science Institute
140.16 **The Search for Light Echoes of Historic SNe in the Southern Hemisphere with DECam**  
**Author(s):** Armin Rest², Federica Bianco³, Ryan Chornock⁴, Alejandro Clocchiatti⁵, Ryan J. Foley⁶, David James⁷, Thomas Matheson⁸, Gautham Narayan⁹, Knut A. Olsen⁹, Sean Points¹, Jose Luis Prieto¹¹, R. Chris Smith¹, Nathan Smith⁹, Nicholas B. Suntzeff⁹, Douglas L. Welch², Alfredo Zenteno¹  
**Institution(s):** ¹ CTIO/NOAO, ² McMaster University, ³ NOAO, ⁴ NYU, ⁵ Ohio University, ⁶ PUC, ⁷ Space Telescope Science Institute, ⁸ Texas A & M, ⁹ U. of Arizona, ¹⁰ UIUC, ¹¹ Universidad Diego Portales

140.17 **Expansion of the Optical Remnant from Tycho’s Supernova**  
**Author(s):** Joseph Putko², P. Frank Winkler², William P. Blair¹  
**Institution(s):** ¹ Johns Hopkins University, ² Middlebury College

140.18 **Constraining Cosmic Ray Origins Through Spectral Radio Breaks In Supernova Remnants**  
**Author(s):** Zeeve Rogoszinski², John W. Hewitt¹  
**Institution(s):** ¹ NASA/GSFC, ² University of Maryland

140.19 **Treasure Hunting for Type Ia Supernova Ex-Companion Stars in the Large Magellanic Cloud**  
**Author(s):** Ashley Pagnotta¹, Bradley E. Schaefer², Zachary Edwards², Emma S. Walker³  
**Institution(s):** ¹ American Museum of Natural History, ² Louisiana State University, ³ Yale University

140.20 **Second Epoch Hubble Space Telescope Imaging of Kepler’s Supernova Remnant**  
**Author(s):** Ravi Sankrit⁵, William P. Blair², Kazimierz J. Borkowski⁴, Knox S. Long⁴, Daniel Patnaude¹, John C. Raymond¹, Stephen P. Reynolds⁴, Brian J. Williams³  
**Institution(s):** ¹ Harvard-Smithsonian CfA, ² Johns Hopkins University, ³ NASA Goddard, ⁴ North Carolina State University, ⁵ SOFIA/USRA, ⁶ STScI

140.21 **Old Supernova Dust Factory Revealed at the Galactic Center by SOFIA/FORCAST**  
**Author(s):** Ryan M. Lau¹, Terry L. Herter¹, Mark Morris¹, Zhiyuan Li², Joseph D. Adams³  
**Institution(s):** ¹ Cornell University, ² Nanjing University, ³ SOFIA/USRA, ⁴ UCLA

140.22 **NuSTAR Observations of Hard X-ray Continuum from SN 1987A**  
**Author(s):** Stephen P. Reynolds², Andreas Zoglauer³, Steven E. Bogg³, Fiona Harrison¹  
**Institution(s):** ¹ Caltech, ² North Carolina State Univ., ³ University of California Contributing team(s): NuSTAR Team

140.23 **A Suzaku Observation of the Galactic Supernova Remnant 3C 396 (G39.2-0.3)**  
**Author(s):** Thomas Pannuti¹  
**Institution(s):** ¹ Morehead State University

140.24 **Near-infrared HST [S III] Imaging of High-Velocity Ejecta in the Cassiopeia A**
Supernova Remnant
Author(s): Robert A. Fesen¹, Dan Milisavljevic²
Institution(s): ¹ Dartmouth College, ² Harvard-Smithsonian Center for Astrophysics

140.25 Supernova Progenitors and a Light Echo in LEGUS Galaxies
Author(s): Schuyler D. Van Dyk², Janice C. Lee⁷, Elena Sabbi⁷, Jay Anderson⁷, Leonardo Ubeda⁷, Stacey N. Bright², Daniela Calzetti¹⁰, Linda J. Smith³, Alexei V. Filippenko⁸, Ryan J. Foley⁴, Adam A. Miller⁵, Nathan Smith¹, Isaac Shivvers⁸, Kelsey I. Clubb⁸, Marc Rafelski⁶, Marcel Neeleman⁹, Jennifer E. Andrews¹
Institution(s): ¹ Arizona, ² Caltech, ³ ESA/STScI, ⁴ Illinois, ⁵ JPL/Caltech, ⁶ NASA/GSFC, ⁷ STScI, ⁸ UCBerkeley, ⁹ UCSD, ¹⁰ UMass
Contributing team(s): LEGUS Team

140.26 Improved distance measurements using twin supernovae from SNfactory
Author(s): Kyle Boone¹⁰, Hannah Fakhouri¹⁰, Greg Scott Aldering⁵, Pierre Antilogus⁴, Cecilia Aragon², Stephen J. Bailey¹, Charles Baltay¹¹, Dan Birchall⁵, Sebastien Bongard⁴, Clement Buton⁷, Flora Cellier-Holzem⁴, Michael Childress², Nicolas Chotard⁹, Yannick Copin⁸, Parker Fagrelius¹⁰, Ulrich Feindt⁶, Mathilde Fleury⁴, Dominique Fouchez⁵, Emmanuel Gangler⁵, Brian Hayden⁵, Alex G. Kim⁶, Marek Kowalski⁸, Pierre-Francois Leget³, Simona Lombardo⁶, Jakob Nordin⁵, Peter E. Nugent⁴, Reynald Pain⁴, Emmanuel Pecontal⁹, Rui Pereira³, Saul Perlmutter⁵, David L. Rubinowitz¹¹, James Ren⁵, Mickael Rigault⁸, Karl Runge⁵, David Rubin⁵, Clare Saunders⁵, Richard A. Scalzo², Gerard Smadja⁸, Caroline Sofiatti¹⁰, Mark Strovink⁵, Nao Suzuki⁴, Chaling Tao⁵, Rollin Thomas⁸, Benjamin Weaver⁶
Institution(s): ¹ Aix-Marseille Universite, ² Australian National University, ³ Clermont Universite, ⁴ Laboratoire de Physique Nucleaire des Hautes Energies, ⁵ Lawrence Berkeley National Laboratory, ⁶ New York University, ⁷ Synchrotron SOLEIL, ⁸ Universitat Bonn, ⁹ Universite de Lyon, ¹⁰ University of California, Berkeley, ¹¹ Yale University

140.27 Synchrotron X-Ray Rims in Tycho’s Supernova Remnant are Energy Dependent
Author(s): Aaron Tran¹, Brian J. Williams¹, Robert Petre¹, Sean Ressler⁹, Stephen P. Reynolds²
Institution(s): ¹ NASA Goddard Space Flight Center, ² North Carolina State University, ³ University of California, Berkeley

140.28 An Archival Chandra Study of the Young Core-Collapse Supernova Remnant 1E 0102.2-7219 in the Small Magellanic Cloud
Author(s): Neslihan Alan¹, Andrew Schenck², Sangwook Park², Selcuk Bilir¹
Institution(s): ¹ Istanbul University, ² University of Texas at Arlington

140.29 Supernova Emulators: Connecting Massively Parallel SN Ia Radiative Transfer Simulations to Data with Gaussian Processes
Author(s): Daniel Goldstein², Rollin Thomas¹, Daniel Kasen²
Institution(s): ¹ Lawrence Berkeley National Laboratory, ² University of California, Berkeley
140.30 A case study of nucleosynthesis in multi-dimensional supernova simulations
Author(s): Jack Sexton¹, Patrick A. Young¹, Carola I. Ellinger³, Chris Fryer², Gabriel Rockefeller²
Institution(s): ¹ Arizona State University, ² Los Alamos National Laboratories, ³ University of Texas

140.31 Four extended gamma-ray supernova remnants newly identified by Fermi-LAT Pass 8 data
Author(s): John W. Hewitt¹
Institution(s): ¹ University of Maryland, Baltimore County
Contributing team(s): the Fermi-LAT collaboration

140.32 Constraining the Post-Shock Magnetic Field Strength of SN1006 from the Rotation Measure of Radio Galaxy ESO 328-13
Author(s): Lilly Flewellen¹, Sidney Dills¹, David A. Moffett¹
Institution(s): ¹ Furman University

140.33 Constraining the Post-Shock Magnetic Field Strength of SN1006 from the Rotation Measure of Radio Galaxy ESO 328-13
Author(s): Lilly Flewellen¹, Sidney Dills¹, David A. Moffett¹
Institution(s): ¹ Furman University

140.32 Constraining the Post-Shock Magnetic Field Strength of SN1006 from the Rotation Measure of Radio Galaxy ESO 328-13
Author(s): Lilly Flewellen¹, Sidney Dills¹, David A. Moffett¹
Institution(s): ¹ Furman University

140.34 A Newly Recognized Very Young Supernova Remnant in M83
Author(s): William P. Blair⁴, P. Frank Winkler⁵, Knox S. Long⁶, Bradley C. Whitmore⁷, Hwiyun Kim⁸, Roberto Soria⁹, K. D. Kuntz¹⁰, Paul P. Plucinsky¹¹, Michael A. Dopita¹, Christopher Stockdale¹²
Institution(s): ¹ Australian National University, ² Harvard-Smithsonian Center for Astrophysics, ³ ICRAR, Curtin University, ⁴ Johns Hopkins Univ., ⁵ Marquette University, ⁶ Middlebury College, ⁷ Space Telescope Science Institute, ⁸ Univ. of Texas at Austin

140.35 The Extraordinary Supernova Remnant in NGC 4449 Revisited
Author(s): Knox S. Long⁵, William P. Blair², Robert A. Fesen¹, Dan Milisavljevic⁴, P. Frank Winkler³
Institution(s): ¹ Dartmouth College, ² JHU, ³ Middlebury College, ⁴ Smithsonian Astrophysical Observatory, ⁵ STScI

140.36 The evolution of hydrocarbons past the asymptotic giant branch: the case of MSX SMC 029
Author(s): Tyler Pauly³, Gregory C. Sloan², Kathleen E. Kraemer¹, Jeronimo Bernard-Salas³, Vianney Lebouteiller³, Christopher Goes², Donald Barry²
Institution(s): ¹ Boston College, ² Cornell University, ³ Service d'Astrophysique, CEA, ⁴ The Open University

140.38 High-Velocity Features in the Spectra of Type-Ia Supernovae
Author(s): Jeffrey M. Silverman³, Howie Marion³, Jozsef Vinko², Brian W. Mulligan¹, J. Craig Wheeler³, Alexei V. Filippenko¹
Institution(s): ¹ University of California - Berkeley, ² University of Szeged, ³ University of Texas at Austin
140.39 Evidence of Circumstellar Material for Type Ia supernova 2014J in High Resolution Spectra from the Automated Planet Finder Telescope
Author(s): Melissa Lynn Graham, Stefano Valenti, Benjamin James Fulton, Lauren M. Weiss, Alex Filippenko
Institution(s): 1 Las Cumbres Observatory Global Telescope Network, 2 University of California at Berkeley, 3 University of Hawaii

140.40 The Metrology of Type IA Supernova Lightcurves
Author(s): Bert W. Rust
Institution(s): 1 NIST

140.41 Type Ia Supernova Host Galaxies and Luminosity Calibration
Author(s): Patrick Kelly
Institution(s): 1 California - Berkeley, University of

140.42 PTF11iqb: Bridging the gap between Type IIN and normal Type II
Author(s): Nathan Smith, Jon Mauerhan, Eran Ofek, Stephen B. Cenko, Mansi M. Kasliwal, Jeffrey M. Silverman, Alexei V. Filippenko, Avishay Gal-Yam
Institution(s): 1 Caltech, 2 Goddard, 3 U. of Arizona, 4 U. Texas, 5 UC Berkeley, 6 Weizmann

140.43 X-ray measurements of a Ca-rich gap transient
Author(s): Thomas J. Maccarone, Paul Sell, Rubina Kotak, Christian Knigge, David J. Sand
Institution(s): 1 Queen’s University, 2 Texas Tech University, 3 University of Southampton

140.44 The Rediscovery of the Antlia Supernova Remnant
Author(s): Alexander Orchard, Robert A. Benjamin, Martin Gostisha, L. Matthew Haffner, Alex S. Hill, Kathleen Barger
Institution(s): 1 Haverford College, 2 Texas Christian University, 3 University of Wisconsin - Madison, 4 University of Wisconsin - Milwaukee, 5 University of Wisconsin - Whitewater

140.45 The Fall and Rise of X-ray Supernova 2005kd
Author(s): Vikram Dwarkadas, Ratuja Reddy, Franz E. Bauer
Institution(s): 1 Pontificia Universidad Catolica de Chile, 2 Univ. of Chicago

140.46 The Possible Progenitor System or Stellar Remant of a Type Iax Supernova
Author(s): Ryan Foley, Curtis McCully, Saurabh Jha, Lars Bildsten, Wen-fai Fong, Gautham Narayan, Armin Rest, Maximillian Stritzinger
Institution(s): 1 Aarhus, 2 Arizona, 3 KITP/UCSB, 4 LCOGT, 5 NOAO, 6 Rutgers, 7 StScI, 8 University of Illinois

140.47 Central Star Properties and C-N-O Abundances in Eight Galactic Planetary Nebulae from New HST/STIS Observations
Author(s): Richard B. C. Henry, Bruce Balick, Reginald J. Dufour, Karen B. Kwitter, Richard A. Shaw, Romano Corradi
Institution(s): 1 IAC, 2 NOAO, 3 Rice University, 4 U. Washington, 5 Univ. of Oklahoma, 6 Williams College
140.48 Analysis of Co-spatial UV-Optical STIS Spectra of Planetary Nebulae From HST Cycle 19 GO 12600
Author(s): Timothy R. Miller\(^4\), Richard B. C. Henry\(^6\), Reginald J. Dufour\(^3\), Karen B. Kwitter\(^6\), Richard A. Shaw\(^3\), Bruce Balick\(^3\), Romano Corradi\(^1\)
Institution(s): \(^2\) IAC, \(^1\) NOAO, \(^3\) Rice University, \(^4\) University of Oklahoma-Norman, \(^5\) University of Washington, \(^6\) Williams College

140.49 The Detection of Neutron-Capture Elements in Magellanic Cloud Planetary Nebulae
Author(s): Amanda Mashburn\(^2\), Nicholas C. Sterling\(^2\), Ian U. Roederer\(^1\)
Institution(s): \(^1\) University of Michigan, \(^2\) University of West Georgia

140.50 A New Analysis of s-process Enrichments in Planetary Nebulae
Author(s): Nicholas C. Sterling\(^3\), Ryan Porter\(^1\), Harriet L. Dinerstein\(^2\)
Institution(s): \(^1\) University of Georgia, \(^2\) University of Texas at Austin, \(^3\) University of West Georgia

140.51 A Mid-IR Search for Planetary Nebulae
Author(s): Stefanie Wachter\(^1\)
Institution(s): \(^2\) MPIA

140.52 3D Versus 1D Radiative Transfer Modeling of Planetary Nebulae
Author(s): Blake M. Pantoja\(^2\), Djazia Ladjal\(^1\)
Institution(s): \(^1\) Gemini Observatory, \(^2\) Universidad de Chile

140.53 The Close Binary Central Star of the Planetary Nebula PHR J1602-4127
Author(s): Hannah Rotter\(^2\), Todd C. Hillwig\(^2\), Steven J. Margheim\(^1\)
Institution(s): \(^1\) Gemini South, \(^2\) Valparaiso University

140.54 The Current Sample of Known Close Binary Central Stars of Planetary Nebulae
Author(s): Todd C. Hillwig\(^1\)
Institution(s): \(^1\) Valparaiso University

140.55 Electron Temperatures and Densities of Compact Planetary Nebulae
Author(s): Ben Riley\(^3\), Ting-Hui Lee\(^3\), Richard A. Shaw\(^1\), Letizia Stanghellini\(^1\)
Institution(s): \(^1\) National Optical Astronomy Observatory, \(^2\) The Carol Martin Gatton Academy, \(^3\) Western Kentucky University

140.56 Analyzing the largest spectroscopy data set of Stripped SNe to improve SN identification and to constrain their progenitors
Author(s): Yuqian Liu\(^1\), Maryam Modjaz\(^1\), Federica Bianco\(^1\), Or Graur\(^1\)
Institution(s): \(^1\) New York University

### 141 Molecular Clouds, HII Regions, Interstellar Medium Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

141.01 [CII] emission across M31 seen by Herschel and ISO
Author(s): Maria Julia Kapala\(^1\), Brent Groves\(^1\), Karin Sandstrom\(^2\)
Institution(s): \(^1\) Max Planck Institute for Astronomy, \(^2\) Steward Observatory
Contributing team(s): Survey of Lines in M31 (SLIM)
141.02 Propagation of cosmic rays in dense molecular clouds  
**Author(s):** Colby Delisle¹, Paolo Desiati²  
**Institution(s):** ¹ University of Missouri, ² WIPAC

141.03 Interstellar Extinction Toward Young Stars  
**Author(s):** Matthew McJunkin¹, Kevin France¹  
**Institution(s):** ¹ University of Colorado at Boulder

141.04 What Happens to a High Velocity Cloud When it Hits the Milky Way’s Disk: Is Dark Matter Necessary for Survival?  
**Author(s):** Robin L. Shelton¹, Jason Galyardt¹  
**Institution(s):** ¹ University of Georgia

141.05 Mid-Infrared Observations of H2O towards AFGL 2591  
**Author(s):** Matthew Richter⁸, Nick Indriolo⁹, David A. Neufeld¹, Curtis N. DeWitt⁴, Mark Mckelvey³, Kristin Kulas⁵, Adwin Boogert³, Thomas K. Greathouse⁶, Graham M Harper⁷, Nils Ryde², William D. Vacca⁵  
**Institution(s):** ¹ Johns Hopkins University, ² Lund Observatory, ³ NASA Ames, ⁴ Santa Clara University, ⁵ SOFIA-USRA, ⁶ Southwest Research Institute, ⁷ Trinity College, ⁸ UC Davis, ⁹ University of Michigan

141.06 The Translucent Clouds toward HD 204827  
**Author(s):** Theodore P. Snow⁹, Geoffrey A. Blake¹, Geoffrey C. Clayton⁴, Karl D. Gordon⁵, Adam G. Jensen⁴, Benjamin J. McCall⁵, Karl A. Misselt⁷, Brian L. Rachford², Farid Salama⁵, Erin C. Smith⁴, Daniel K. Welty⁹  
**Institution(s):** ¹ caltech, ² Embry-Riddle Aeronautical Univ., ³ Illinois-Urbana, ⁴ Louisiana State Univ., ⁵ NASA Ames Research Center, ⁶ Nebraska-Kearny, ⁷ Steward Observatory, ⁸ STScI, ⁹ Univ. of Colorado, ¹⁰ University of Chicago

141.07 Local Group Galaxy Emission-line Survey  
**Author(s):** Cindy Blaha¹, Taylor Baildon¹, Shail Mehta¹, Edgar Garcia¹, Philip Massey¹, Paul W. Hodge³  
**Institution(s):** ¹ Carleton College, ² Lowell Observatory, ³ University of Washington

141.08 Red Clump Giants in the Region of Open Cluster M29  
**Author(s):** Algirdas Kazlauskas¹, Vytautas Straizys¹, Kristupas Milasius¹, Kazimieras Cernis¹, Richard P. Boyle², Justas Zdanavicius¹  
**Institution(s):** ¹ Institute of Theoretical Physics and Astronomy, Vilnius University, ² Vatican Observatory Research Group

141.09 21-SPONGE Detects Unexpectedly “Warm” Neutral Medium  
**Author(s):** Claire Murray¹, Robert Lindner¹, Snezana Stanimirovic¹, Brian L Babler¹  
**Institution(s):** ¹ University of Wisconsin - Madison  
**Contributing team(s):** 21-SPONGE Team

141.10 Search for 54-MHz Maser Emission from Interstellar Hydroxyl Using the Long Wavelength Array  
**Author(s):** Ian M. Hoffman¹  
**Institution(s):** ¹ Wittenberg University
141.11 The Cosmic Ray Anisotropy Mystery: Turbulent Anisotropic Interstellar Medium Magnetic Field Effects
Author(s): Ryan Farber, Vanessa Lopez-Barquero, Paolo Desiati, Alex Lazarian
Institution(s): ¹ UW Madison, ² Wheaton College, ³ WIPAC

141.12 Chemical Complexity in the Shocked Outflow L1157 Revealed by CARMA
Author(s): Niklaus M. Dollhopf, Brett A. McGuire, P. Brandon Carroll, Anthony J. Remijan
Institution(s): ¹ Division of Chemistry and Chemical Engineering, California Institute of Technology, ² National Radio Astronomy Observatory, ³ University of Virginia

141.13 Instability of Magnetized Ionization Fronts Surrounding H II Regions
Author(s): Jeong-Gyu Kim, Woong-Tae Kim
Institution(s): ¹ Seoul National University

141.14 A Faraday Rotation Investigation to Probe the Shells of HII Regions with Associated Stellar Bubbles
Author(s): Allison H. Costa, Steven R. Spangler, Joseph R Sink
Institution(s): ¹ University of Iowa

141.15 The Warm Dust Component in the S106 Region
Author(s): Joseph D. Adams, Terry Herter, Ryan M. Lau, Joseph L. Hora, Nicola Schneider, Howard Alan Smith, Andres Guzman, Robert Simon, Johannes Staguhn, Matt Hankins
Institution(s): ¹ CEA Saclay, ² CfA, ³ Cornell University, ⁴ KOSMA, ⁵ NASA/Goddard, ⁶ SOFIA-USRA
Contributing team(s): Spitzer Cygnus-X Legacy Team, Herschel Cygnus-X Team

141.16 Enhanced Turbulence in M82 and M51 from Observations of Interstellar CH+
Author(s): Adam M. Ritchey, Daniel E. Welty, George Wallerstein
Institution(s): ¹ University of Chicago, ² University of Washington

141.17 Warm Molecular Gas in Galaxies Characterized with CO from Archival Herschel Data
Author(s): Julia R. Kamenetzky, Naseem Rangwala, Jason Glenn, Phil Maloney, Alexander J. Conley
Institution(s): ¹ University of Arizona, ² University of Colorado at Boulder

141.18 Filamentary Dense Gas Clump Structures in the Galactic Center
Author(s): Juergen Ott
Institution(s): ¹ National Radio Astronomy Observatory

141.19 A simple analytic model for explaining the ‘[CII] deficit’.
Author(s): Carl Ferkinhoff
Institution(s): ¹ Max-Planck-Institut für Astronomie

141.20 The Structure of Dark Molecular Gas in the Galaxy - I First Results from a GBT Pilot Survey for 18-cm OH emission towards L~105, B~1
Author(s): Ronald J. Allen, David E. Hogg, Philip D. Engelke
Institution(s): ¹ National Radio Astronomy Observatory, ² Physics/Astronomy Dept., Johns Hopkins University, ³ Space Telescope Science Institute
141.21  OH as a Tracer for Molecular Gas in the Galaxy: Line Ratios and Signatures of non-LTE Findings in the ISM
Author(s): Philip Engelke\textsuperscript{1}, Ronald J. Allen\textsuperscript{3}, David E. Hogg\textsuperscript{2}
Institution(s): \textsuperscript{1}Johns Hopkins University, \textsuperscript{2} NRAO, \textsuperscript{3} Space Telescope Science Institute

141.22  Multiple Methanol Transitions Detected in W51-E2 from the Arecibo Galactic Chemistry Survey
Author(s): Robert F. Minchin\textsuperscript{2}, Kevin Harrington\textsuperscript{3}, Tapasi Ghosh\textsuperscript{2}, Christopher J. Salter\textsuperscript{2}, Esteban Araya\textsuperscript{5}, Hector G. Arce\textsuperscript{6}, Mayra E. Lebron Santos\textsuperscript{4}, Christopher H. De Vries\textsuperscript{1}
Institution(s): \textsuperscript{1} California State University, Stanislaus, \textsuperscript{2} NAIC, Arecibo Observatory, \textsuperscript{3} University of Massachusetts, \textsuperscript{4} University of Puerto Rico, \textsuperscript{5} Western Illinois University, \textsuperscript{6} Yale University

141.23  A Survey of AU-Scale Na I Structure in the Diffuse ISM
Author(s): David M. Meyer\textsuperscript{1}, Cody Dirks\textsuperscript{1}, James Thomas Lauroesch\textsuperscript{2}
Institution(s): \textsuperscript{1} Northwestern Univ., \textsuperscript{2} Univ. of Louisville

141.24  Multi-Dimensional Hydrodynamic Simulations with Non-Equilibrium Radiative Cooling Calculations
Author(s): Kyujin Kwak\textsuperscript{1}
Institution(s): \textsuperscript{1} Ulsan National Institute of Science and Technology

141.25  CO Line Ratios in Nearby Galaxies
Author(s): Erik Rosolowsky\textsuperscript{4}, Adam K. Leroy\textsuperscript{3}, Antonio Usero\textsuperscript{4}, Jason Loeppky\textsuperscript{6}, Fabian Walter\textsuperscript{1}, Christine Wilson\textsuperscript{2}
Institution(s): \textsuperscript{1} Max Planck Institute for Astrophysics, \textsuperscript{2} McMaster University, \textsuperscript{3} National Radio Astronomy Observatory, \textsuperscript{4} Observatorio Astronómico Nacional, \textsuperscript{5} University of Alberta, \textsuperscript{6} University of British Columbia Okanagan
Contributing team(s): HERACLES Team, NGLS Team

141.26  A Three-Dimensional Look at the High Galactic Latitude Interstellar Medium
Author(s): Peregrine M. McGehee\textsuperscript{1}
Institution(s): \textsuperscript{1} Caltech

141.27  Tracing the Dense Molecular Gas in the Large Magellanic Cloud
Author(s): Rebecca C. Levy\textsuperscript{1}, Juergen Ott\textsuperscript{3}, David S. Meier\textsuperscript{2}, Annie Hughes\textsuperscript{1}
Institution(s): \textsuperscript{1} Max-Planck-Institut für Astronomie, \textsuperscript{2} New Mexico Institute of Mining and Technology, \textsuperscript{3} The National Radio Astronomy Observatory

141.28  Simulations of the Dynamics of Precursor Organic and Prebiotic Carbon-rich Molecules
Author(s): David William Marshall\textsuperscript{1}, Hossein Sadeghpour\textsuperscript{1}
Institution(s): \textsuperscript{1} Harvard-Smithsonian Center for Astrophysics

141.29  Exploring the ISM Supershell Structure Toward the Jewel Box
Author(s): Cody Dirks\textsuperscript{1}, David M. Meyer\textsuperscript{1}
Institution(s): \textsuperscript{1} Northwestern University
MONDAY, 5 JANUARY 2015

141.30 Characterizing Interstellar Ammonia Masers in the Galactic Star Forming Region DR21(OH)
Author(s): Amanda J. Fagan, Ian M. Hoffman
Institution(s): 1 Wittenberg University

141.31 From Gas to Stars in Energetic Environments: Chemistry of Clumps in Giant Molecular Clouds Within the Large Magellanic Cloud
Author(s): Crystal N. Anderson, David S. Meier, Juergen Ott, Annie Hughes, Tony H. Wong
Institution(s): 1 Max-Planck-Institut für Astronomie, 2 National Radio Astronomy Observatory, 3 New Mexico Tech, 4 University of Illinois

141.32 Combining MeV-GeV γ-ray and X-ray Observations: A Broadband View of Supernova Remnant Kes 41
Author(s): Daniel Castro, Timothy Joubert, Patrick O. Slane, Enectali Figueroa-Feliciano
Institution(s): 1 United States Air Force, 2 Harvard-Smithsonian Center for Astrophysics, 3 MIT

141.33 Radio Recombination Line Observations of Flickering Ultracompact HII Regions
Author(s): Christopher G. De Pree, Thomas Peters, Mordecai-Mark Mac Low, David J. Wilner, Roberto Galvan-Madrid, Miller Goss, Eric R. Keto, Ralf Klessen, Ashley Monsrud, Charlee Amason, Katie Butler
Institution(s): 1 Agnes Scott College, 2 National Radio Astronomy Observatory, 3 CfA, 4 ESO, 5 Institut für Theoretische Physik, Universität Zürich, 6 NRAO, 7 Universität Heidelberg, Zentrum für Astronomie

142 The Milky Way, The Galactic Center Posters
Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

142.01 The Discovery of New Ammonia Masers in the Galactic Center
Author(s): Alex Teachey, Elisabeth A. Mills, David S. Meier, Juergen Ott, Natalie Butterfield, Cornelia C. Lang, Mark Morris
Institution(s): 1 CUNY Hunter College, 2 National Radio Astronomy Observatory, 3 New Mexico Institute of Mining and Technology, 4 University of California, Los Angeles, 5 University of Iowa

142.02 Location of Deuterated Ammonia in Sagittarius B2
Author(s): Aspen Clements, Elisabeth Mills
Institution(s): 1 National Radio Astronomy Observatory, 2 University of Nebraska Kearney

142.03 Targeted VLA Observations of 22 GHz Water Masers Towards the Galactic Center
Author(s): Matthew Rickert, Juergen Ott, Farhad Yusef-Zadeh, David S. Meier
Institution(s): 1 National Radio Astronomy Observatory (NRAO), 2 New Mexico Institute of Mining and Technology (NMT), 3 Northwestern University
142.04 New Temperature Constraints for the Circumnuclear Disk
Author(s): Elisabeth A.C. Mills\textsuperscript{3}, Bingqing Sun\textsuperscript{2}, Haoyu Baobab Liu\textsuperscript{1}, Mark Morris\textsuperscript{4}, Natalie Butterfield\textsuperscript{5}, Cornelia C. Lang\textsuperscript{5}, Juergen Ott\textsuperscript{3}
Institution(s): \textsuperscript{1} Academia Sinica Institute of Astronomy and Astrophysics, \textsuperscript{2} Nanjing University, \textsuperscript{3} National Radio Astronomy Observatory, \textsuperscript{4} UCLA, \textsuperscript{5} University of Iowa

142.05 Densities of Galactic Center Clouds
Author(s): Jonathan Barnes\textsuperscript{1}, Elisabeth A.C. Mills\textsuperscript{2}, Mark Morris\textsuperscript{3}
Institution(s): \textsuperscript{1} Norfolk State University, \textsuperscript{2} NRAO, \textsuperscript{3} UCLA

142.06 New Background Infrared Sources for Studying the Galactic Center’s Interstellar Gas
Author(s): Thomas R. Geballe\textsuperscript{1}, Takeshi Oka\textsuperscript{3}, Erini Lambrides\textsuperscript{1}, Sherry Yeh\textsuperscript{2}, Miwa Goto\textsuperscript{4}
Institution(s): \textsuperscript{1} Gemini Obs., \textsuperscript{2} Subaru Telescope, \textsuperscript{3} University of Chicago, \textsuperscript{4} University of Munich

142.07 Star-Disk Collisions in the Galactic Center
Author(s): Thomas Kieffer\textsuperscript{1}, Tamara Bogdanovic\textsuperscript{1}
Institution(s): \textsuperscript{1} Georgia Institute of Technology

142.08 Star Formation in the Galactic Center: Radial Cloud Orbits via Feedback and Radiative Losses
Author(s): Chris Frazer\textsuperscript{1}, Fabian Heitsch\textsuperscript{1}
Institution(s): \textsuperscript{1} University of North Carolina

142.09 The Stellar Cusp in the Galactic Center: Three-Dimensional Orbits of Stars
Author(s): Samantha Chappell\textsuperscript{1}, Andrea M. Ghez\textsuperscript{1}, Anna Boehle\textsuperscript{1}, Sylvana Yelda\textsuperscript{1}, Breann Sitarski\textsuperscript{1}, Gunther Witzel\textsuperscript{1}, Tuan Do\textsuperscript{3}, Jessica R. Lu\textsuperscript{2}, Mark Morris\textsuperscript{1}, Eric E. Becklin\textsuperscript{1}
Institution(s): \textsuperscript{1} UCLA, \textsuperscript{2} University of Hawaii, \textsuperscript{3} University of Toronto

142.10 Understanding the Morphology and Kinematics of the Local Interstellar Medium
Author(s): Jeffrey Linsky\textsuperscript{1}
Institution(s): \textsuperscript{1} Univ. of Colorado

142.11 The Milky Way Skeleton
Author(s): Catherine Zucker\textsuperscript{2}, Cara Battersby\textsuperscript{3}, Alyssa A. Goodman\textsuperscript{1}
Institution(s): \textsuperscript{1} Harvard-Smithsonian Center for Astrophysics, \textsuperscript{2} University of VA

142.12 The GBT HII Region Discovery Survey: Galactic Structure
Author(s): Dana S. Balser\textsuperscript{2}, Loren D. Anderson\textsuperscript{4}, Thomas M. Bania\textsuperscript{1}, Trey Wenger\textsuperscript{1}
Institution(s): \textsuperscript{1} Boston University, \textsuperscript{2} NRAO, \textsuperscript{3} University of Virginia, \textsuperscript{4} West Virginia University

142.13 Modelling the Accretion History of the Galactic Disk (and the Gravitational Lensing of a High-z Galaxy)
Author(s): Adrian Meyers\textsuperscript{1}
Institution(s): \textsuperscript{1} Columbia University
142.15 The Relative Ages of the \( \alpha \)-rich and \( \alpha \)-poor Stellar Populations in the Galactic Halo  
**Author(s):** Keith Hawkins\(^1\), Paula Jofre\(^1\), Thomas Masseron\(^1\), Gerard Gilmore\(^1\)  
**Institution(s):** \(^1\) Institute of Astronomy

142.16 Dissecting the Milky Way disk with LAMOST  
**Author(s):** Jeffrey L. Carlin\(^2\), Heidi Jo Newberg\(^7\), Chao Liu\(^5\), Timothy C. Beers\(^1\), Xuelei Chen\(^5\), Kathleen Grabowski\(^7\), Puragra Guhathakurta\(^8\), Sebastien Lepine\(^4\), Xiaowei Liu\(^6\), A-Li Luo\(^5\), Hai-Jun Tian\(^7\), Brian Yanny\(^3\), Haibo Yuan\(^6\), Haotong Zhang\(^6\), Gang Zhao\(^5\), Yongheng Zhao\(^5\), Zheng Zheng\(^9\)  
**Institution(s):** \(^1\) Dept. of Physics and JINA-CEE, Univ. of Notre Dame, \(^2\) Earlham College, \(^3\) Fermi National Accelerator Laboratory, \(^4\) Georgia State University, \(^5\) National Astronomical Observatories, Chinese Academy of Sciences, \(^6\) Peking University and KIAA, \(^7\) Rensselaer Polytechnic Institute, \(^8\) University of California, Santa Cruz and Lick Observatory, \(^9\) University of Utah

142.17 Probing Kinematic Substructures in the Virgo Overdensity using RR Lyrae from Recent Surveys  
**Author(s):** John Farmer\(^2\), A. Katherina Vivas\(^1\)  
**Institution(s):** \(^1\) Cerro Tololo Inter-American Observatory, \(^2\) Clemson University

142.18 Testing the Dark Matter Caustic Theory Against Observations in the Milky Way  
**Author(s):** Julie Dumas\(^1\), Heidi J. Newberg\(^1\), Bethany Niedzielski\(^1\), Adam Susser\(^1\), Jeffery M. Thompson\(^1\)  
**Institution(s):** \(^1\) Rensselaer Polytechnic Institute

142.19 Globular Cluster Streams as Galactic High-Precision Scales - The Poster Child Palomar 5  
**Author(s):** Andreas Hans Wilhelm Kupper\(^1\), Eduardo Balbinot\(^5\), Ana Bonaca\(^6\), Kathryn V. Johnston\(^1\), David W. Hogg\(^2\), Pavel Kroupa\(^4\), Basilio Santiago\(^3\)  
**Institution(s):** \(^1\) Columbia University, \(^2\) New York University, \(^3\) Universidade Federal do Rio Grande do Sul, \(^4\) Universitat Bonn, \(^5\) University of Surrey, \(^6\) Yale University

142.20 The Three-Dimensional Density Distribution of Candidate AGB Stars in the Milky Way  
**Author(s):** Nicholas Hunt-Walker\(^1\), Zeljko Ivezi\(^1\), Andrew C. Becker\(^1\)  
**Institution(s):** \(^1\) University of Washington - Seattle

142.21 Defining Spatial Extent of Sagittarius Dwarf Tidal Stream and the Virgo Overdensity with MilkyWay@home  
**Author(s):** Jake Weiss\(^1\), Matthew Newby\(^1\), Matthew Arsenault\(^1\), Torrin Bechtel\(^3\), Travis Desell\(^2\), Heidi Jo Newberg\(^1\), Jeffery Thompson\(^1\)  
**Institution(s):** \(^1\) Rensselaer Polytechnic Institute, \(^2\) University of North Dakota, \(^3\) University of Wisconsin-Madison
MONDAY, 5 JANUARY 2015

142.22 Probing Galactic Structure with the Spatial Correlation Function of SEGUE G-dwarf Stars
Author(s): Qingqing Mao1, Andreas A. Berlind4, Kelly Holley-Bockelmann4, Katharine Schlesinger1, Jennifer Johnson3, Constance M. Rockosi3
Institution(s): 1. The Australian National University, 2. The Ohio State University, 3. UCO/Lick Observatory, 4. Vanderbilt University

142.23 Halo Substructure in the Hercules-Aquila Cloud
Author(s): Charles Martin3, Heidi Jo Newberg3, Jeffrey L. Carlin1, Benjamin A. Willett3, Brian Yanny2, Stephen M. Kent2
Institution(s): 1. Earlham College, 2. Fermi Nat’l Accelerator Lab, 3. Rensselaer Polytechnic Institute

142.24 A Spectroscopic Study of Hydra I: The Possible Progenitor of the Eastern Banded Structure
Author(s): Brian Kimmig3, Jonathan R. Hargis3, Beth Willman3, Nelson Caldwell2, Jay Strader1, Matthew G Walker1

142.25 The Milky Way Dwarf Galaxy Population in the DES and LSST Era
Author(s): Jonathan R. Hargis1, Beth Willman3, Annika H. G. Peter2
Institution(s): 1. Haverford College, 2. Ohio State University

143 Evolution of Galaxies Posters
Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

143.01 Coupling Semi-Analytic Models and N-Body Simulations: A New Way of Making Galaxies and Stellar Halos
Author(s): Krista M. McCord2, Jeremy Bailin2, Darren Croton1, Monica Valluri3
Institution(s): 1. Swinburne University of Technology, 2. The University of Alabama, 3. University of Michigan

143.02 Comparison of Merging Dark Matter Halo Histories
Author(s): Katelyn Ciccozzi1, Alyson Brooks2, Sarah Loebman3
Institution(s): 1. Kutztown University of Pennsylvania, 2. Rutgers, the State University of New Jersey, 3. University of Washington

143.03 Physical Properties and Evolution of Gravitationally Bound Halo Structures in Cosmological Dark Matter Simulations
Author(s): David Lin1, Miguel E. Rocha2, Joel R. Primack2
Institution(s): 1. The Harker School, 2. University of California, Santa Cruz

143.04 Magnetic Field Seeding through Supernova Feedback
Author(s): Daegene Koh1, John Wise1
Institution(s): 1. Georgia Institute of Technology

143.05 Stirring the Galactic Recipe: Studying the Effects of Galaxy Mergers and Cosmic Flows on Accreting Black Holes in Milky Way-Size Galaxies
Author(s): N. Nicole Sanchez1, Jillian M. Bellovary3, Kelly Holley-Bockelmann3,
Alyson Brooks
Institution(s): 1. Fisk University, 2. Rutgers University, 3. Vanderbilt University

143.06 Modeling the Accretion and Feedback Processes of Galaxies Similar to the Milky Way
Author(s): Steven Hyatt1, Lara Arielle Phillips2
Institution(s): 1. Furman University, 2. Notre Dame University

143.07 Generation of composite galaxies in dynamic equilibrium
Author(s): Robert Fasano1, Neil Comins1
Institution(s): 1. University of Maine

143.08 The Impact of Galaxy Flybys on Disk Galaxies
Author(s): Meagan Lang1, Kelly Holley-Bockelmann1, Manodeep Sinha1
Institution(s): 1. Vanderbilt University

143.09 Shrinking Galaxy Disks with Fountain-Driven Accretion from the Halo
Author(s): Bruce Elmegreen1, Curtis Struck2, Deidre Ann Hunter3
Institution(s): 1. IBM Research Div., 2. Iowa State University, 3. Lowell Observatory

143.10 Stellar metallicity evolution in a simulated disc galaxy
Author(s): Owain Snaith1, Jeremy Bailin1, Brad K. Gibson2, Eric F. Bell3

143.11 Modeling the Chemical Evolution of Elliptical Galaxies
Author(s): Camille N Leibler2, Enrico Ramirez-Ruiz2, Charlie Conroy1
Institution(s): 1. Harvard University, 2. University of California, Santa Cruz

143.12 The Effects of Compositeness on Stellar Populations
Author(s): Guy Worthey1, Baitian Tang1
Institution(s): 1. Washington State Univ.

143.13 Magellanic Clues to Spatially-resolved Extinction Corrections for Distant Galaxies in the HST/JWST Era
Author(s): Rolf A Jansen1, Duho Kim1, Timothy Shewcraft1, Rogier A. Windhorst1, Kazuyuki Tamura2
Institution(s): 1. Arizona State University, 2. Naruto University of Education

143.14 Analysis of the Intrinsic $\beta_{\lambda,0}$ Ratio using Spectral Synthesis Models of Composite Stellar Populations
Author(s): Duho Kim1, Rolf A Jansen1, Rogier A. Windhorst1
Institution(s): 1. Arizona State University

143.15 Investigating the Depth and Data of A Wide Field Survey of the Small Magellanic Cloud
Author(s): Margot Paez2, Blair Conn1
Institution(s): 1. Gemini Observatory, 2. University of California, Los Angeles

143.16 Washington and Stromgren Study of the Isolated Dwarf Galaxy WLM
Author(s): Meagan Albright2, Joanne D. Hughes1, George Wallerstein2
Institution(s): 1. Seattle University, 2. University of Washington
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143.17 Detection of a Remnant Stellar Halo Around G1/Mayall II
Author(s): Michael Gregg¹, Michael West², Brian Lemaux¹
Institution(s): ¹ Laboratoire d’Astrophysique, ² Maria Mitchell Observatory, ³ UC, Davis

143.18 A Herschel and CARMA synergistic study of turbulent gas in Hickson Compact Groups
Author(s): Philip N. Appleton², Katherine A. Alatalo², Ute Lisenfeld⁸, Thodoris Bitsakis⁵, Pierre Guillard³, Vassilis Charmandaris⁷, Michelle Cluver⁶, Michael A. Dopita¹, Emily Freeland⁴
Institution(s): ² Australian National University, ³ Caltech, ⁵ IAP, ⁶ Stockholm University, ⁷ UNAM, ⁸ University of Cape Town, ⁹ University of Granada
Contributing team(s): Hickson Compact Group Team

143.19 HDI in Action: Comparison Imaging of the Interacting Starburst Galaxy NGC 3310
Author(s): Elizabeth Wehner¹
Institution(s): ¹ University of St. Thomas

143.20 Tidal Debris Around Merger Remnants.
Author(s): Maria McQullan¹
Institution(s): ¹ University of St. Thomas

143.21 Exploring Stellar Populations in the Tidal Tails of NGC3256
Author(s): Michael Rodruck², Iraklis Konstantopoulos¹, Jane C. Charlton²
Institution(s): ¹ Australian Astronomical Observatory, ² Penn State University

143.22 Behavior of Neutral Hydrogen in the NGC 877/6 Galaxy Group
Author(s): Porter Manning Hall¹, Robert F. Minchin¹, Rhys Taylor¹
Institution(s): ¹ Arecibo Observatory

143.23 A General Purpose Stacking Technique to Analyze Low Brightness Signal
Author(s): Daniel Wavle¹, Adam K. Leroy¹, Jennifer Donovan Meyer¹
Institution(s): ¹ National Radio Astronomy Observatory

143.24 Zooming in on Extreme Environments: Using JVLA Observations and Kinematic Models of Arp 220 to Study Physical Conditions in ULIRGs
Author(s): Laura K. Zschaechner¹, Fabian Walter¹, Juergen Ott², Emmanuel Momjian², David S. Meier⁴
Institution(s): ¹ Max Planck Institute for Astronomy, ² National Radio Astronomy Observatory, ³ New Mexico Institute of Mining and Technology

143.25 Identifying OH Imposters in the ALFALFA HI Survey
Author(s): Katherine Suess², Jeremiah K. Darling³, Martha P. Haynes¹, Riccardo Giovanelli¹
Institution(s): ¹ Cornell University, ² University of Colorado at Boulder

143.26 Comparing Stellar Populations Across the Hubble Sequence
Author(s): Shane Loeffler³, Catherine C. Kaleida¹, Vaishali Parkash²
Institution(s): ¹ Cerro Tololo Inter-American Observatory, ² Union College, ³ University of Minnesota Duluth
143.27 The Optical and Near-Infrared Low Surface Brightness Properties of Five Nearby Galaxies  
Author(s): Shawn Staudaher\textsuperscript{2}, Daniel A. Dale\textsuperscript{3}, Liese van Zee\textsuperscript{1}, Kate L. Barnes\textsuperscript{1}  
Institution(s): \textsuperscript{1} Indiana University, \textsuperscript{2} University of Wyoming  
Contributing team(s): EDGES

143.28 MaNGA: Target selection and Optimization  
Author(s): David Wake\textsuperscript{1}  
Institution(s): \textsuperscript{1} University of Wisconsin-Madison

143.29 MaNGA: Mapping Nearby Galaxies at Apache Point Observatory  
Author(s): Kevin Bundy\textsuperscript{1}  
Institution(s): \textsuperscript{1} Kavli IPMU / U. of Tokyo

143.30 Reassessing the Relation Between Stellar Mass, Metallicity, and Star Formation Rate in the Local Universe  
Author(s): Olivia Grace Telford\textsuperscript{3}, Julianne Dalcanton\textsuperscript{1}, Evan D. Skillman\textsuperscript{2}, Charlie Conroy\textsuperscript{1}  
Institution(s): \textsuperscript{1} Harvard University, \textsuperscript{2} University of Minnesota, \textsuperscript{3} University of Washington

143.31 The Role of Neighbors on Galaxy Evolution  
Author(s): Jun-Sung Moon\textsuperscript{1}, Suk-Jin Yoon\textsuperscript{1}  
Institution(s): \textsuperscript{1} Yonsei University

143.32 Colliding Galaxies in the Big Data of the Huge Universe (BIDHU) project  
Author(s): Rocio Rossi\textsuperscript{2}, Ana Carolina Nascimento\textsuperscript{4}, Walysson Barbosa\textsuperscript{2}, Airton Borges\textsuperscript{3}, Milton Goya\textsuperscript{1}, Sandra Puga\textsuperscript{3}, Duilia F. De Mello\textsuperscript{2}  
Institution(s): \textsuperscript{1} BandTech, 2 Catholic University of America, \textsuperscript{3} FMU, \textsuperscript{4} UFRJ

143.33 Searching for Massive Major Mergers in Dense Environments at Late Cosmic Time  
Author(s): Xiachang Her\textsuperscript{1}, Daniel H. McIntosh\textsuperscript{3}, Tim Haines\textsuperscript{2}  
Institution(s): \textsuperscript{1} University of Missouri-Kansas City, \textsuperscript{2} University of Wisconsin-Madison

143.34 Galaxy Zoo : Evidence for a Diversity of Routes through the Green Valley  
Author(s): Chris Lintott\textsuperscript{1}, Rebecca Smethurst\textsuperscript{1}, Brooke Simmons\textsuperscript{1}  
Institution(s): \textsuperscript{1} University of Oxford  
Contributing team(s): Galaxy Zoo

143.35 The Undead: Fossil Galaxy Alive Again  
Author(s): Kallan Berglund\textsuperscript{1}, Eric M. Wilcots\textsuperscript{1}  
Institution(s): \textsuperscript{1} Brown University, \textsuperscript{2} UW Madison

143.36 A Comparison of Radio-loud and Radio-quiet E+A Galaxies  
Author(s): Yssavo Camacho\textsuperscript{3}, Nicole Wallack\textsuperscript{2}, Anna Learis\textsuperscript{2}, Charles Liu\textsuperscript{1}  
Institution(s): \textsuperscript{1} CUNY College of Staten Island , \textsuperscript{2} Edward R. Murrow HS, \textsuperscript{3} Lehigh University, \textsuperscript{4} University at Albany, State University of New York

143.37 Just-After THE FALL: Post-Starburst Galaxies and the E+B Phase  
Author(s): Adam Smercina\textsuperscript{1}, Christina A. Tremonti\textsuperscript{2}, John P. Chisholm\textsuperscript{2}  
Institution(s): \textsuperscript{1} University of Toledo , \textsuperscript{2} University of Wisconsin-Madison
143.38 Probing the Magnetic Fields in the Environment of Mg II Absorbers
Author(s): Sinclaire Manning1, Anna Williams2, Eric M. Wilcots2, Ellen Gould Zweibel2
Institution(s): 1 Howard University, 2 University of Wisconsin

143.39 The Detection of Extended Galactic Wind Emission in Distant Galaxies
Author(s): Aaron Huang1, Pranav Sekhar2, Hassen Mohammed Yesuf3
Institution(s): 1 Lynbrook High School, 2 Saint Francis High School, 3 University of California at Santa Cruz

143.40 Spectral Indices of Faint Radio Sources
Author(s): Hansung B. Gim2, Christopher A. Hales1, Emmanuel Momjian1, Min Su Yun2
Institution(s): 1 National Radio Astronomy Observatory, 2 University of Massachusetts Amherst

143.41 Pitch Angle Survey of GOODS Spiral Galaxies
Author(s): Benjamin Boe2, Daniel Kennefick1
Institution(s): 1 University of Arkansas, 2 University of Puget Sound
Contributing team(s): Arkansas Galaxy Evolution Survey, Arkansas Center for Space and Planetary Sciences

143.42 Diverse Galaxies: Clumpy Regions In The UVUDF at 0.5 ≤ z ≤ 1.5
Author(s): Emmaris Soto6, Duilia F. De Mello6, Harry I. Teplitz1, Jonathan P. Gardner1, Nicholas A. Bond4, Marc Rafelski2, Swara Ravindranath5, Claudia Scarlata7, Alex Codoreanu7, Anton M. Koekemoer4, Peter Kurczynski7
Institution(s): 1 Infrared Science Archive (IRSA), 2 IPAC / Caltech, 3 NASA Goddard Space Flight Center, 4 Rutgers University, 5 STScI, 6 The Catholic Univ. of America, 7 University of Minnesota
Contributing team(s): UVUDF Team

143.43 Clumpy Galaxies at High Redshifts: Insights from the FIRE Simulations
Author(s): Antonija Oklopcic1, Philip F. Hopkins1, Dusan Keres4, Claude-Andre Faucher-Giguere2, Eliot Quataert3
Institution(s): 1 California Institute of Technology, 2 Northwestern, 3 UC Berkeley, 4 UC San Diego

143.44 Galaxy Evolution Spectroscopic Explorer (GESE)
Author(s): Sara R. Heap1, Anthony B. Hull2, Lloyd R Purves1
Institution(s): 1 NASA’s GSFC, 2 University of New Mexico

143.45 Starbursting Dwarf Galaxies at z > 1
Author(s): Michael Maseda1, Arjen van der Wel1, Hans-Walter Rix1
Institution(s): 1 Max Planck Institute for Astronomy
Contributing team(s): 3D-HST

143.46 Host galaxies of submicro-Jansky radio sources
Author(s): Kristen Luchsinger1
Institution(s): 1 St. John’s College
Contributing team(s): NSF REU Program, NRAO REU Program
143.47 The AGN Contribution to Galaxy Merger Infrared Luminosities  
Author(s): Lee Rosenthal, Christopher C. Hayward, Howard Smith, Matthew Ashby, Chao-Ling Hung, Rafael Martinez-Galarza, Aaron Weiner, Andreas Zezas, Lauranne Lanz  
Institution(s): 1 California Institute of Technology, 2 Harvard-Smithsonian Center for Astrophysics, 3 Haverford College, 4 IPAC

143.48 Characterizing HII regions in High-z ULIRGs with far infrared fine structure lines  
Author(s): Drew Brisbin, Carl Ferkinhoff, Gordon J. Stacey, Stephen Parshley, Steve Hailey-Dunsheath, Cody Lamarche  
Institution(s): 1 Caltech, 2 Cornell University, 3 MPIA, 4 NRAO

143.49 HST rest-frame optical characteristics of WISE-selected galaxies at z>1.7  
Author(s): Sara M. Petty, Andrew Blain, Carrie Bridge, Jennie Paine, Duncan Farrah, Tom Jarrett, Dominic J. Benford, Peter R. Eisenhardt, Sean E. Lake, Mariana Lazarova, Leonidas A. Moustakas, S. Adam Stanford, Chao-Wei Tsai, Edward L. Wright  
Institution(s): 1 Caltech, 2 NASA/Goddard, 3 NASA/JPL, 4 UC Davis, 5 UCLA, 6 University of Cape Town, 7 University of Leicester, 8 University of Nebraska, 9 Virginia Tech  
Contributing team(s): WISE

143.50 The HETDEX Pilot Survey & 3DHST: What Makes a Lyman-alpha Emitter?  
Author(s): Alex Hagen, Gregory Zeimann, Caryl Gronwall, Robin Ciardullo, Joanna Bridge  
Institution(s): 1 Pennsylvania State University  
Contributing team(s): HETDEX

143.51 Classification of Low/High Redshift Galaxies Using Machine Learning  
Author(s): Mario R Martin, Viviana Acquaviva  
Institution(s): 1 CUNY New York City College of Technology

143.52 The Lyman Continuum Escape Fraction of The Cosmic Horseshoe  
Author(s): Kaveh Vasei, Brian D. Siana, Alice E. Shapley, Anahita Alavi  
Institution(s): 1 UCLA, 2 UCR

143.53 Massive Spheroidal Galaxies: Nature and Evolution During 0.6<z<="" strong""'></z>  
Author(s): Zachary Rizer, Daniel H. McIntosh, Joshua Cook, Jeyhan S. Kartaltepe, Stijn Wuyts, Arjen van der Wel, Guillermo Barro, Anton M. Koekemoer, Christopher Conselice, Eric F. Bell, Dale Kocevski, David C. Koo, Mauro Giavalisco  
Institution(s): 1 Max Planck Institute for Astronomy, 2 Max Planck Institute for Extraterrestrial Physics, 3 National Optical Astronomy Observatory, 4 Space Telescope Science Institute, 5 University of California - Santa Cruz, 6 University of Kentucky, 7 University of Massachusetts, 8 University of Michigan, 9 University of Missouri - Kansas City, 10 University of Nottingham
143.54 Morphologically Disturbed Massive Galaxies: Nature and Evolution During 0.6 < z < 2.5 in the CANDELS UDS and GOODS-S Fields
Author(s): Joshua S. Cook\textsuperscript{7}, Daniel H. McIntosh\textsuperscript{7}, Zachary Rizer\textsuperscript{7}, Jeyhan S. Kartaltepe\textsuperscript{3}, Anton M. Koekemoer\textsuperscript{4}, Jennifer Lotz\textsuperscript{4}, Christopher Conselice\textsuperscript{8}, Philip F. Hopkins\textsuperscript{2}, Stijn Wuyts\textsuperscript{2}, Michael Peth\textsuperscript{1}, Guillermo Barro\textsuperscript{6}
Institution(s): \textsuperscript{1} Johns Hopkins University, \textsuperscript{2} Max Planck Institute for Extraterrestrial Physics, \textsuperscript{3} National Optical Astronomy Observatory, \textsuperscript{4} Space Telescope Science Institute, \textsuperscript{5} University of California, Berkeley, \textsuperscript{6} University of California, Santa Cruz, \textsuperscript{7} University of Missouri-Kansas City, \textsuperscript{8} University of Nottingham
Contributing team(s): CANDELS Collaboration

143.55 What Determines the Strength of Lyman Alpha Emission in Star-Forming Galaxies?
Author(s): Hannah Bish\textsuperscript{3}, Eric J. Gawiser\textsuperscript{2}, Viviana Acquaviva\textsuperscript{1}
Institution(s): \textsuperscript{1} CUNY NYC College of Technology, \textsuperscript{2} Rutgers, The State University of New Jersey, \textsuperscript{3} University of Washington
Contributing team(s): CANDELS Team

143.56 Spectroscopic Study of Massive and Evolved Systems at z>3
Author(s): Hooshang Nayyeri\textsuperscript{1}, Bahram Mobasher\textsuperscript{2}
Institution(s): \textsuperscript{1} UC Irvine, \textsuperscript{2} UC Riverside
Contributing team(s): CANDELS

143.57 Serendipitous sources in deep ALMA archival pointings
Author(s): Mark Lacy\textsuperscript{1}
Institution(s): \textsuperscript{1} NRAO

143.58 First Light: Exploring the Spectra of Galaxies in the Early Universe
Author(s): Kirk Stuart Simeon Barrow\textsuperscript{1}, John Wise\textsuperscript{1}
Institution(s): \textsuperscript{1} Georgia Institute of Technology

143.59 Contribution of Low Mass Galaxies to Reionization
Author(s): Lauren M. Anderson\textsuperscript{3}, Thomas R. Quinn\textsuperscript{3}, Fabio Governato\textsuperscript{1}, Alyson Brooks\textsuperscript{1}, Andrew Pontzen\textsuperscript{2}
Institution(s): \textsuperscript{1} Rutgers University, \textsuperscript{2} University College London, \textsuperscript{3} University of Washington

143.60 Spectro-polarimetry of a Lyman-alpha Nebula at z=3.09
Author(s): Melanie Beck\textsuperscript{1}, Claudia Scarlata\textsuperscript{1}, Matthew Hayes\textsuperscript{2}
Institution(s): \textsuperscript{1} University of Minnesota, \textsuperscript{2} Stockholm Observatory

144 AGN, QSO, Blazars Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

144.01 Distance Measurements to Host Galaxies of Reverberation-Mapped AGN
Author(s): Benjamin Ou-Yang\textsuperscript{2}, Misty Bentz\textsuperscript{2}, Megan C. Johnson\textsuperscript{1}
Institution(s): \textsuperscript{1} CSIRO, \textsuperscript{2} Georgia State University
144.02 The AGN Black Hole Mass Database  
Author(s): Misty C. Bentz
Institution(s): 1 Georgia State University

144.03 The Effect of Host Galaxy Morphology on the MBH-Lbulge Relation for Reverberation-Mapped AGN in the Near-IR  
Author(s): Emily Manne-Nicholas1, Misty C. Bentz1  
Institution(s): 1 Georgia State University

144.04 The Nature of Variability of the Ultraviolet & Optical Spectral Energy Distribution of Active Galactic Nuclei  
Author(s): Manfred Virgil Tanael Ambat1, C. Gaskell2  
Institution(s): 1 Bellarmine College Preparatory, 2 University of California, Santa Cruz

144.05 Measuring the Luminosity and Virial Black Hole Mass Dependence of Quasar-Galaxy clustering at z ~ 0.8  
Author(s): Alexander Krolewski1, Daniel Eisenstein1  
Institution(s): 1 Harvard University

144.06 Reddenings estimated from optical continuum variability for reverberation-mapped active galactic nuclei  
Author(s): Austin Zong Tuan3, Christine Suhyun Cho2, Manfred Virgil Tanael Ambat1  
Institution(s): 1 Bellarmine College Preparatory, 2 Castilleja, 3 Phillips Academy

144.07 Estimating Reddening for Reverberation-Mapped Active Galactic Nuclei  
Author(s): Christine Suhyun Cho1  
Institution(s): 1 Castilleja  
Contributing team(s): Martin Gaskell, Manfred Virgil Ambat, Austin Tuan

144.08 Photometric Reverberation Mapping using a Meter-class Telescope  
Author(s): Carla June Carroll1, Michael D. Joner1  
Institution(s): 1 Brigham Young University

144.09 The Most Massive Active Black Holes at z⊙1.5-3.5 have High Spins and Radiative Efficiencies  
Author(s): Benny Trakhtenbrot1  
Institution(s): 1 ETH Zurich

144.10 Surface Photometry of Reverberation-Mapped Active Galactic Nuclei  
Author(s): Gary A. Bower1  
Institution(s): 1 STScI/CSC

144.11 Photometric Reverberation Mapping with a Small Aperture Telescope  
Author(s): Carol E. Hood1, Noah I. Rivera1, Beverley Thackeray-Lacko1, Randy M. Powers2, Harrison Stuckey1, Rene Watson2, Michael A. Hood2  
Institution(s): 1 California State University, San Bernadino, 2 Mt. San Antonio College

144.12 Deconstructing Dynamics: Improving Stellar Velocity Dispersion Measurements for Reverberation Mapped AGNs  
Author(s): Merida Batiste1, Misty C. Bentz1  
Institution(s): 1 Georgia State University
144.13 Quasar Rain
Author(s): Martin Elvis
Institution(s): 1. Harvard-Smithsonian CfA

144.14 The Search for Active Black Holes in Local Dwarf Galaxies Using Optical and Mid-IR Data
Author(s): Lia F. Sartori, Kevin Schawinski, Ezequiel Treister, Benny Trakhtenbrot, Michael Koss
Institution(s): 1. ETH Zurich, 2. Universidad de Concepción

144.15 Quasar Clustering from SDSS DR7: Dependencies on FIRST Radio Magnitudes
Author(s): Andria C. Schwortz, Sarah Eftekharzadeh, Adam D. Myers, Yue Shen

144.16 Evidence from the Very Long Baseline Array that J1502SE/SW are Double Hotspots, not a Supermassive Binary Black Hole
Author(s): J. M. Wrobel, Robert Craig Walker, Hai Fu
Institution(s): 1. NRAO, 2. University of Iowa

144.17 Searching for the Nearest Extragalactic Binary Black Hole: A Spectroscopic Study of NGC4736
Author(s): Annika Gustafsson, Teiler J Kwan, Jeremy Bullis, Rachel Mason, Robert Scott Fisher
Institution(s): 1. Gemini Observatory, 2. University of Oregon

144.18 The environment of PDS456
Author(s): Olga Kuhn
Institution(s): 1. Large Binocular Telescope Observatory (LBTO)

144.19 Diagnostic Power of Broad Emission Line Profiles in Searches for Binary Supermassive Black Holes.
Author(s): Khai Nguyen, Tamara Bogdanovic
Institution(s): 1. Georgia Institute of Technology

144.20 Accretion Disk and Dust Emission in Low-Luminosity AGN

144.21 A WISE Selection of MIR AGN in Different Environments
Author(s): Belinda D Cheeseboro, Dara J. Norman
Institution(s): 1. Andrews University, 2. NOAO
144.22 Probing the Inner Accretion Disk of AGNs Via Optical Power Spectra  
Author(s): Adam Levine¹, Robert V. Wagoner¹  
Institution(s): ¹ Stanford University

144.23 Optical Microlensing and Accretion Disk Structure in the Lensed Quasar SDSS 1520+530  
Author(s): Vigneshwar Manickam², Ian Grinaski², Chelsea MacLeod², Christopher W. Morgan³, Hugh C. Harris³, James Kennington¹  
Institution(s): ¹ University of Texas, ² US Naval Academy, ³ US Naval Observatory

144.24 Coronal-Line Forest AGN: the best view of the inner edge of the AGN torus?  
Author(s): Marvin Rose¹, Martin Elvis¹, Clive Tadhunter²  
Institution(s): ¹ Center for Astrophysics, ² University of Sheffield

144.25 Galaxy Zoo: AGN may be fueled by stellar bars in the local Universe  
Author(s): Melanie Galloway¹, Kyle Willett¹, Lucy Fortson¹  
Institution(s): ¹ University of Minnesota  
Contributing team(s): Galaxy Zoo Science Team

144.26 Clustering and Photometric Redshifts of Galaxies in Low Redshift Quasar Fields  
Author(s): Jennifer E. Scott¹, Alireza Rafiee¹  
Institution(s): ¹ Towson Univ.

144.27 Near Infrared Spectroscopy of Active Galactic Nuclei Using FSpec  
Author(s): Joshua Frechem², Peter Pessev¹  
Institution(s): ¹ Gemini Observatory, ² Old Dominion University

144.28 Tidal Disruption Events From Nearby Dwarf Galaxies  
Author(s): W. Peter Maksym⁶, Melville P. Ulmer⁴, Katherine Roth¹, Jimmy Irwin⁶, Renato Dupke⁵, Luis C. Ho², William C. Keel⁶, Christophe Adami³, Dacheng Lin⁷  
Institution(s): ¹ Gemini Observatory North, ² Kavli Institute for Astronomy and Astrophysics, ³ Laboratoire d’Astrophysique de Marseille, ⁴ Northwestern University, ⁵ Observatorio Nacional, ⁶ University of Alabama, ⁷ University of New Hampshire

144.29 Self-Consistent Synchrotron Spectra from Trans-Relativistic Electron Acceleration  
Author(s): Peter A. Becker¹  
Institution(s): ¹ George Mason University

144.30 Modeling the optical/UV emission from tidal disruption events  
Author(s): Nathaniel Roth², Daniel Kasen², James Guillochon¹, Enrico Ramirez-Ruiz³  
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² UC Berkeley, ³ UC Santa Cruz

144.31 Community Detection Algorithms as a Diagnostic Tool for SDSS Dataset Networks  
Author(s): John Taylor Burleson¹  
Institution(s): ¹ Virginia Polytechnic Institute and State University
144.32 The Birth of Quasars
Author(s): Rachel Thorp1, Colin J. Lonsdale2, Carol J. Lonsdale3
Institution(s): 1 California Institute of Technology, 2 Massachusetts Institute of Technology, 3 National Radio Astronomy Observatory

144.33 Exploring the Variability Characteristics of the Fermi AGN Sample
Author(s): Chris R. Shrader2, Daryl J. Macomb1
Institution(s): 1 Boise State University, 2 NASA’s GSFC

144.34 Evaluating the Detection of Diskoseismic Modes in AGNs
Author(s): Hugo Solis-Sanchez1, Manuel Ortega-Rodriguez1, Felipe Montealegre1, Ariadna Venegas-Li1, Santiago Viquez1, Pedro Gomez-Ovares1
Institution(s): 1 Universidad de Costa Rica

144.35 An Investigation of Quasar Variability as a Damped Random Walk in the PanSTARRS-1 Medium Deep Fields
Author(s): Virginia Cunningham3, Paul J. Green2, Eric Morganson2, Yue Shen1
Institution(s): 1 Carnegie Observatories, 2 Harvard-Smithsonian Center for Astrophysics, 3 West Virginia University

144.36 Testing Mergers as a Trigger for Active Galaxies
Author(s): Timothy S. Hamilton1, Carolin Villforth2
Institution(s): 1 Shawnee State Univ., 2 St. Andrews

144.37 Disentangling Quasar Nomenclature
Author(s): Nicholas Ross1, Andrew D. Goulding1
Institution(s): 1 Princeton University, 2 University of Edinburgh

144.38 Quasar Selection in the Optical + MIR
Author(s): Gordon T. Richards1, Adam D. Myers2, Christina M. Peters1
Institution(s): 1 Drexel Univ., 2 University of Wyoming

144.39 Tranverse correlation of quasar pairs
Author(s): Louis Johnson1
Institution(s): 1 University of the Pacific
Contributing team(s): Dr.Isabelle Paris, BOSS/SDSS

144.40 Variability of Carbon-IV Emission and Multi-Epoch Virial Mass Estimation in High-Redshift Quasars
Author(s): Ramon Sharma1, John J. Ruan1
Institution(s): 1 University of Washington

144.41 The Fermi Large Area Telescope Flare Advocate Program: Rapid Sharing of Results with the Community
Author(s): David John Thompson2, Stefano Ciprini1, Dario Gasparini1
Institution(s): 1 ASI Science Data Center, 2 NASA’s GSFC
Contributing team(s): Fermi Large Area Telescope Collaboration

144.42 First Results from the NuSTAR Survey of Swift/BAT AGN
Author(s): Mislav Balokovic1, Fiona Harrison1, Andrea Comastri2
Institution(s): 1 California Institute of Technology, 2 Osservatorio Astronomico di Bologna
Contributing team(s): NuSTAR Extragalactic Surveys Team
144.43 Quasar Selection using Optical Photometry and Variability  
Author(s): Christina M. Peters¹, Gordon T. Richards¹, Adam D. Myers³, Nicholas Ross¹  
Institution(s): ¹Drexel University, ²University of Wyoming

144.44 The Distribution of Optically Variable AGN in Red Sequence Galaxy Clusters  
Author(s): Allison Hughes², Melissa Lynn Graham³, David J. Sand³, Dennis F. Zaritsky¹  
Institution(s): ²University of Arizona, ³University of California, Berkeley, ³University of California, Santa Barbara

144.45 A Kepler Galaxy Survey: Establishing the Temporal Baseline for Extragalactic Systems  
Author(s): Michael N. Fanelli², Pamela M. Marcum², Jeffrey E. Van Cleve¹  
Institution(s): ¹NASA Ames Research Center

144.46 Optical Variability and Classification of High Redshift (3.5 < z < 5.5) Quasars on SDSS Stripe 82  
Author(s): Yusra AlSayyad², Ian D. McGreer¹, Xiaohui Fan¹, Andrew J. Connolly², Zeljko Ivezic², Andrew C. Becker²  
Institution(s): ¹University of Arizona, ²University of Washington

144.47 A Survey of Low-Frequency Radio AGN in the MWA Epoch of Reionization Field  
Author(s): Patricia Carroll¹  
Institution(s): ¹University of Washington  
Contributing team(s): Murchison Widefield Array EoR Collaboration, UW Radio Cosmology Group

144.48 Jansky VLA Imaging of Heavily Obscured, Luminous Quasars at Redshifts ~ 2  
Author(s): Carol J. Lonsdale², Palavi Patil³, Adam Trapp³, Mark Whittle³, Mark Lacy², Colin J. Lonsdale¹  
Institution(s): ¹MIT/Haystack, ²NRAO, ³University of Virginia

144.49 Slow-blue PanSTARRS transients  
Author(s): Chelsea L MacLeod⁴, Alastair Bruce⁴, Andy Lawrence⁴, Martin Ward³, James Collinson³, Martin Elvis³, Suvi Gezari³, Steven Smartt², Ken Smith², Darryl Wright², Morgan Fraser²  
Institution(s): ²Harvard-Smithsonian CfA, ²Queens University Belfast, ³University of Durham, ⁴University of Edinburgh, ⁵University of Maryland

144.50 How Complete is Mid-Infrared Selection of Active Galactic Nuclei?  
Author(s): Miona Grae Short¹, Aleks Diamond-Stanic¹  
Institution(s): ¹University of Wisconsin Madison

144.51 Using WISE to Find Obscured AGN Activity in SDSS Mergers and Interactions  
Author(s): Madalyn Weston², Daniel H. McIntosh², Xiachang Her², Jane R. Rigby¹  
Institution(s): ¹NASA Goddard Space Flight Center, ²University of Missouri - Kansas City
MONDAY, 5 JANUARY 2015

144.52 The Rate of Occurrence of PV Absorption in a Low Redshift Sample of BALQSOs

Author(s): Tarryn Kahre², Erin M. Cooper², Karen Leithly², Kenya L. Davis¹
Institution(s): ¹ University of North Carolina, ² University of Oklahoma

144.53 Broadband Observations of the FSRQ PKS 2326–502 during Active and Quiescent Gamma-Ray States

Author(s): Bryce D. Carpenter², Michael Dutka², Roopesh Ojha², Justin Finke³, Phillip Edwards¹, Matthias Kadler², Jörn Wilms³, Felicia Krauss³, Cornelia Mueller³, Neil Gehrels²
Institution(s): ¹ CSIRO, ² NASA/GSFC, ³ Naval Research Laboratory, ⁴ Remeis Observatory, ⁵ University of Wuerzburg
Contributing team(s): Fermi-LAT Collaboration

144.54 The variable comparison stars in the field of the TeV blazar 1ES 1959+650

Author(s): Stacy Hancock², Michael T. Carini³, Kirill Antoniuk³, S Belan³, K Grankin¹, N Pit¹, D Shakhovsky¹
Institution(s): ¹ CRAO, ² Western Kentucky University

144.55 The K2 view of blazars

Author(s): Michael T. Carini¹, Joshua Williams²
Institution(s): ¹ Western Kentucky Univ., ² Western Kentucky University

144.56 The Power Spectral Density of ZW 229.015 from Kepler Observations.

Author(s): Joshua Williams¹, Michael T. Carini¹
Institution(s): ¹ Western Kentucky University

144.57 Defining and Exploring Flare-States in the Fermi LAT Blazar Population

Author(s): Daryl J. Macomb¹, Chris R. Shrader²
Institution(s): ¹ Boise State Univ., ² NASA/GSFC

144.58 The Power Source(s) of Nearby Low-Ionization Nuclear Emission Regions

Author(s): Mallory Molina³, Michael Eracleous³, Dan Maoz⁴, Aaron J. Barth³, Jonelle Walsh⁵, Luis C. Ho⁷, Joseph C. Shields¹
Institution(s): ¹ Ohio University, ² Peking University, ³ Pennsylvania State University, ⁴ Tel Aviv University, ⁵ University of California, Irvine, ⁶ University of Texas

144.59 Parsec- and Kiloparsec-Scale Radio Jets in Narrow-Line Seyfert 1 Galaxies

Author(s): Joseph L Richards⁵, Matthew L. Lister⁵, Luigi Foschini³, Tuomas Savolainen³, Matthias Kadler⁷, Talvikki Hovatta¹, Anthony C. S. Readhead², Tigran Arshakian⁶
Institution(s): ¹ Aalto University, ² Caltech, ³ INAF, ⁴ MPIfR, ⁵ Purdue University, ⁶ University of Cologne, ⁷ University of Wuerzburg

144.60 Color-Magnitude Relationships Among Quasars and Type I Seyfert Galaxies

Author(s): Thomas Rutherford³, Varoujan Gorjian², Theresa Paulsen¹, Nicole Granucci³, John Blackwell⁴, Kayla Jenkins⁵, Erica McCormick⁴, Brendan Rosseau⁴, Rebecca Shpak³, Taryn Wisniewski³
Institution(s): ¹ Ashland High School, ² JPL/California Institute of Technology, ³ Oxford High School, ⁴ Phillips Exeter Academy, ⁵ Sullivan South High School
144.61 X-ray Power Spectral Densities of Mkn 79 and NGC 4593 using Markov Chain Monte Carlo
Author(s): Kevin Marshall
Institution(s): 1. Widener Univ.

144.62 Determining the Narrow-Line Region Geometry of Mrk 3 with Gemini/NIFS
Author(s): Crystal L. Pope, Travis C. Fischer, D. Michael Crenshaw
Institution(s): 1. Georgia State University

144.63 An Extended Look at the Narrow-Line Region Kinematics of Markarian 573
Author(s): Camilo Machuca, Travis C. Fischer, D. Michael Crenshaw
Institution(s): 1. Georgia State University

144.64 New Constraints on Quasar Variability based on 8,000 SDSS Stripe 82 Quasars with both SDSS and CRTS Lightcurve Data
Author(s): Krzysztof Suberlak, Zeljko Ivezic, Branimir Sesar, Chelsea Louise MacLeod
Institution(s): 1. Institute for Astronomy, 2. Max Planck Institute for Astronomy, 3. University of Washington

145 HAD III: Posters

Monday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

145.01 Urania in the Marketplace: Observatories as Holiday Destinations
Author(s): Kenneth S. Rumstay
Institution(s): 1. Valdosta State Univ.
200 Plenary Talk: Gaia - ESA’s Galactic Census Mission

Tuesday, 8:30 am - 9:20 am; 6E
Chair(s): Todd Henry (RECONS)

200.01 Gaia - ESA's Galactic Census mission.
Author(s): Gerard Gilmore¹
Institution(s): ¹ Institute of Astronomy

201 AAS Prize Presentations: Weber, Van Biesbroeck, Education

Tuesday, 9:20 am - 9:40 am; 6E
Chair(s): C. Megan Urry (Yale University)

Sander Weinreb has been selected for the 2014 Weber Award in recognition of his seminal innovations that have helped define modern-day radio astronomy, including digital auto-correlation spectrometers and cryogenic low-noise amplifiers and mixers. In addition, he has provided outstanding leadership for radio astronomy instrumentation, especially for the electronics system of the Very Large Array. His innovations have been utilized in all radio observatories and have enabled countless astronomical discoveries.

The selection committee recommends that the George van Biesbroeck Prize is awarded to Dr. Michael Hauser. Dr. Hauser has an extraordinary long career in service to the astronomy community. The committee in particular wants to emphasize Dr. Hauser’s strategic vision that guided first his early career involvement in the infrared space missions when he established and led the infrared group at Goddard, and later his role as the STScI deputy director playing a key part in turning STScI into a multi-mission institution. In both these roles, Dr. Hauser led and enabled changes that ultimately are to the benefit of the broader astronomical community. The committee also notes Dr. Hauser’s wide ranging influence as a mentor and team leader, most visible as the mentor for Nobel Laureate Dr. Mather, but equally important the countless hours he spent mentoring and leading less known team members at Goddard. Finally, Dr. Hauser has served on an unusually large number of committees, which have guided critical aspects of our community’s major missions or long-term planning, many of these panels were chaired by Dr. Hauser.

Deidre Hunter is the recipient of the 2014 AAS Education Prize for co-founding and successfully running for the last 17 years a science and astronomy education program for 5th-8th grade Navajo-Hopi students and their teachers (of Arizona and New Mexico), a historically underserved and culturally isolated population; for bringing direct personal connection and acceptance to science for the program participants, and making it relevant in a manner respectful of tribal astronomy knowledge and worldviews; for
tirelessly mentoring numerous undergraduate and graduate students in a non-university environment, inspiring them to get, and stay involved in astronomy education, and connecting professional astronomers to local science educators; and for her public outreach efforts involving Lowell Observatory in the life of the surrounding community.

202 Extrasolar Planets: Ground and Space Based Surveys I

Tuesday, 10:00 am - 11:30 am; 6A

Chair(s): Wesley Traub (Jet Propulsion Laboratory)

202.01 The Transiting Exoplanet Survey Satellite: Mission Status
Author(s): George R. Ricker1
Institution(s): 1 MIT
Contributing team(s): TESS Team

202.02 Target Selection for the TESS Mission
Author(s): Joshua Pepper2, Keivan Stassun3, Nathan M. De Lee4, Martin Paegert5, David W. Latham1, Joshua N. Winn3
Institution(s): 1 Center for Astrophysics, 2 Lehigh University, 3 MIT, 4 Northern Kentucky University, 5 Vanderbilt University

202.03 D KMTNet: A Cold Exoplanet Census Through a Global Microlensing Survey
Author(s): Calen B. Henderson2, B. Scott Gaudi3, Cheongho Han2, David Nataf1, Jan Skowron4, Matthew Penny2, Andrew Gould3
Institution(s): 1 Australian National University, 2 Chungbuk National University, 3 The Ohio State University, 4 Warsaw University Observatory

202.04 The KELT-North Transit Survey: Hot Planets around Hot, Bright Stars
Author(s): B. Scott Gaudi3, Thomas G. Beatty4, Jason D Eastman1, Michael Lund1, Matthew Penny2, Joshua Pepper7, Joseph E. Rodriguez5, Robert Siverd1, Keivan Stassun3, Daniel J. Stevens3
Institution(s): 1 LCOGT, 2 Lehigh University, 3 Ohio State Univ., 4 Penn State University, 5 Vanderbilt University
Contributing team(s): The KELT-North Collaboration

202.05 Humans Need Not Apply: Robotization of Kepler Planet Candidate Vetting
Author(s): Jeffrey Coughlin1, Fergal Mullally1, Susan E. Thompson1
Institution(s): 1 SETI Institute
Contributing team(s): The Kepler Team

202.06 High-Precision Stellar Photometry with the K2 Mission
Author(s): Lindsey Carboneau4, Derek L. Buzasi3, Carly Hessler1, Andy Lezcano1, Heather L. Preston1
Institution(s): 1 Florida Gulf Coast University

202.07 The Evryscope: the first full-sky gigapixel-scale telescope
Author(s): Nicholas M. Law4, Octavi Fors1, Jeffrey Ratzloff1, Philip J. Wulfken1
Institution(s): 1 University of North Carolina
TUESDAY, 6 JANUARY 2015

202.08 K2 M Dwarf Program: Program Overview and Update
Author(s): Ian Crossfield, Joshua E. Schlieder, Erik Petigura, Andrew Howard, Kimberly Mei Aller, Niall Deacon, Thomas Henning, Sebastien Lepine, Thomas P. Greene, Michael C. Liu, Lisa Kaltenegger, David R. Ciardi, Justin R. Crepp, Bradley M. Hansen, Travis Barman, Christian Obermeier

203 The Milky Way, The Galactic Center III

Tuesday, 10:00 am - 11:30 am; 6B
Chair(s): Andreas Küpper (Columbia University)

203.01 The Serendipitous Discovery of High-Velocity Shocks in the Galactic Center
Author(s): Janet P. Simpson
Institution(s): 1. SETI Institute

203.02 Probing the Milky Way’s Nuclear Wind with QSO Absorption Lines
Author(s): Andrew Fox, Edward B. Jenkins, Svea Hernandez, Blair D. Savage, Rongmon Bordoloi, Bart P. Wakker, Jonathan Bland-Hawthorn, Felix J. Lockman, Jason Tumlinson, David V. Bowen, Robert A. Benjamin

203.03 Modeling Diffuse X-ray Emission around the Galactic Center from Colliding Stellar Winds
Author(s): Christopher Michael Post Russell, Jorge Cuadra, Q. Daniel Wang, Stanley P. Owocki

203.04 VERITAS Observations of The Galactic Center Ridge
Author(s): Andrew Smith
Institution(s): 1. University of Maryland College Park
Contributing team(s): VERITAS

203.05 NuSTAR Observation of Sgr B2: Reflection of Past Sgr A* X-ray Outburst, Cosmic Ray Illumination or Both?
Author(s): Shuo Zhang
Institution(s): 1. Columbia University
Contributing team(s): NuSTAR Galactic Plane Survey Team

203.06 Galactic Ridge X-ray Emission study with NuSTAR
Author(s): Roman Krivonos
Institution(s): 1. UC Berkeley
Contributing team(s): NuSTAR

203.07 The X-Ray Variability of Sagittarius A*
Author(s): Joseph Neilsen, Michael Nowak, Charles F. Gammie, Jason Dexter, Sera Markoff, Daryl Haggard, Sergei Nayakshin, Q. Daniel Wang, Nicolas Grosso, Delphine Porquet, John Tomsoč, Nathalie Degenaar, P. Christopher
Fragile\textsuperscript{2}, Rudy Wijnands\textsuperscript{5}, Jon M. Miller\textsuperscript{10}, Frederick K. Baganoff\textsuperscript{3}

\textit{Institution(s):} \textsuperscript{1} Amherst College, \textsuperscript{2} College of Charleston, \textsuperscript{3} MIT Kavli Institute, \textsuperscript{4} Observatoire Astronomique de Strasbourg, CNRS, \textsuperscript{5} University of Amsterdam, \textsuperscript{6} University of California Berkeley, \textsuperscript{7} University of Illinois Urbana-Champaign, \textsuperscript{8} University of Leicester, \textsuperscript{9} University of Massachusetts Amherst, \textsuperscript{10} University of Michigan

\textbf{203.08 The Galactic magnetic field and some of its unexpected implications}

\textit{Author(s):} Glennys R. Farrar\textsuperscript{1}

\textit{Institution(s):} \textsuperscript{1} New York University

\section*{204 AGN, QSO, Blazars III}

\textbf{Tuesday, 10:00 am - 11:30 am; 6C}

\textit{Chair(s):} Daryl Haggard (Amherst College)

\textbf{204.01 Discovery of the First Changing-Look Quasar}

\textit{Author(s):} Stephanie M. LaMassa\textsuperscript{7}, Sabrina Cales\textsuperscript{3}, Edward C. Moran\textsuperscript{6}, Adam D. Myers\textsuperscript{5}, Gordon T. Richards\textsuperscript{1}, Michael Eracleous\textsuperscript{2}, Timothy M. Heckman\textsuperscript{4}, Luigi C. Gallo\textsuperscript{3}, C. Megan Urry\textsuperscript{7}

\textit{Institution(s):} \textsuperscript{1} Drexel University, \textsuperscript{2} Penn State, \textsuperscript{3} St. Mary’s University, \textsuperscript{4} The Johns Hopkins University, \textsuperscript{5} University of Wyoming, \textsuperscript{6} Wesleyan University, \textsuperscript{7} Yale University

\textbf{204.02D The NIR to UV Spectral Energy Distributions of Gamma-Ray Bright Blazars}

\textit{Author(s):} Michael P. Malmrose\textsuperscript{1}, Alan P. Marscher\textsuperscript{1}, Svetlana G. Jorstad\textsuperscript{1}

\textit{Institution(s):} \textsuperscript{1} Boston Univ.

\textbf{204.03 The Effects of S/N on Measuring CIV Broad Emission Line Widths in Quasars - An Early Science Result from the Sloan Digital Sky Survey Reverberation Mapping Project}

\textit{Author(s):} Kelly Denney\textsuperscript{1}

\textit{Institution(s):} \textsuperscript{1} The Ohio State University

\textit{Contributing team(s):} The SDSS-RM Team

\textbf{204.04 Correcting Velocity Dispersion Measurements for Inclination and Implications for the M-Sigma Relation}

\textit{Author(s):} Jillian M. Bellovary\textsuperscript{4}, Kelly Holley-Bockelmann\textsuperscript{4}, Kayhan Gultekin\textsuperscript{2}, Charlotte Christensen\textsuperscript{1}, Fabio Governato\textsuperscript{4}

\textit{Institution(s):} \textsuperscript{1} Grinnell College, \textsuperscript{2} University of Michigan, \textsuperscript{3} University of Washington, \textsuperscript{4} Vanderbilt University

\textbf{204.05 Spectral energy distributions and photometric redshifts for WISE-selected obscured quasars}

\textit{Author(s):} Ryan C. Hickox\textsuperscript{1}, Christopher M Carroll\textsuperscript{1}, Kevin Nicholas Hainline\textsuperscript{1}, Chien-Ting J. Chen\textsuperscript{1}, Adam D. Myers\textsuperscript{2}, Michael A. DiPompeo\textsuperscript{2}

\textit{Institution(s):} \textsuperscript{1} Dartmouth College, \textsuperscript{2} University of Wyoming

\textbf{204.06 What can we learn from the Fourier analysis of blazar light curves?}

\textit{Author(s):} Justin Finke\textsuperscript{1}

\textit{Institution(s):} \textsuperscript{1} US Naval Research Laboratory
TUESDAY, 6 JANUARY 2015

204.07 The Origin of the Extragalactic Gamma-ray Background
Author(s): Marco Ajello², Dario Gasparrini²
Institution(s): ¹ ASI Data Center, ² Clemson
Contribution team(s): on behalf of the Fermi-LAT Collaboration

204.08 How are Seyfert Active Galactic Nuclei Fueled?
Author(s): Erin K. Hicks⁵, Richard Davies³, Witold Maciejewski¹, Matthew Arnold Malkan⁴, Francisco Mueller Sanchez²
Institution(s): ¹ Astrophysics Research Institute, ² Center for Astrophysics and Space Astronomy, ³ Max Plank Institute, ⁴ UCLA, ⁵ University of Alaska Anchorage

205 Supernovae III

Tuesday, 10:00 am - 11:30 am; 6E

Chair(s): Louis-Gregory Strolger (Western Kentucky University)

205.01 Uncovering the Putative B-Star Binary Companion of the SN 1993J Progenitor
Author(s): Ori Dosovitz Fox², Azalee Bostroem³, Schuyler D. Van Dyk¹, Alex Filippenko²
Institution(s): ¹ Caltech, ² UC, Berkeley, ³ UC, Davis

205.02 Explaining the progenitors of peculiar type Ia supernovae
Author(s): Upasana Das¹, Banibrata Mukhopadhyay¹
Institution(s): ¹ Indian Institute of Science

205.04 Chronicling an Era: 15 Years of SN 1987A with Chandra
Author(s): Kari A. Frank¹, David N. Burrows¹
Institution(s): ¹ Pennsylvania State University

205.06D An Optical Study of the Two Youngest Balmer-dominated Supernova Remnants in the Large Magellanic Cloud
Author(s): Luke Hovey², John Patrick Hughes³, Kristoffer Eriksen¹, Curtis McCully²
Institution(s): ¹ LANL, ² Rutgers University

205.07 Death by Dynamics: Can a planet trigger a Type Ia supernova?
Author(s): Rosanne Di Stefano¹, Robert Fisher², James Guillochon¹, James Steiner¹
Institution(s): ¹ Harvard-Smithsonian CfA, ² University of Massachusetts

206 Science with the 3D-HST Survey

Tuesday, 10:00 am - 11:30 am; 610

3D-HST is a 248-orbit spectroscopic survey with the Hubble Space Telescope designed to study galaxy evolution at z>1. 3D-HST provides redshifts and rest-frame optical emission line diagnostics via slitless optical and near-IR grism spectra for a large unbiased sample of galaxies in the distant Universe. The 3D-HST observations, in combination with the tremendous amount of ancillary space- and ground-based data already available, open new possibilities for science and discovery in the deep extragalactic fields also targeted by the CANDELS survey: AEGIS, COSMOS, GOODS-N, GOODS-S and UKIDSS-UDS. With
HST observations and our photometric data release (Skelton et al., 2014) completed, we are planning our next key data release for late 2014. As a result, a AAS session dedicated to results from the survey will be very timely. 3D-HST has already produced over 30 peer-reviewed publications, not only from the survey team but also from the wider community. With this session we would like to bring together researches trying to address a variety of questions regarding galaxy evolution using this unique data set, to showcase the broad range of topics that 3D-HST opens for explorations and to discuss the relevance of this survey for future missions such as WFIRST and JWST. We aim to have eight oral presentations. Currently confirmed speakers will cover the evolution of the mass function, the properties of massive galaxies at high-redshift, the search for the progenitors of z~2 compact quiescent galaxies, the growth of black holes as a function of redshift, and results on the search for the first galaxies. We hope the remaining slots will be filled with contributed talks from outside the team. Additional results can be presented in the accompanying poster session.  

Chair(s): Ivelina Momcheva *(Carnegie Observatories)*

206.01 3D-HST results and prospects  
**Author(s):** Pieter G. Van Dokkum\(^1\)  
**Institution(s):** \(^1\) Yale University

206.02 HST/WFC3 grism spectroscopy of star forming galaxies at z~1: the growth of disks  
**Author(s):** Erica Nelson\(^1\)  
**Institution(s):** \(^1\) Yale University

206.03 The Lyman Continuum Escape Fraction of Dwarf, Star-Forming Galaxies at z~1  
**Author(s):** Michael J. Rutkowski\(^6\), Claudia Scarlata\(^4\), Harry I. Teplitz\(^1\), Matthew Hayes\(^3\), Mara Salvato\(^2\), Melanie Beck\(^4\), Vihang Mehta\(^4\), Anthony Pahl\(^4\)  
**Institution(s):** \(^1\) IPAC-CalTech, \(^2\) MPE, \(^3\) Stockholm University, \(^4\) University of Minnesota

206.04 HST Emission-Line Galaxies at z ~ 2: The Mystery of Neon  
**Author(s):** Gregory Zeimann\(^1\), Robin Ciardullo\(^3\), Caryl Gronwall\(^1\), Henry Gebhardt\(^1\), Alex Hagen\(^1\), Joanna Bridge\(^1\), Jonathan Trump\(^1\), Donald P. Schneider\(^1\)  
**Institution(s):** \(^1\) Penn State University

206.05 The Molecular Gas Contents of z=1.62 cluster galaxies and their Last Gasp of Star Formation  
**Author(s):** Gregory Rudnick\(^6\), Fabian Walter\(^3\), Jacqueline Hodge\(^2\), Casey J. Papovich\(^3\), Kim-Vy Tran\(^3\), Ivelina G. Momcheva\(^7\), Christopher Willmar\(^5\), Amelie Saintonge\(^4\)  
**Institution(s):** \(^1\) Max-Planck-Institute for Astronomy, \(^2\) NRAO, \(^3\) Texas A and M University, \(^4\) University College London, \(^5\) University of Arizona, \(^6\) University of Kansas, \(^7\) Yale University

206.06 Strangers in Our Midst: Massive, Evolved, Highly-obsured Galaxies at z > 1  
**Author(s):** Gabriel Brammer\(^1\)  
**Institution(s):** \(^1\) STScI  
Contributing team(s): 3D-HST Survey Team
206.07 3D-HST/WFC3 grism spectroscopy of distant quiescent galaxies  
Author(s): Katherine E. Whitaker$^1$
Institution(s): $^1$ NASA/GSFC
Contributing team(s): 3D-HST collaboration

207 Extrasolar Planets: Dynamics and Stability of Planetary Systems

Tuesday, 10:00 am - 11:30 am; 616/617
Chair(s): David Charbonneau (Harvard Univ.)

207.01D The orbital dynamics and long-term stability of planetary systems  
Author(s): Katherine Deck$^1$
Institution(s): $^1$ Caltech
Contributing team(s): Matthew Holman, Joshua N. Winn, Eric Agol, Joshua Carter, Matthew Payne, David Nesvorny, Roberto Sanchis-Ojeda, Howard Isaacson, Guillermo Torres, Jack J. Lissauer

207.02D Orbital Architectures of Dynamically Complex Exoplanet Systems  
Author(s): Benjamin E. Nelson$^1$
Institution(s): $^1$ Pennsylvania State University

207.03 Crushed Exoplanet systems: Did it happen here?  
Author(s): Kathryn Volk$^1$, Brett Gladman$^1$
Institution(s): $^1$ University of British Columbia

207.04 Long-lived Chaotic Orbital Evolution of Exoplanets in Mean Motion Resonances with Mutual Inclinations  
Author(s): Rory Barnes$^3$, Russell Deitrick$^3$, Richard Greenberg$^2$, Thomas R. Quinn$^3$, Sean N. Raymond$^1$
Institution(s): $^1$ Laboratoire de Bordeaux, $^2$ University of Arizona, $^3$ University of Washington

207.05 The Outer Architecture of M Dwarf Planetary Systems  
Author(s): Brendan P. Bowler$^1$, Michael C. Liu$^4$, Evgenya Shkolnik$^2$, Motohide Tamura$^3$
Institution(s): $^1$ Caltech, $^2$ Lowell Observatory, $^3$ NAOJ, $^4$ University of Hawaii

207.06 New Insights into Exoplanet System Architectures from Obliquity Measurements of Kepler Planet-Host Stars  
Author(s): Timothy Morton$^1$, Joshua N. Winn$^2$, Erik Petigura$^4$, John Johnson$^1$, Geoffrey W. Marcy$^4$, Andrew Howard$^5$
Institution(s): $^1$ Harvard, $^2$ MIT, $^3$ Princeton University, $^4$ UC, Berkeley, $^5$ University of Hawaii
207.07 The dynamical effects of an outer planet on the evolution and observability of Kepler-11-like systems
Author(s): Agueda Paula Granados Contreras¹, Aaron C. Boley¹
Institution(s): ¹ University of British Columbia

208 Gamma Ray Bursts

Tuesday, 10:00 am - 11:30 am; 618/619
Chair(s): Kyler Kuehn (Argonne National Laboratory)

208.01D Reverse Shocks in Gamma-Ray Bursts: Clues to the Nature of the Relativistic Ejecta
Author(s): Tanmoy Laskar¹, Edo Berger¹, Bevin Zauderer¹, Raffaella Margutti¹
Institution(s): ¹ Harvard University

208.02 The Swift GRB Host Galaxy Legacy Survey
Author(s): Daniel A. Perley¹
Institution(s): ¹ Caltech

208.04 Effects of the Metal Aversion of LGRBs
Author(s): John Graham¹
Institution(s): ¹ Max Planck Institute for extraterrestrial Physics

208.05D Searches for Gravitational Waves Associated with Gamma-Ray Bursts
Author(s): Daniel Hoak¹
Institution(s): ¹ University of Massachusetts, Amherst
Contributing team(s): LIGO Scientific Collaboration, Virgo Collaboration

208.06 RMHD simulations of collision-induced magnetic dissipations in Poynting flux dominated jets
Author(s): Wei Deng², Hui Li¹, Bing Zhang², Shengtai Li³
Institution(s): ¹ Los Alamos National Lab, ² University of Nevada, Las Vegas

208.07 The effect of black hole spin on winds from neutron star merger remnant accretion disks
Author(s): Rodrigo Fernandez², Daniel Kasen², Brian D Metzger¹, Eliot Quataert²
Institution(s): ¹ Columbia University, ² UC Berkeley

209 What Have We Learned from the NSF ADVANCE Program and What’s Next?

Tuesday, 10:00 am - 11:30 am; 606
As exemplified by the recent CSWA Demographics Survey, while the number of women obtaining PhDs in STEM has been increasing for decades, their numbers have yet to reach parity in the upper echelons of the most prestigious jobs, and overall they are still underrepresented in almost all academic fields. The NSF ADVANCE program, which began in 2001 and invested over $135 million in projects, endeavored to increase the representation and advancement of women in academic STEM careers by addressing specific aspects of academic/institutional culture that affected women differently. Such aspects include, but
are not limited to, stereotype threat, explicit and implicit bias, sexual harassment, lack of family leave support/policies that treat women equally, and lack of women in leadership and decision-making positions. From the NSF ADVANCE summary, “The cumulative effect of such diverse factors has been to create infrastructural barriers that impact the number of women entering, persisted and advancing in STEM careers.” The goal of ADVANCE, which ceased awarding grants in 2012, was to “seminal contribute to and inform the general knowledge base on gender equity in the academic STEM disciplines.” This Special Session will highlight the most influential (measurable) outcomes of NSF ADVANCE towards meeting its goals, focusing on broadly-applicable best practices and knowledge gained, not (just) specific products/statistics. E.g., if an institution increased participation of undergraduate women in STEM from 20% to 30%, how did they do it, what were the challenges, how do they plan to continue, how is their strategy transferable to other institutions? In this session we will hear from speakers with a diverse background in promoting the equity of women in STEM to learn from their experiences, with the aim of bringing together more universal policies and recommendations to help equalize women (and all minority) participation and advancement in Astronomy. This session will also be open for posters that discuss evidence-based, proactive research and programming related to women and minority equity in Astronomy. NSF ADVANCE was a momentous effort from the national government and many individuals, and with this session we want to pause and assess where we are after ADVANCE, and the best directions to move in the near future.

Chair(s): Neil Gehrels (NASA’s GSFC)

209.01 Has ADVANCE Affected Senior Compared to Junior Women Scientists Differently?
Author(s): Sue Rosser
Institution(s): San Francisco State University

209.02 Successful ADVANCE Initiatives for Junior Women Faculty in STEM
Author(s): Eve Riskin
Institution(s): University of Washington

209.03 Individuals and Institutions: How to Advance Women in Science
Author(s): Virginia Valian
Institution(s): Hunter Coll & CUNY Grad Ctr

209.04 Advancing Women in STEM at Florida International University
Author(s): Caroline E. Simpson
Institution(s): Florida International Univ.

210 Molecular Clouds, HII Regions, Interstellar Medium III

Tuesday, 10:00 am - 11:30 am; 607
Chair(s): Vikram Dwarkadas (Univ. of Chicago)

210.01 The relative orientation between the magnetic field and structures traced by interstellar dust
Author(s): Andrea Bracco
Institution(s): Institut d’Astrophysique Spatiale
Contributing team(s): On behalf of the Planck Collaboration
210.02D Investigating the Life Cycle of Molecular Clouds in the Andromeda Galaxy
Author(s): Lori Beerman, Julianne Dalcanton, Andreas Schruba, Adam K. Leroy, Lent C. Johnson, Daniel R. Weisz, Morgan Fouesneau
Institution(s): 1 Max Planck Institute for Astronomy, 2 Max Planck Institute for Extraterrestrial Physics, 3 National Radio Astronomy Observatory, 4 University of Washington
Contributing team(s): PHAT Collaboration

210.03 What you (think) you see is what you get: A case study concerning interstellar HI structure
Author(s): Gerrit L. Verschuur, Mahboubeh Asgari-Targhi
Institution(s): 1 Center for Astrophysics, 2 University of Memphis

210.04 Dense Molecular Gas in the First Galactic Quadrant: A New Distance Estimation Technique and the Molecular Cloud Clump Mass Function, Physical Properties, and Galactic Distribution from the Bolocam Galactic Plane Survey
Author(s): Jason Glenn, Timothy Ellsworth-Bowers
Institution(s): 1 Univ. of Colorado
Contributing team(s): Bolocam Galactic Plane Survey

210.05 Behavior of C/O vs. O/H through MCMC Chemical Abundance Determination
Author(s): Maria Angeles Peña-Guerrero, Claus Leitherer
Institution(s): 1 Space Telescope Science Institute

210.06D Time-Dependent Diffusive Shock Acceleration in Slow Supernova Remnant Shocks
Author(s): Tang Xiaping, Roger Chevalier
Institution(s): 1 University of Virginia

211 Star Formation III
Tuesday, 10:00 am - 11:30 am; 608
Chair(s): Cara Battersby (Harvard-Smithsonian Center for Astrophysics)

211.01 The Real Protostars and Star Formation Relations in the Solar Neighborhood
Author(s): Amanda L. Heiderman
Institution(s): 1 University of Virginia
Contributing team(s): Spitzer c2d and Gould Belt survey Teams

211.02D New benchmarks on studying the growth of galaxies at z < 3 from deep infrared surveys
Author(s): Adam R. Tomczak, Kim-Vy Tran, Ryan Quadri, Casey J. Papovich, Ivo Labbe, Caroline Straatman
Institution(s): 1 Sterrewacht Leiden, 2 Texas A&M University
Contributing team(s): ZFOURGE

211.03 Triggered star-formation in the bright rimmed globule IC1396A
Author(s): Nimesh A. Patel, Aurora Sicilia-Aguilar, Paul Goldsmith
Institution(s): 1 Harvard-Smithsonian Center for Astrophysics, 2 Jet Propulsion Laboratory, 3 University of St Andrews
211.04 Spatially Resolved Magnetic Field Structure in the Disk of a T Tauri Star
Author(s): Ian Stephens², Leslie Looney³, Woojin Kwon², Manuel Fernandez Lopez², A. Meredith Hughes³, Lee G. Mundy³, Richard Crutcher⁴, Zhi-Yun Li⁵, Ramprasad Rao⁶, Dominique Segura-Cox⁴
Institution(s): ¹ Academia Sinica, ² Boston University, ³ SRON Netherlands Institute for Space Research, ⁴ University of Illinois at Urbana-Champaign, ⁵ University of Maryland, ⁶ University of Virginia, ⁷ Wesleyan University

211.05 Dust and Gas Emission from MIR Bubble N56
Author(s): Kathryn E. Devine¹, Christer Watson², Tierra Candelaria¹, Paula Rodriguez², Cassiemarie Low³, Joseph Pickett¹
Institution(s): ¹ College of Idaho, ² Manchester University

211.06D The state of the art in smoothed particle magnetohydrodynamics simulations
Author(s): Terrence Tricco¹
Institution(s): ¹ University of Exeter

212 Dwarf and Irregular Galaxies II
Tuesday, 10:00 am - 11:30 am; 609
Chair(s): Heidi Newberg (Rensselaer Polytechnic Inst.)

212.01 Ultra-Compact Dwarfs Forming in Stellar Streams
Author(s): Zachary G Jennings², Jean P. Brodie², Aaron J. Romanowsky¹
Institution(s): ¹ San Jose State University, ² UC Santa Cruz
Contributing team(s): SAGES Collaboration

212.02 The Role of Dwarf-Dwarf Interactions in the Evolution of Low Mass Galaxies
Author(s): Sabrina Stierwalt², Gurtina Besla³, David R. Patton³, Kelsey E. Johnson³, Nitya Kallivayalil³, Mary E. Putman¹, George C. Privon³, Glen Ross³
Institution(s): ¹ Columbia University, ² Steward Observatory, ³ Trent University, ⁴ Universidad de Concepcion, ⁵ University of Virginia

212.03D Dwarf Galaxies in Voids: Galaxy Luminosity and HI Mass Functions Using SDSS and ALFALFA
Author(s): Crystal M Moorman¹, Michael S Vogeley¹
Institution(s): ¹ Drexel University
Contributing team(s): ALFALFA Collaboration

212.04 Stellar Kinematics and Structural Properties of Virgo Cluster Dwarf Early-Type Galaxies from the SMAKCED Project
Author(s): Elisa Toloba⁷, Puragra Guhathakurta⁷, Reynier Peletier³, Alessandro Boselli⁴, Thorsten Lisker⁶, Eric Emsellem⁵, Joshua D. Simon¹, Glenn van de Ven⁵
Institution(s): ¹ Carnegie Observatories, ² ESO, ³ Kapteyn Astronomical Institute, ⁴ Laboratoire d'Astrophysique de Marseille-LAM, ⁵ MPIA, ⁶ University of Heidelberg, ⁷ University of California Santa Cruz
Contributing team(s): SMAKCED collaboration
212.05  Next Generation Virgo Survey Photometry and Keck/DEIMOS Spectroscopy of Globular Cluster Satellites of Dwarf Elliptical Galaxies in the Virgo Cluster  
**Author(s):** Puragra Guhathakurta\(^7\), Elisa Toloba\(^7\), Eric W Peng\(^4\), Biao Li\(^5\), Stephen Gwyn\(^3\), Laura Ferrarese\(^3\), Patrick Cote\(^3\), Jason Chu\(^2\), Lea Sparkman\(^1\), Stephanie Chen\(^5\), Samyukta Yagati\(^7\), Meredith Muller\(^7\)  
**Institution(s):** 1. Castilleja School, 2. Harker School, 3. HIA, 4. KIAA, 5. Peking University, 6. Stanford University, 7. UC, Santa Cruz  
**Contributing team(s):** Next Generation Virgo Survey collaboration

212.06  Ultra-deep H-alpha Imaging of Nearby Dwarf Galaxies  
**Author(s):** Janice C. Lee\(^1\)  
**Institution(s):** 1. Space Telescope Science Institute

212.07  Escape fraction of ionizing photons from a dwarf galaxy NGC 4214  
**Author(s):** Yumi Choi\(^5\), Morgan Fouesneau\(^1\), Karl D. Gordon\(^3\), Benjamin F. Williams\(^3\), Julianne Dalcanton\(^5\), Daniel R. Weisz\(^5\), Heddy Arab\(^3\), Karin Sandstrom\(^4\), Andrew E. Dolphin\(^2\)  
**Institution(s):** 1. MPIA, 2. Raytheon Company, 3. STScI, 4. University of Arizona, 5. University of Washington

212.08  Herschel's View of LITTLE THINGS Metal-Poor Dwarf Galaxies  
**Author(s):** Phil Cigan\(^4\), Lisa Young\(^4\), Diane Cormier\(^2\), Vianney Lebouteiller\(^1\), Deirdre Ann Hunter\(^3\), Suzanne Madden\(^1\)  
**Institution(s):** 1. CEA Saclay, 2. Heidelberg University, 3. Lowell Observatory, 4. New Mexico Tech  
**Contributing team(s):** LITTLE THINGS

213 Star Associations, Star Clusters - Galactic & Extra-galactic I

**Tuesday, 10:00 am - 11:30 am; 611**

**Chair(s):** Russel White (Georgia State University)

213.01D  Old Star Clusters in Spiral Galaxies: M101 as a Case Study  
**Author(s):** Lesley Ann Simanton\(^1\)  
**Institution(s):** 1. University of Toledo

213.02  The High Mass Stellar IMF in M31  
**Author(s):** Daniel R. Weisz\(^4\)  
**Institution(s):** 2. Univ. of Washington  
**Contributing team(s):** PHAT

213.03D  PHAT Star Clusters in M31: Insight on Environmental Dependence of Star & Cluster Formation  
**Author(s):** Lent C. Johnson\(^3\), Julianne Dalcanton\(^3\), Anil Seth\(^2\), Lori Beerman\(^3\), Alexia Lewis\(^3\), Morgan Fouesneau\(^1\), Daniel R. Weisz\(^3\)  
**Institution(s):** 1. Max Planck Institute for Astronomy, 2. University of Utah, 3. University of Washington  
**Contributing team(s):** Andromeda Project Team, PHAT Team
TUESDAY, 6 JANUARY 2015

213.04 Lifetimes of isolated hierarchical triple stars
Author(s): Mauri J. Valtonen², Aleksandr Mylläri³
Institution(s): ² St. George’s Univ., ³ Univ. Turku

213.05 Galaxy Evolution and the Survival of Globular Clusters
Author(s): Juan P. Madrid₂, Jarrod Hurley³, Marie Martig³, Nathan Leigh³
Institution(s): ² American Museum of Natural History, ³ Gemini Observatory, ³ Max-Planck-Institut für Astronomie, ⁴ Swinburne Univ.

213.06D Spitzer Local Volume Legacy (LVL) Star-Forming Regions: Luminosity Functions
Author(s): David O. Cook², Daniel A. Dale², Janice C. Lee³
Institution(s): ² Space Telescope Science Institute, ³ University of Wyoming
Contributing team(s): LVL Team

214 Pulsars in the High Energy Regime
Tuesday, 10:00 am - 11:30 am; 612
Chair(s): Stefanie Wachter (MPIA)

214.01 When a Standard Candle Flickers: Hard X-ray Variations in the Crab Nebula
Institution(s): ¹ CalTech, ² CRESST & NASA/GSFC, ³ DESY, ⁴ IEECC-CSIC, ⁵ INAF-IASF, ⁶ ISOC/ESA/ESAC, ⁷ La Sierra Univ., ⁸ LANL, ⁹ LSU, ¹⁰ MPE, ¹¹ NASA’s GSFC, ¹² NASA’s MSFC, ¹³ SDU/NRAO, ¹⁴ UAH, ¹⁵ Univ. of Birmingham, ¹⁶ USRA/MSFC

214.02 Spectra and Polarization from Comptonized Emission in Magnetar Flares
Author(s): Joseph Barchas¹, Matthew G. Baring¹
Institution(s): ¹ Rice University

214.03 X-ray jets from B2224+65: A Middle-aged Pulsar’s New Trick
Author(s): Q. Daniel Wang¹, Seth Johnson¹
Institution(s): ¹ Univ. of Massachusetts

214.04 X-ray analysis of the proper motion and PWN for PSR J1741-2054
Author(s): Katie Auchettl², Patrick O. Slane², Roger W. Romani³, Oleg Kargaltsev¹, George G. Pavlov³
Institution(s): ² George Washington University, ² Harvard-Smithsonian Center for Astrophysics, ³ Penn State University, ⁴ Stanford University

214.05 New view of the Vela pulsar from Fermi LAT
Author(s): Giovanna Pivato³, Philippe Bruel¹, Alice Kust Harding², Massimiliano Razzano⁶
Institution(s): ¹ LLR - Ecole Polytechnique, ² NASA Goddard Space Flight Center, ³ University of Pisa
Contributing team(s): Fermi LAT Collaboration
214.06 Two-Photon Pair Creation Opacities in Gamma-Ray Pulsars
Author(s): Matthew G. Baring¹, Sarah Story¹
Institution(s): ¹ Rice University

214.07 Magnetoluminescence - Rapid Release of Electromagnetic Energy in Relativistic Sources
Author(s): Roger D. Blandford¹, Yajie Yuan¹, Jonathan Zrake¹
Institution(s): ¹ KIPAC, Stanford University

214.08 The Neutron Star Interior Composition Explorer (NICER) mission: post-CDR status update
Author(s): Zaven Arzoumanian¹, Keith Gendreau¹
Institution(s): ¹ NASA/GSFC
Contributing team(s): NICER Team

214.09 Determining neutron star masses and radii via analysis of NICER energy-resolved waveform data
Author(s): M. Coleman Miller¹, Frederick K. Lamb²
Institution(s): ¹ Univ. of Maryland, ² University of Illinois

215 HAD VI: History of Astronomy
Tuesday, 10:00 am - 11:30 am; 615
Chair(s): Thomas Hockey (University of Northern Iowa)

215.01 Hawaii and the Real-Time Evolution of Cultural Astronomy
Author(s): Stephanie Slater², Ahia Dye¹, Celeste Ha’o¹, Timothy F. Slater³, Kalepa Chad Baybayan¹, Rubellite Johnson², John Mahelona³, Clive Ruggles²
Institution(s): ¹ ‘Imiloa Astronomy Center, ² CAPER Ctr Phys and Astro Educ Res

215.02 Kilohoku - Ho’okele Wa’a: Hawaiian Navigational Astronomy
Author(s): Ahia Dye¹, Celeste Ha’o¹, Timothy F. Slater³, Stephanie Slater²
Institution(s): ¹ ‘Imiloa Astronomy Center of Hawai’i, ² CAPER: Ctr for Astro & Phys Ed Res, ³ University of Wyoming

215.03 Tracking the Origins of an Ancient Star Scene on a Nova Scotian Chancel Ceiling
Author(s): David G. Turner¹
Institution(s): ¹ Saint Mary’s Univ.

215.04 Universe boundary in Einstein 1931 same as Lemaître 1927
Author(s): Ian Steer¹
Institution(s): ¹ NED

215.05 400th Anniversary of Marius’s Book with the First Image of an Astronomical Telescope and of Orbits of Jovian Moons
Author(s): Jay M. Pasachoff², Pierre Leich¹
Institution(s): ¹ Nürnberger Astronomische Gesellschaft e.V, ² Williams College

215.06 A Modern Update and Usage of Historical Variable Star Catalogs
Author(s): Ashley Pagnotta¹, Or Graur², Zachary Murray¹, Julia Kruk¹, Lucien Christie-Dervaux¹, Dong Yi Chen¹
Institution(s): ¹ American Museum of Natural History, ² New York University
TUESDAY, 6 JANUARY 2015

215.07 What Can a Historian Do with AstroGen?
Author(s): Joseph S. Tenn
Institution(s): 1 Sonoma State Univ.

216 Dust

Tuesday, 10:00 am - 11:30 am; 620

Chair(s): Geoffrey Clayton (Louisiana State Univ.)

216.01 The Origin of Dust in the Magellanic Clouds
Author(s): Tea Temim
Institution(s): 1 NASA GSFC

216.02D A Unified Model of Polarized Extinction and Emission from Interstellar Dust
Author(s): Brandon Hensley, Bruce T. Draine
Institution(s): 1 Princeton University

216.03 Spitzer-IRS Spectroscopic Studies of Oxygen-Rich Asymptotic Giant Branch Star and Red Supergiant Star Dust Properties
Author(s): Benjamin A. Sargent, Sundar Srinivasan, Angela Speck, Kevin Volk, Ciska Kemper, William T. Reach, Eric Lagadec, Jean-Philippe Bernard, Iain McDonald, Margaret Meixner
Institution(s): 1 Academia Sinica, Institute of Astronomy and Astrophysics, 2 Cornell University, 3 IRAP/CNRS, 4 Rochester Institute of Technology, 5 SOFIA/USRA, 6 Space Telescope Science Institute, 7 The University of Manchester, 8 University of Missouri

216.04 Dust and metallicity in carbon stars
Author(s): Gregory C. Sloan, Martin Groenewegen, Sundar Srinivasan, Eric Lagadec, Kathleen E. Kraemer, Iain McDonald, Martha L. Boyer, Albert Zijlstra, Ciska Kemper
Institution(s): 1 Academia Sinica Institute for Astronomy and Astrophysics, 2 CRSR, Cornell University, 3 Inst. for Scientific Research, Boston College, 4 Jodrell Bank Centre for Astrophysics, 5 NASA Goddard Space Flight Center, 6 Observatoire de la Cote d’Azur, 7 Royal Observatory of Belgium

216.05 A Test of Dust Grain Alignment via Far-Infrared Polarization
Author(s): John E. Vaillancourt, B-G Andersson
Institution(s): 1 SOFIA / USRA

Education and Public Outreach, Student Welcome:
Dr. Aomawa Shields

Tuesday, 11:30 am - 12:00 pm, 4C-3
Emily Levesque (University of Boulder, Colorado) - The Annie Jump Cannon Prize

The Annie Jump Cannon Prize is awarded to Emily Levesque for her innovative work using gamma-ray bursts (GRBs) to explore fundamental questions of stellar astrophysics and cosmology. Her broad expertise has led to impactful work in several different areas including the metallicity characteristics of the interstellar environments of GRB host galaxies, the effects of stellar rotation on the ionization environment and the implications for measuring extragalactic stellar populations, and the fundamental properties of red supergiants. Her work has provided a deeper understanding of stars near and far, and will inspire their use as important cosmological probes.

217.01 New Frontiers in Stellar Astrophysics: Massive Stars as Cosmological Tools
Author(s): Emily M. Levesque
Institution(s): 1 University Of Colorado Boulder

Career Hour 3: Developing Your 30-Second Value Statement (aka Your Elevator Pitch)

Tuesday, 12:30 pm - 1:30 pm; 618/619

I have a brand and you have a brand. A brand is simply a promise of value and every successful professional and company is successful in part because they know how to articulate their brand. The ability to communicate your promise of value is vitally important for not only crafting your own career path, but also for finding out about hidden opportunities and jobs. In this workshop, we learn the fundamentals of branding as it relates to career development and planning strategy. We will work together to develop your own 30-second brand statement which you can use in networking, and informational and job interviews. We will discuss the connection between brand, attitude and reputation, and why every interaction with someone affects how people perceive your brand. You will leave this workshop with the ability to elucidate your own brand to whomever you meet, giving you a critical competitive edge in your career and the job market.

 Organizer(s): Alaina Levine (Quantum Success Solutions)
Key NOAO initiatives developed in concert with NSF, DOE, and the community are starting to deliver major new research tools to the US community-at-large. The ultra-wide-field Dark Energy Camera at the CTIO Blanco 4-m is a major success. New twin, high-throughput, multi-object, optical spectrometers are operational at the Blanco and the KPNO Mayall 4-m. A new, cross-dispersed, near-infrared spectrometer is arriving at the Blanco in early 2015. Prospects have greatly improved for deployment of the Dark Energy Spectroscopic Instrument on the Mayall in 2018. Several new Big Data science initiatives have been launched to support community use of public data products from the Dark Energy Survey, Zwicky Transient Factory, and LSST projects. In parallel, NOAO remains a gateway to the Gemini 8-m telescopes with their steadily improving instrumentation suite and is leading an effort to develop a plans for possible federal involvement in TMT in the 2020s. Join us for a brief status report of these and other NOAO developments, after which the NOAO director will leave ample time to answer questions from the floor. Priority for NOAO to deliver capabilities and services to enable a broad range of high-impact research by the US community. Key components of the transformed NOAO program include open access to world-class imagers and spectrometers on 4-m and 8-m class telescopes as well as open access to rich, mega-object datasets. Join us for a brief presentation about the transformed NOAO, after which the NOAO director will leave ample time to answer questions from the floor.

Chair(s): David Silva (National Optical Astronomy Observatory)

For Undergrads & Other Inquiring Minds: Dwarf Irregular Galaxies, Deidre A. Hunter (Lowell Observatory)

Dwarf irregular galaxies are an enigma. They are more common than spirals in the local universe and yet we do not understand their driving evolutionary forces. I will describe some of what we know about dwarf irregular galaxies and outstanding problems. The issues include how stars form in low gas density environments, how extended stellar disks in which the starlight drops off exponentially from the center of the galaxy are formed and maintained in dwarfs, what happens where the exponential stellar profile abruptly changes slope, and what are the consequences of the different molecular cloud structure at the low abundances found in dwarfs.

New Capabilities at the National Radio Astronomy Observatory (NRAO)

Hosted by the National Radio Astronomy Observatory (NRAO) scientific staff, this Splinter Session is designed to assist members of the astronomical community who may be new to radio-wavelength observations. This Session will showcase the cutting-edge
capabilities available at each of the four state-of-the-art NRAO telescopes: the Green Bank Telescope (GBT), the Jansky Very Large Array (VLA), the Very Long Baseline Array (VLBA), and the Atacama Large Millimeter/submillimeter Array (ALMA). Following short talks highlighting exciting science that can be done with each telescope, there will be an opportunity to chat informally with NRAO experts about science, observing proposal ideas, and synergies with other facilities. NRAO staff members will also provide hands-on assistance for persons interested in GBT, VLA/VLBA, and ALMA observing proposals in advance of the 1 February GBT-VLA-VLBA and spring ALMA proposal deadlines. To use the NRAO proposal preparation and observing tools, you will need an NRAO account. If you do not have one yet, please sign up at my.nrao.edu. No previous radio-wavelength experience is necessary to attend and benefit from this Splinter Session, and we strongly encourage new and potential NRAO facility users to attend. For questions or comments, please contact Alison Peck (apeck AT nrao.edu).

Organizer(s): Alison Peck (NRAO/ALMA)

219 Extrasolar Planets: Ground and Space Based Surveys II

Tuesday, 2:00 pm - 3:30 pm; 6A

Chair(s): Ronald Polidan (Northrop Grumman Aerospace Systems)

219.01D Aiming for the next bright super earth — Synergies of Ground and Space based Transiting Planets Survey
Author(s): Xu Huang¹, Gaspar Bakos¹, Joel Hartman¹
Institution(s): ¹ Princeton University
Contributing team(s): HATNet Team

219.02D Transits and Occultations of Hot Jupiters
Author(s): Korey Haynes¹
Institution(s): ¹ George Mason University

219.04 ExoEarth Yield Estimates for a Future Large Aperture Direct Imaging Mission
Author(s): Christopher C. Stark², Aki Roberge², Avi Mandell², Shawn Domagal-Goldman², Karl R. Stapelfeldt², Tyler Robinson¹
Institution(s): ² NASA Ames Research Center, ² NASA Goddard Space Flight Center

219.05 Defining A Risk Analysis Strategy for Exo-Earth Yields from a Future Large Aperture UVOIR Space Telescope
Author(s): Avi Mandell², Christopher C. Stark², Aki Roberge², Shawn Domagal-Goldman², Karl R. Stapelfeldt², Tyler Robinson¹
Institution(s): ² NASA ARC, ² NASA GSFC

219.06 Visible Wavelength Exoplanet Phase Curves from Global Albedo Maps
Author(s): Matthew Webber⁴, Kerri Lynn Cahoy¹
Institution(s): ¹ Massachusetts Institute of Technology

219.07 Studying Atmosphere-Dominated Kepler Phase Curves
Author(s): Avi Shporer¹, Renyu Hu¹
Institution(s): ¹ JPL
TUESDAY, 6 JANUARY 2015

220 Cosmic Microwave Background

Tuesday, 2:00 pm - 3:30 pm; 6B
Chair(s): Joaquin Vieira (University of Illinois at Urbana-Champaign)

220.01D Measuring the cosmic microwave background polarization with POLARBEAR
Author(s): Darcy Barron
Institution(s): 1 University of California, San Diego
Contributing team(s): The POLARBEAR Collaboration

220.02 SPT-3G: The third generation camera and survey for the South Pole Telescope
Author(s): Jason Henning
Institution(s): 1 University of Chicago
Contributing team(s): SPT-3G Collaboration

220.03D Design, deployment, and early results from ACTPol, a millimeter wavelength, polarization sensitive receiver for the Atacama Cosmology Telescope
Author(s): Benjamin Schmitt
Institution(s): 1 University of Pennsylvania
Contributing team(s): for the ACTPol Collaboration

220.04D Gravitational lensing of the CMB with SPTpol
Author(s): Kyle Tyler Story
Institution(s): 1 University of Chicago
Contributing team(s): SPTpol collaboration

221 AGN, QSO, Blazars IV

Tuesday, 2:00 pm - 3:30 pm; 6C
Chair(s): Britt Lundgren (Yale University)

221.01D AGN accretion, obscuration and star formation in luminous galaxies
Author(s): Chien-Ting J. Chen, Ryan C. Hickox, Stacey Alberts, Alexandra Pope
Institution(s): 1 Dartmouth College, 2 University of Massachusetts
Contributing team(s): The Boötes Collaboration

221.02D Accretion Timescales from Kepler AGN
Author(s): Vishal P. Kasliwal, Michael S. Vogeley, Gordon T. Richards
Institution(s): 1 Drexel University

221.03 The Emission Line AGN Census: Biases of Line Ratio Selection, and Uniform Black Hole Accretion Regardless of Galaxy Mass
Author(s): Jonathan R. Trump, Gregory Zeimann, Stephanie Juneau, Mouyuan Sun, Cuyler Luck
Institution(s): 1 CEA-Saclay, 2 Penn State, 3 State College High School

221.04D Radio-Quiet Quasars in the VIDEO Survey: Evidence for AGN-powered radio emission below 1 mJy
Author(s): Sarah White, Matt Jarvis, Boris Haeussler, Natasha Maddox
Institution(s): 1 ASTRON, 2 University of Oxford
221.05 Stellar Tidal Disruption Event Rates as Probes of the Supermassive Black Hole Mass Function  
**Author(s):** Nicholas Stone\(^1\), Brian D Metzger\(^1\)  
**Institution(s):** \(^1\) Columbia University

221.06 The Dark Matter Halos of Moderate Luminosity AGN  
**Author(s):** Alexie Leauthaud\(^5\), Andrew Benson\(^1\), Francesca M. Civano\(^9\), Alison L. Coil\(^8\), Kevin Bundy\(^4\), Richard Massey\(^2\), Malte Schramm\(^5\), Andreas Schulze\(^6\), Peter L. Capak\(^7\), Martin Elvis\(^3\), Andrea Kulier\(^6\), Jason Rhodes\(^4\)  
**Institution(s):** \(^1\) Carnegie, \(^2\) Durham University, \(^3\) Harvard Smithsonian Center, \(^4\) JPL, \(^5\) Kavli Institute for the Physics and Mathematics of the Universe, \(^6\) Princeton, \(^7\) Spitzer Science Center, \(^8\) University of California at San Diego, \(^9\) Yale

### 222 The NuSTAR Extended Mission

Tuesday, 2:00 pm - 3:30 pm; 6E

The Nuclear Spectroscopic Telescope Array (NuSTAR), launched in June 2012, is the first focussing hard X-ray mission in orbit and has opened the high-energy (>10 keV) sky to sensitive study. NuSTAR has been approved for extended mission, starting in late 2014, will be comprised of a mixture of Guest Observer (GO) programs (50%), large legacy Galactic and extragalactic surveys (25%), as well as Target of Opportunity (ToO) and Director’s Discretionary (DD) time (25%). The legacy surveys will be planned and executed by the NuSTAR science team based on community input. All survey data will be released publicly after validation.  
**Chair(s):** Daniel Stern *(JPL/ Caltech)*

222.01 NuSTAR Galactic Center Survey  
**Author(s):** Kaya Mori\(^1\)  
**Institution(s):** \(^1\) Columbia University  
**Contributing team(s):** NuSTAR

222.02 NuSTAR Norma Arm Survey  
**Author(s):** Francesca Fornasini\(^1\)  
**Institution(s):** \(^1\) University of California-Berkeley  
**Contributing team(s):** NuSTAR

222.03 The NuSTAR Galactic Plane Survey: The Legacy Program  
**Author(s):** Charles James Hailey\(^1\)  
**Institution(s):** \(^1\) Columbia Univ.  
**Contributing team(s):** NuSTAR

222.04 The NuSTAR Survey of Swift/BAT Sources  
**Author(s):** Mislav Balokovic\(^1\)  
**Institution(s):** \(^1\) California Institute of Technology  
**Contributing team(s):** NuSTAR

222.05 The NuSTAR Serendipitous Survey  
**Author(s):** George B Lansbury\(^1\)  
**Institution(s):** \(^1\) Durham University  
**Contributing team(s):** NuSTAR
222.06 The NuSTAR Survey of the COSMOS Field  
Author(s): Francesca M. Civano¹  
Institution(s): ¹ Dartmouth College  
Contributing team(s): NuSTAR

222.07 The NuSTAR Survey of the Extended Chandra Deep Field South (ECDFS)  
Author(s): James Mullaney¹  
Institution(s): ¹ Durham University  
Contributing team(s): NuSTAR

222.08 The NuSTAR Extragalactic Surveys: Number Counts and Directly Resolved Fraction of the Cosmic X-ray Background  
Author(s): James Aird¹  
Institution(s): ¹ Durham University  
Contributing team(s): NuSTAR

222.09 Extended Mission NuSTAR Extragalactic Survey Plans  
Author(s): Daniel Stern¹  
Institution(s): ¹ JPL/Caltech  
Contributing team(s): NuSTAR

223 Luminous Stars in Nearby Galaxies and the Local Group  
Tuesday, 2:00 pm - 3:30 pm; 610  
Chair(s): Mike Reed (Missouri State Univ.)

223.01 Caught in the Act: Imaging the Disk and Outflows in V Hya, a carbon-rich AGB star in transition to a Bipolar Pre-Planetary Nebula  
Author(s): Raghvendra Sahai¹, Jayadev Rajagopal², Mark Morris³, Kenneth H. Hinkle², Richard R. Joyce²  
Institution(s): ¹ JPL, 2. NOAO, 3. UCLA

223.02 A Direct Measurement of Lifetimes and Stellar Luminosities on the AGB  
Author(s): Jason S. Kalirai³, Paola Marigo², Pier-Emmanuel Tremblay¹  
Institution(s): ¹ Space Telescope Science Institute, ² Universita’ di Padova

223.03 Direct Observational Constraints on Models of Rapidly Evolving Luminous Stars  
Author(s): Philip Rosenfield⁴, Julianne Dalcanton³, Alessandro Bressan², Leo Girardi¹, Paola Marigo⁴  
Institution(s): ¹ INAF, ² SISSA, ³ University of Washington, ⁴ Università Degli Studi Di Padua  
Contributing team(s): ANGST Team

223.04 Eta Carinae’s first full orbit in the Fermi era  
Author(s): Olaf Reimer², Klaus Reitberger², Anita Reimer², Hiromitsu Takahashi¹  
Institution(s): ¹ Hiroshima University, ² Innsbruck University  
Contributing team(s): Fermi-LAT collaboration

223.05 An Emerging Class of Extragalactic Self-Obscured Stars  
Author(s): Rubab M. Khan¹  
Institution(s): ¹ NASA GSFC
223.06D Observed rotational properties of the O-type stars in 30 Doradus: single stars and binaries

Author(s): Oscar Hernan Ramirez Agudelo¹, Hugues Sana², Alex de Koter¹, Frank Tramper¹, Selma de Mink¹

Institution(s): ¹ Anton Pannekoek Institute, University of Amsterdam, ² ESA/Space Telescope Science Institute 3700 San Martin Drive

Contributing team(s): VLT-FLAMES Tarantula Survey

223.07 First OB-stars in the iron-poor Local Group galaxy sextans A

Author(s): Ines Camacho¹

Institution(s): ¹ Instituto de Astrofisica de Canarias

224 Extrasolar Planets: Formation and Evolution

Tuesday, 2:00 pm - 3:30 pm; 616/617

Chair(s): Shawn Domagal-Goldman (NASA Goddard Space Flight Center)

224.01D Debris from giant impacts - signatures of forming and dynamic planetary systems

Author(s): Alan Patrick Jackson¹

Institution(s): ¹ Arizona State University

224.02 Hazy Archean Earth as an Analog for Hazy Earthlike Exoplanets

Author(s): Giada Arney³, Victoria Meadows³, Shawn Domagal-Goldman¹, Mark Claire², Edward Schwieterman³

Institution(s): ¹ Goddard Space Flight Center, ² University of St. Andrews, ³ University of Washington

224.03 Atmospheric Escape from Super-Earths and Mini-Neptunes: Determining the Limits of Hydrogen Atmospheres

Author(s): Ruth Murray-Clay¹

Institution(s): ¹ University of California, Santa Barbara

224.04 Structures, Cooling, and Mass Loss for Super-Earths and Sub-Neptunes

Author(s): Alex Howe¹, Adam Seth Burrows¹

Institution(s): ¹ Princeton University

224.06 Planets migrating into stars: Rates and Signature

Author(s): Stuart F. Taylor¹

Institution(s): ¹ Participation Worldscope

224.07 Chemical Constraints on Hot Jupiter Migration

Author(s): Nikku Madhusudhan¹, Mustafa A. Amin¹, Grant M. Kennedy¹

Institution(s): ¹ Institute of Astronomy, University of Cambridge

225 Stellar and Intermediate-Mass Black Holes

Tuesday, 2:00 pm - 3:30 pm; 618/619

Chair(s): Kent Wood (NRL)

225.01 A Bayesian Model for the Detection of X-ray Binary Black Holes

Author(s): Giri Gopalan², Luke Bornn², Saku Vrtilek¹

Institution(s): ¹ Harvard CFA, ² Harvard University
225.02D Inner Accretion Disk Regions of Black Hole X-ray Binaries  
Author(s): Greg Salvesen¹  
Institution(s): ¹ University of Colorado at Boulder

225.03D Listening to the beat of a 400 solar-mass, middle-weight black hole  
Author(s): Dheeraj R Pasham², Tod E. Strohmayer¹, Richard Mushotzky²  
Institution(s): ¹ NASA/GSFC, ² University of Maryland College Park

225.04 Do Magnetic Fields Destroy Black Hole g-Modes?  
Author(s): Manuel Ortega-Rodriguez², Hugo Solis-Sanchez², Agustin Arguedas-Leiva², Robert V. Wagoner¹, Adam Levine¹  
Institution(s): ¹ Stanford University, 2. Universidad de Costa Rica

225.05 The effect of spectral state transitions in accretion onto black holes regulated by radiative feedback  
Author(s): KwangHo Park², Massimo Ricotti³, Tiziana DiMatteo¹, Christopher S. Reynolds¹, Tamara Bogdanovic²  
Institution(s): ¹ Carnegie Mellon University, ² Georgia Institute of Technology, ³ University of Maryland at College Park

225.06 Thin Disks Gone MAD: Magnetically Arrested Accretion in the Thin Regime  
Author(s): Mark J. Avara¹, Jonathan C. McKinney¹, Christopher S. Reynolds¹  
Institution(s): ¹ University of Maryland

226 Tech Industry Careers: AAS Employment Committee Panel Discussion

Tuesday, 2:00 pm - 3:30 pm; 606

In today’s employment environment, astronomers are facing unprecedented challenges in their quest to find, maintain, and take full advantage of meaningful careers. For those seeking traditional academic jobs, the prospects are few and competition is extreme. For those interested in pursuing opportunities in other fields, such as private industry, government, finance or media, the transition may be mysterious or even bewildering. Once we’ve embarked upon our chosen path, the road to success comes with continued difficulties as we struggle to balance a broad host of crucially important non-scientific duties. We propose to address these challenges and more in our panel discussion on Tech Industry Careers, part of the Employment Committee’s series of professional development workshops and seminars at the annual winter meetings of the American Astronomical Society (AAS). We’ll explore methods and solutions to facing a diverse set of workforce skills, including: mentoring, motivating, and leading. We’ll hear from speakers who have successfully transferred their astronomy training to a diverse set of successful careers in the tech industry to share their experiences and lessons learned, while encouraging lively dialogue with workshop participants. We plan to create an opportunity to broadly engage the AAS membership in recognition of and discussion of the wide range of career paths possible for those trained in astronomy and astrophysics, while also exploring real-world tools for succeeding in professions of all types.

Chair(s): Blake Bullock (Northrop Grumman Space Tech.)
227 Spiral Galaxies

Tuesday, 2:00 pm - 3:30 pm; 607

Chair(s): Marja Seidel (Insituto de Astrofísica de Canarias)

227.01 Effect of Galactic Flyby Encounters on Disk Galaxy Evolution: Stellar and Gaseous Warp Formation
Author(s): Jeonghwan Henry Kim\textsuperscript{2}, Sebastien Peirani\textsuperscript{3}, Suk-Jin Yoon\textsuperscript{2}
Institution(s): \textsuperscript{1} Institute d’Astrophysique de Paris, \textsuperscript{2} Yonsei University

227.02 Tidal Stream Models From Simple to Complex
Author(s): Mark A. Fardal\textsuperscript{1}
Institution(s): \textsuperscript{1} University of Massachusetts

227.03 Simulated Disk Galaxies over Cosmic Time
Author(s): Jonathan C. Bird\textsuperscript{1}
Institution(s): \textsuperscript{1} Vanderbilt University

227.04 Galaxy Zoo: spiral galaxy morphologies and their relation to the star-forming main sequence
Author(s): Kyle Willett\textsuperscript{7}, Kevin Schawinski\textsuperscript{1}, Karen Masters\textsuperscript{2}, Tom Melvin\textsuperscript{2}, Ramin A. Skibba\textsuperscript{4}, Robert Nichol\textsuperscript{2}, Edmond Cheung\textsuperscript{5}, Chris Lintott\textsuperscript{8}, Brooke D Simmons\textsuperscript{8}, Sugata Kaviraj\textsuperscript{6}, William C. Keel\textsuperscript{3}, Lucy Fortson\textsuperscript{7}
Institution(s): \textsuperscript{1} ETH Zurich, \textsuperscript{2} ICG, University of Portsmouth, \textsuperscript{3} University of Alabama, \textsuperscript{4} University of California San Diego, \textsuperscript{5} University of California Santa Cruz, \textsuperscript{6} University of Hertfordshire, \textsuperscript{7} University of Minnesota, \textsuperscript{8} University of Oxford
Contributing team(s): Galaxy Zoo volunteers

227.05 ALMA and HST Observations of the Molecular Environment, Star formation Activity and Cluster Dissolution In NGC 1097
Author(s): Kartik Sheth\textsuperscript{3}, Michael W. Regan\textsuperscript{4}, Buntu Ngcebetsha\textsuperscript{5}, Kotaro Kohno\textsuperscript{2}, Peter J. Teuben\textsuperscript{6}, Stuart N. Vogel\textsuperscript{6}, Eric Villard\textsuperscript{1}, Tommy Wiklind\textsuperscript{1}, Andreas Lundgren\textsuperscript{1}
Institution(s): \textsuperscript{1} ALMA / JAO, \textsuperscript{2} NAOJ, \textsuperscript{3} NRAO, \textsuperscript{4} STScI, \textsuperscript{5} University of Capetown, \textsuperscript{6} University of Maryland

227.06 Counter-Rotating and Lagging Extra-planar HI in NGC 4559
Author(s): Carlos J. Vargas\textsuperscript{2}, George Heald\textsuperscript{1}, Rene A.M. Walterbos\textsuperscript{2}, Filippo Fraternali\textsuperscript{3}, Maria T. Patterson\textsuperscript{4}
Institution(s): \textsuperscript{1} ASTRON, \textsuperscript{2} New Mexico State University, \textsuperscript{3} University of Bologna, \textsuperscript{4} University of Chicago
Contributing team(s): HALOGAS

227.07 Nuclear Rings in Barred Galaxies
Author(s): Juntai Shen\textsuperscript{1}
Institution(s): \textsuperscript{1} Shanghai Astronomical Observatory

227.08 M51 and the Effect of the Arm Resonance and Interaction on Diffuse X-ray Emission
Author(s): Laura D. Vega\textsuperscript{1}, Eric M. Schlegel\textsuperscript{1}, Marilyn Moore\textsuperscript{2}
Institution(s): \textsuperscript{1} Fisk University, \textsuperscript{2} Univ of Texas at San Antonio
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227.09  Extragalactic Ultraviolet Reflection Nebulae
Author(s): Edmund J. Hodges-Kluck1, Joel N. Bregman1
Institution(s): 1 University of Michigan

228 The International Year of Light 2015 (IYL2015): Education and Outreach Opportunities

Tuesday, 2:00 pm - 3:30 pm; 608
Chair(s): Gregory Schultz (Astronomical Society of the Pacific)

228.01  Galileoscope: From IYA 2009 to IYL 2015
Author(s): Douglas N. Arion1, Richard Tresch Fienberg1
Institution(s): 1 Galileoscope LLC

228.02  Dark Skies Preservation through Responsible Lighting: the IYL2015 Quality Lighting Kit
Author(s): Constance E. Walker1
Institution(s): 1 NOAO

228.03  “Light: Beyond the Bulb”: A Project for the International Year of Light 2015
Author(s): Watzke Megan1, Kimberly K. Arcand1
Institution(s): 1 Chandra X-ray Center

228.04  Losing the Dark: Public Outreach about Light Pollution and Its Mitigation
Author(s): Carolyn Collins Petersen2, Mark C. Petersen2, Constance E. Walker3, W. Scott Kardel1
Institution(s): 1 International Dark Sky Association, 2 Loch Ness Productions, 3 National Optical Astronomy Observatory
Contributing team(s): International Dark Sky Association Education Committee

228.05  NASA SOFIA International Year of Light (IYL) Event: Infrared Light: Hanging out in the Stratosphere
Author(s): Coral Clark3, Dana E. Backman1, Pamela Harman2, Nicholas Veronico1
Institution(s): 1 NASA SOFIA, 2 SETI Institute, 3 USRA

228.06  Joliet Junior College and the 2015 International Year of Light’s Cosmic Light Theme
Author(s): Noella L. D’Cruz1
Institution(s): 1 Joliet Junior College

229 Activity and Variability in Low-Mass Stars

Tuesday, 2:00 pm - 3:30 pm; 609
Chair(s): Leslie Hebb (Hobart and William Smith Colleges)

229.01  Predicting Lyman-alpha and Mg II Fluxes from Low-Mass Stars
Author(s): Evgenya Shkolnik2, Kristina Rolph1, Sarah Peacock3, Travis Barman3
Institution(s): 1 Franklin and Marshall College, 2 Lowell Observatory, 3 University of Arizona
229.02 Examining Flare Rates in Close M dwarf + White Dwarf binary pairs
Author(s): Dylan P. Morgan1, Andrew A. West1, Andrew C. Becker2

229.03 Living with an Old Red Dwarf: X-ray-UV Emissions of Kapteyn’s Star - Effects of X-UV radiation on Habitable Zone Planets hosted by old Red Dwarf Stars
Author(s): Edward F. Guinan1, Allyn J. Durbin2, Scott G. Engle1
Institution(s): 1. Villanova Univ.

229.04 Rotation, Activity, and Planets in a Large Uniform Sample of Solar Analogs
Author(s): Derek L. Buzasi1, Andy Lezcano1, Lindsey Carboneau1, Carly Hessler3, Heather L. Preston1
Institution(s): 1. Florida Gulf Coast University

229.05 Predicting the Detectability of Granulation Flicker in the K2 Era
Author(s): Fabienne A. Bastien3, Andrew Vanderburg1, John A. Johnson1, Joshua Pepper2
Institution(s): 1. Harvard University, 2. Lehigh University, 3. Pennsylvania State University

229.06 The Stellar Activity of an M Dwarf Binary from Deconvolved Kepler Light Curves
Author(s): John C. Lurie1, James R. A. Davenport1, Suzanne L. Hawley1, Tessa D. Wilkinson1
Institution(s): 1. University of Washington

229.07 Using Transiting Planets to Model Starspot Evolution with Kepler
Author(s): James R. A. Davenport2, Leslie Hebb1, Suzanne L. Hawley2

229.08 Large Scale Dynamos in Stars
Author(s): Ethan T. Vishniac1
Institution(s): 1. University of Saskatchewan

230 Star Associations, Star Clusters - Galactic & Extra-galactic II
Tuesday, 2:00 pm - 3:30 pm; 611
Chair(s): Jeffrey Carlin (Rensselaer Polytechnic Institute)

230.01D Photometric and Kinematic Studies of Extragalactic Globular Cluster Systems
Author(s): Jessica L. Windschitl-Dowell1
Institution(s): 1. Indiana University

230.02 Uncovering Multiple Populations in Globular Clusters with Washington Photometry
Author(s): Douglas Geisler3, Jeff Cummings2, Sandro Villanova3, Giovanni Carraro1
Institution(s): 1. European Southern Observatory, 2. Johns Hopkins University, 3. Universidad de Concepcion
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230.03 Optical and Near-Infrared Photometry of Globular Clusters in the Coma cD NGC 4874
Author(s): Hyejeon Cho¹, John P. Blakeslee², Young-Wook Lee³, Eric W. Peng², Joseph B. Jensen³
Institution(s): ¹ NRC-HIA, ² Peking University, ³ Utah Valley University, ⁴ Yonsei University

230.04D Ruprecht 147: The oldest nearby benchmark star cluster
Author(s): Jason L. Curtis¹, Jason Wright¹
Institution(s): ¹ Penn State University

230.05 Identifying new massive stars in Carina
Author(s): Michael J Alexander², M. Virginia McSwain³, Matthew S. Povich¹, Richard J Hanes²
Institution(s): ¹ California State University, ² Lehigh University

230.06 A VLBI Resolution of the Pleiades Distance Controversy
Author(s): Carl Melis⁵, Mark J. Reid², Amy J. Mioduszewski⁴, John R. Stauffer³, Geoffrey C. Bower¹
Institution(s): ² ASIAA, ² Harvard/CfA, ³ IPAC/Caltech, ⁴ NRAO, ⁵ UC San Diego

230.07 Integrated Light Chemical Abundance Analyses of 7 M31 Outer Halo Globular Clusters from the Pan-Andromeda Archaeological Survey
Author(s): Charli Sakari⁴, Kim Venn³, Dougal Mackey¹, Matthew D. Shetrone², Aaron L. Dotter¹, George Wallerstein⁴
Institution(s): ¹ Australian National University, ² McDonald Observatory, University of Texas at Austin, ³ University of Victoria, ⁴ University of Washington

231 Galaxy Simulations and Techniques

Tuesday, 2:00 pm - 3:30 pm; 612
Chair(s): Andrew Fox (Space Telescope Science Institute)

231.01 Dynamical Scaling Relations and the Angular Momentum Problem in the FIRE Simulations
Author(s): Denise Schmitz¹, Philip F. Hopkins³, Eliot Quataert³, Dusan Keres⁴, Claude-Andre Faucher-Giguere²
Institution(s): ¹ California Institute of Technology, ² Northwestern University, ³ University of California, Berkeley, ⁴ University of California, San Diego

231.02 Supernova Feedback and Multiphase Interstellar Medium
Author(s): Miao Li¹, Jeremiah P. Ostriker¹, Renyue Cen¹, Greg Bryan¹, Thorsten Naab²
Institution(s): ¹ Columbia University, ² Max Planck Institute for Astrophysics, ³ Princeton University

231.03 Modeling the Dynamics of Interacting Galaxy Pairs - Testing Identikit Using GADGET SPH Simulations
Author(s): S Alireza Mortazavi², Jennifer Lotz³, Joshua E. Barnes¹
Institution(s): ¹ Institute for Astronomy, University of Hawaii, ² Johns Hopkins University, ³ Space Telescope Science Institute
231.04D The Faint Extragalactic Radio Sky at Small and Large Angular Scales
Institution(s): 1. CSIRO, 2. NRAO, 3. University of British Columbia, 4. University of Maryland

231.05 Improving Photometric Redshift Accuracy and Computational Efficiency
Author(s): Josh S Speagle, Peter L. Capak, Daniel Masters, Charles L. Steinhardt
Institution(s): 1. Caltech, 2. Harvard University

231.06 Simultaneous Estimation of Photometric Redshifts and SED Parameters: Improved Techniques and a Realistic Error Budget
Author(s): Viviana Acquaviva, Anand Raichoor, Eric J. Gawiser
Institution(s): 1. CEA, 2. CUNY NYC College of Technology, 3. Rutgers, the State University of New Jersey

231.07 Redefined Galaxy Stellar Masses with Multi-Band Imaging
Author(s): Joel C. Roediger, Stephane Courteau
Institution(s): 1. NRC Herzberg Astronomy & Astrophysics, 2. Queen’s University

232 Licensing Astrophysics Codes: What You Need to Know
Tuesday, 2:00 pm - 3:30 pm; 615
Research in astronomy is increasingly dependent on software methods and astronomers are increasingly required to share their codes; those who write software need to choose a license that delineates whether, when and how others may use and extend this software. Building on comments and questions about licensing in the January 2014 AAS special session “Astrophysics Code Sharing II: The Sequel”, this session, organized by the Astrophysics Source Code Library (ASCL) and AAS’s Working Group on Astronomical Software (WGAS), and the Moore-Sloan Data Science Environment, explores why providing an explicit license for software is important, explains different common licenses, examines intellectual property concerns common to universities, and provides information on restrictions that arise from ITAR. A panel of speakers will discuss code licensing, share considerations that arise when choosing a license, and benefits of the licenses they chose. Institutional and governmental concerns about intellectual property, its licensing, use, and release, will also be covered. The floor will then be open for discussion and questions.
Chair(s): Frossie Economou (LSST) & David Hogg (New York Univ.)

232.01 Copy-left and Copy-right
Author(s): Jacob VanderPlas
Institution(s): 1. University of Washington

232.02 University tech transfer perspective on software licensing
Author(s): Laura Dorsey
Institution(s): 1. University of Washington
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232.03 Relicensing the Montage Image Mosaic Engine.
Author(s): G. Bruce Berriman
Institution(s): 1 Caltech

232.04 Export Controls on Astrophysical Simulation Codes
Author(s): Daniel Whalen
Institution(s): 1 Heidelberg ITA

232.05 Why licensing is just the first step
Author(s): Arfon M Smith
Institution(s): 1 GitHub Inc.

232.06 Licenses in the wild
Author(s): Daniel Foreman-Mackey
Institution(s): 1 NYU

233 Celebrating 10 Years of Diversity in Astronomy With Pre-MAP

Tuesday, 2:00 pm - 3:30 pm; 620

The 225th AAS meeting in Seattle coincides with the 10th year of the Pre-Major in Astronomy Program (Pre-MAP) at the University of Washington. Pre-MAP focuses on increasing the representation of women and minorities in astronomy and STEM fields through engaging college freshman and transfer students in research, mentoring, and community building as soon as they begin at UW. In this session and its associated poster session we have three goals: 1) to share the techniques that have sustained Pre-MAP and strategies that have proved successful for mentoring under-represented students; 2) to celebrate the numerous programs at different institutions that promote diversity in physics and astronomy; and 3) to highlight the hard work done by undergraduate students that have gone through -- or are currently enrolled -- in Pre-MAP and similar programs.

Chair(s): Sarah Schmidt (Ohio State University)

233.01 Overview of the University of Washington’s Pre-Major in Astronomy Program
Author(s): Daryl Haggard
Institution(s): 1 Amherst College
Contributing team(s): Pre-Major in Astronomy Program

233.02 Recruiting Diverse Students and Enabling Them to Succeed in STEM
Author(s): Michael J. Tremmel
Institution(s): 1 University of Washington
Contributing team(s): Pre-Major in Astronomy Program

233.03 Evaluation of UW’s Pre-MAP Program
Author(s): John P. Wisniewski, Sarah M Garner, Michael J. Tremmel, Sarah J. Schmidt, Eric Agol
Institution(s): 1 Ohio State University, 2 University of Oklahoma, 3 University of Washington
233.04 Boston University Pre-Majors Program (BU Pre-Map): Promoting Diversity through First-Year Undergraduate Research  
Author(s): Andrew A. West
Institution(s): 1 Boston Univ.

233.05 AstroCom NYC: A Partnership to Support Underrepresented Minorities in Astronomy and Astrophysics Research and Education  
Author(s): K.E. Saavik Ford, Timothy Paglione, Dennis Robbins, Mordecai-Mark Mac Low, Marcel A. Agueros

233.06 The First Year of GRAD-MAP  
Author(s): Katherine Jameson, Ashlee N. Wilkins, Sylvia Zhu, Alexander McCormick, David Green, Myra Stone, Corbin James Taylor, Sonali J. Shukla, Stuart N. Vogel
Institution(s): 1. University of Maryland

233.07 Columbia’s Bridge to the Ph.D. Program: A research-focused initiative facilitating the transition to graduate school  
Author(s): Marcel A. Agüeros
Institution(s): 1. Columbia Univ.

233.08 The Fisk-Vanderbilt Masters-to-PhD Bridge Program  
Author(s): Jillian M. Bellovary, Keivan Stassun, Kelly Holley-Bockelmann, Rodolfo Montez, Dina Myers Stroud, Arnold Burger
Institution(s): 1. Fisk University, 2. Vanderbilt University

233.09 CAMPARE and Cal-Bridge: Two Institutional Networks Increasing Diversity in Astronomy  
Author(s): Alexander L. Rudolph, Chris David Impey, Cynthia B. Phillips, Matthew S. Povich, Edward E. Prather, Tammy A. Smecker-Hane
Institution(s): 1. Cal Poly Pomona, 2. Center for Astronomy Education (CAE) Univ. of Arizona, 3. SETI Institute, 4. UC Irvine, 5. University of Arizona Steward Observatory

233.10 On the Importance of Proudness Projects During Transitions: Design Principles and Examples  
Author(s): Angie Little
Institution(s): 1. Graduate School of Education, UC Berkeley
234 Heineman Prize: The Dark and Light Side of Galaxy Formation

Tuesday, 3:40 pm - 4:30 pm; 6E
Chair(s): Fred Dylla (AIP)

Piero Madau (University of California, Santa Cruz)
The AAS Heineman Prize Committee recommends Piero Madau with the following citation: “For fundamental contributions to our understanding of the era of first light in the universe, the ionization and heating of the intergalactic medium, and the formation and evolution of galaxies.

234.01 The Dark and Light Side of Galaxy Formation
Author(s): Piero Madau
Institution(s): 1. University of California, Santa Cruz

235 HEAD Rossi Prize Talk: The Fermi Bubbles; Douglas Finkbeiner, Tracy Slatyer, Meng Su

Tuesday, 4:30 pm - 5:20 pm; 6E

Douglas Finkbeiner (Harvard-Smithsonian Center for Astrophysics (CfA), Tracy Slatyer (Massachusetts Institute of Technology (MIT), Meng Su (MIT) (Not Pictured)
The scientists awarded the 2014 Rossi Prize were Professor Douglas Finkbeiner of the Harvard-Smithsonian Center for Astrophysics (CfA), Professor Tracy Slatyer of the Massachusetts Institute of Technology (MIT) and Meng Su, a joint Einstein/Pappalardo fellow of physics at MIT and the Kavli Institute for Astrophysics and Space Research for their discovery, in gamma rays, of the large unanticipated Galactic structure now called the “Fermi Bubbles.” From end to end, Fermi bubbles extend 50,000 light years, or roughly half of the Milky Way’s diameter. These structures may be the remnant of an eruption from a supersized black hole at the center of our Galaxy.
Chair(s): Nicholas White (USRA)
Career Hour 4: Transitioning Your Career Beyond Academia

Tuesday, 5:30 pm - 6:30 pm; 618/619

Making the transition from a career in academia to one in another sector is not as elusive or challenging as one may think. Science and engineering professionals who have spent time in academia have an amazing amount of transferable skills to myriad industries, and decision-makers and hiring-managers know this. The key is being able to articulate your true value in a way that decision-makers can understand (using their language). We will examine how to craft a successful strategy to research, prepare and ultimately transition to a career outside academia, and we will explore how to determine the right careers for your needs, desires and ambitions. And finally, we will keep in mind that even though we may leave academia now, we still can stay connected and collaborative with colleagues in higher education, as we may want to come back in the future. We will discuss tactics to ensuring the door is always open for your return.

Organizer(s): Alaina Levine (Quantum Success Solutions)

236 JWST Town Hall

Tuesday, 6:30 pm - 8:00 pm; 6E

The James Webb Space Telescope will be the most powerful telescope that astronomers have ever constructed, and is essential for answering the top science questions outlined in the NAC Astrophysics 2000 and 2010 Decadal Surveys. The Jan 2015 AAS meeting will take place less than three years before JWST’s Cycle 1 Call for Proposals. To begin preparing the community to capitalize on early science observations, STScI will present the science timeline for JWST as it relates to proposal planning and future availability of software tools. STScI will also discuss science policies for the GO community. The Town Hall will also feature short presentations on JWST status, engineering, and science. Dr. Eric Smith (JWST Acting Program Director, NASA HQ) will first describe the progress of JWST in 2014. This will include an update on the program budget, schedule, and the results of major Integration and Testing programs from the year such as the second Cryo Vacuum Test of the instrument module. An additional presentation will be given by Dr. Mark Clampin (JWST Observatory Project Scientist, NASA GSFC), showing the separation of JWST from its launch vehicle and the subsequent deployment of the telescope on its way to L2.

Chair(s): Jason Kalirai (Space Telescope Science Institute)
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237 NRAO Town Hall
Tuesday, 6:30 pm - 8:30 pm; 4C-3/4
This Town Hall will inform the AAS membership about the status of National Radio Astronomy Observatory (NRAO) science and science operations, development programs, and construction projects. This Town Hall will open with a reception that will be followed by a presentation by NRAO Director Tony Beasley that will update the membership regarding: (a) construction at the Atacama Large Millimeter/submillimeter Array (ALMA); (b) science opportunities and development programs at ALMA, the Very Large Array (VLA), the Green Bank Telescope (GBT), and the Very Long Baseline Array (VLBA); (c) recent science results from across NRAO; and (d) technical development for the next generation of radio astronomy research facilities. The NRAO Town Hall will include at least 30 minutes for discussion and answering audience questions.
Chair(s): Anthony Beasley (National Radio Astronomy Observatory)

238 HEAD Business Meeting
Tuesday, 6:30 pm - 7:30 pm; 6B
Chair(s): Nicholas White (USRA)

Gemini Open House
Tuesday, 6:30 pm - 8:30 pm; 6A
Join the Gemini Director and other staff to learn about recent developments at Gemini Observatory, including new capabilities and observing modes, such as Fast Turnaround programs and Long and Large Programs. Gemini is introducing more flexible methods to procure instrumentation, which encourage collaboration. Planning for the future and identifying users’ needs are key topics of discussion. Members of advisory bodies including the Science and Technology Advisory Committee will also participate.
Organizer(s): Nancy Levenson (Gemini Observatory)

Open Mic Night
Tuesday, 8:00 pm - 9:00 pm; 616/617
The AAS will be holding the second annual open-mic night for our talented members to share their musical and other talents with their friends and colleagues. Held Tuesday evening, we invite all musicians, singers, story tellers, comedians, poets, spoken word enthusiasts or other performers (e.g. jugglers) to participate. We welcome all styles and genres of music from bluegrass to speed metal...seriously! Come have some fun and strut your stuff. Cocktails, wine and beer will be available for purchase.
239 Celebrating 10 Years of Diversity in Astronomy with Pre-MAP Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

239.01 Dust Attenuation at High Redshift
Author(s): Danielle Skinner\textsuperscript{1}, Lauren M. Anderson\textsuperscript{1}, Thomas R. Quinn\textsuperscript{1}, Fabio Governato\textsuperscript{1}, Michael J. Tremmel\textsuperscript{1}

Institution(s): \textsuperscript{1} University of Washington

239.02 Flare Rate and Statistics for the M Dwarf GJ 1243 With Kepler
Author(s): Emily Johnson\textsuperscript{1}, James R. A. Davenport\textsuperscript{1}, Suzanne L. Hawley\textsuperscript{1}

Institution(s): \textsuperscript{1} University of Washington

239.03 The Effects of Clouds and Hazes on the Spectra of Terrestrial and Sub-Neptune Planets
Author(s): Guadalupe Tovar\textsuperscript{1}, Giada Arney\textsuperscript{1}, Victoria Meadows\textsuperscript{1}

Institution(s): \textsuperscript{1} University of Washington

239.04 Measuring Direction and Miximization of a Pulsed Plasma Thruster
Author(s): Brittney Dodson\textsuperscript{1}, Robert Winglee\textsuperscript{1}, Ian Johnson\textsuperscript{1}

Institution(s): \textsuperscript{1} University of Washington

239.05 The Grinnell Science Project: Results of Over Two Decades of Reform Aimed at Inclusion in Science and Mathematics
Author(s): Minna Mahlab\textsuperscript{1}

Institution(s): \textsuperscript{1} Grinnell College

Contributing team(s): Grinnell Science Project Team -- Grinnell College

239.06 CAMPARE and Cal-Bridge: Two Institutional Networks Increasing Diversity in Astronomy
Author(s): Alexander L. Rudolph\textsuperscript{1}, Chris David Impey\textsuperscript{5}, Cynthia B. Phillips\textsuperscript{3}, Matthew S. Povich\textsuperscript{1}, Edward E. Prather\textsuperscript{2}, Tammy A. Smecker-Hane\textsuperscript{4}

Institution(s): \textsuperscript{1} Cal Poly Pomona, \textsuperscript{2} Center for Aviation Education (CAE) Univ. of Arizona, \textsuperscript{3} SETI Institute, \textsuperscript{4} UC Irvine, \textsuperscript{5} University of Arizona Steward Observatory

239.07 CU-STARS: Promoting STEM Diversity by Addressing First-year Attrition of Underrepresented Minorities
Author(s): Cara Battersby\textsuperscript{1}, Devin W. Silvia\textsuperscript{3}, Erica Ellingson\textsuperscript{3}, Andrew P. Sturner\textsuperscript{3}, Courtney Peck\textsuperscript{3}

Institution(s): \textsuperscript{1} Harvard-Smithsonian Center for Astrophysics, \textsuperscript{2} Michigan State University, \textsuperscript{3} University of Colorado at Boulder

239.08 A community of scientists: cultivating scientific identity among undergraduates within the Berkeley Compass Project
Author(s): Ana V. Aceves\textsuperscript{1}

Institution(s): \textsuperscript{1} University of California, Berkeley

Contributing team(s): The Berkeley Compass Project
TUESDAY, 6 JANUARY 2015

239.09 A community of educators: professional development for graduate students within the Berkeley Compass Project
Author(s): Josiah Schwab¹, Nathaniel Roth¹
Institution(s): ¹ University of California, Berkeley
Contributing team(s): The Berkeley Compass Project

240 Undergraduate Majors and Graduate Students: Diversity, Retention, Mentorship, and Research Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

240.01 Past and Future: NSF PAARE at SC State
Author(s): Donald K. Walter⁵, Sean D. Brittain², Jennifer Cash⁵, Dieter Hartmann², Kenneth H. Hinkle⁵, Shirley Ho², Steve B. Howell⁵, Jeremy R. King², Mark D. Leising², Kenneth J. Mighell⁵, Daniel M. Smith⁵
Institution(s): ¹ Carnegie Mellon University, ² Clemson University, ³ NASA Ames Research Center, ⁴ National Optical Astronomy Observatory, ⁵ South Carolina State Univ.

240.02 The Council On Undergraduate Research Division of Physics and Astronomy Distributed REU Program: Outcomes from the First Year of the Pilot Program
Author(s): John C. Armstrong⁴, Michael Jackson¹, John Mateja²
Institution(s): ¹ Central Washington University, ² Murray State, ³ Weber State Univ.

240.03 The National Astronomy Consortium (NAC) - the University of Wisconsin-Madison Cohort
Author(s): Eric Hooper², Kartik Sheth¹, Elisabeth A.C. Mills¹
Institution(s): ¹ NRAO, ² Univ. of Wisconsin-Madison
Contributing team(s): National Astronomy Consortium

240.04 Preparing new Earth Science teachers via a collaborative program between Research Scientists and Educators
Author(s): Jana Grcevich¹, Ashley Pagnotta¹, Mordecai-Mark Mac Low¹, Michael Shara¹, Kennet Flores¹, Patricia A Nadeau¹, Jocelyn Sessa¹, Gokce Ustunisik¹, Nasser Zirakparvar¹, Denton Ebel¹, George Harlow¹, James D Webster¹, Rosamond Kinzler¹, Maritza B MacDonald¹, Julie Contino¹, Natasha Cooke-Nieves¹, Elaine Howes¹, Marion Zachowski¹
Institution(s): ¹ American Museum of Natural History

240.05 Using Data-Collection Sensors to Improve Reasoning About Experiment Design and Hypothesis Testing: An Undergraduate Course for Underrepresented Minorities Pursuing Careers Astrophysics Research
Author(s): Dennis M. Robbins², K.E. Saavik Ford¹
Institution(s): ¹ Borough of Manhattan Community College, ² Hunter College

240.06 AstroCom NYC: Expanding the Partnership
Author(s): Timothy Paglione⁵, Saavik Ford², Marcel A. Agueros³, Mordecai-Mark Mac Low¹, Dennis Robbins⁴
Institution(s): ¹ AMNH, ² BMCC, CUNY/AMNH, ³ Columbia U., ⁴ Hunter Coll., CUNY, ⁵ York College, CUNY/AMNH
240.07 The Undergraduate ALFALFA Team: A Model for Involving Undergraduates in Major Legacy Astronomy Research
Contributing team(s): ALFALFA Team.

240.08 Professional Development Through The University of Arizona Astronomy Club
Author(s): Allison M. McGraw, Megan N. Nieberding, Carmen Austin, Kevin Hardegree-Ullman.
Institution(s): 1. The University of Arizona Steward Observatory, 2. The University of Toledo.

240.09 Learning the Constellations: From Junior High to Undergraduate Descriptive Astronomy Class
Institution(s): 1. Brigham Young Univ.

240.10 The Lowell Observatory Predoctoral Scholar Program
Author(s): Lisa A. Prato.
Institution(s): 1. Lowell Observatory.

240.11 Astrobites: Four Years of Astro-blogging
Author(s): Christopher Faesi, Elisabeth R. Newton, Maria Drout, Meredith L. Rawls, Benjamin Montet, Nathan Sanders.
Contributing team(s): Astrobites collaboration.

241 Education Practice: Undergraduate Non-Science Majors Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

241.01 Shedding Light on Astronomy Textbooks for Astro 101
Author(s): Andrea Urban, Julia D. Silge.
Institution(s): 1. Sapling Learning.
241.02 From Picas to Pixels: An Astro 101 e-book
Author(s): Stephen J. Shawl¹, Gene G. Byrd², Susana E. Deustua³, Michael C. LoPresto⁴
Institution(s): ¹ Henry Ford College, ² Space Telescope Science Institute, ³ University of Alabama, ⁴ University of Kansas

241.03 Automated Estimation of the Orbital Parameters of Jupiter’s Moons
Author(s): Emma Western¹, Gerald T. Ruch¹
Institution(s): ¹ University of St. Thomas

241.04 Integrating Robotic Observatories into Astronomy Labs
Author(s): Gerald T. Ruch¹
Institution(s): ¹ University of St. Thomas

241.05 Community College Non-Science Undergraduates Observe Exoplanet Transits with 8-inch Observatory in Glendale, Arizona
Author(s): Brian Gleim¹, Henry Esteban¹, Connor Lincoln¹, Jason Price¹, Elizabeth Giroux¹, Noreen Lentowski¹, Leslie Valencia¹, Bryce Morris¹, Blake Smith¹, Chris Leffler¹, Matt Bonilla¹, Sara D. Watt¹
Institution(s): ¹ Glendale Community College

241.06 Authentic Learning and Alien Worlds
Author(s): Sara D. Watt¹, Keith Watt¹, Brian Gleim¹
Institution(s): ¹ Glendale Community College

241.07 At what distance can the human eye detect a candle flame?
Author(s): Kevin Krisciunas¹, Don W. Carona¹
Institution(s): ¹ Texas AandM University

241.08 Writing an Electronic Astronomy Book with Interactive Curricular Material
Author(s): Kristen L. Thompson¹, Mario Belloni², Wolfgang Christian¹
Institution(s): ¹ Davidson College

241.09 A Planetary System Exploration Project for Introductory Astronomy and Astrobiology Courses
Author(s): Richard F. Rees¹
Institution(s): ¹ Westfield State University

241.10 Activities Joining Learning Objectives to Assessments in Introductory Astronomy
Author(s): Stacy E. Palen², Ana M. Larson¹
Institution(s): ¹ University of Washington, ² Weber State Univ.

241.11 “ASTRO 101” Course Materials 2.0: Next Generation Lecture Tutorials and Beyond
Author(s): Stephanie Slater¹, Kevin Grazier¹
Institution(s): ¹ CAPER Ctr Phys and Astro Educ Res

241.12 Strange Horizons: Teaching Usual and Unusual Atmospheric Effects using APOD
Author(s): Teresa Wilson¹
Institution(s): ¹ Michigan Technological University
242 Extending the Reach of Astronomical Professionals Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

242.01 Modern Publishing Approach of Journal of Astronomy & Earth Sciences Education
   Author(s): Timothy F. Slater
   Institution(s): University of Wyoming

242.02 Google Hangouts: Leveraging Social Media to Reach the Education Community
   Author(s): Bonnie Eisenhamer, Frank Summers, Dan McCallister, Holly Ryer
   Institution(s): STScI

242.03 Introducing Astronomy Allies: We are here to help!
   Author(s): Heather Flewelling, Katherine A. Alatalo
   Institution(s): Caltech/IPAC, University of Hawaii

242.04 An Update on the NASA Planetary Science Division Research and Analysis Program
   Author(s): Christina Richey, Max Bernstein, Jonathan Rall
   Institution(s): NASA HQ

243 Education and Public Outreach Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

243.01 Light Pollution Awareness through Globe at Night & IYL2015
   Author(s): Constance E. Walker
   Institution(s): NOAO

243.02 STArtorialist: Astronomy Outreach via Fashion, Sci-Fi, & Pop Culture
   Author(s): Emily L. Rice, Summer Ash
   Institution(s): College of Staten Island, Columbia University

243.03 Columbia University Public Outreach: Looking Beyond the Bright Lights in the Big City
   Author(s): Summer Ash, Marcel A. Agueros
   Institution(s): Columbia University

243.04 Reaching for the Stars in your Golden Years: The Importance of Outreach for Senior Citizens
   Author(s): Valerie Rapson
   Institution(s): Rochester Institute of Technology

243.05 Scientific Discovery through Citizen Science via Popular Amateur Astrophotography
   Author(s): Robert J. Nemiroff, Jerry T. Bonnell, Alice Allen
   Institution(s): Astrophysics Source Code Library, Michigan Technological Univ., University of Maryland
243.06 The Arizona Galileoscope Project: A 5th Grade Rural Education Program  
Author(s): Robert T. Sparks¹, Stephen M. Pompea³, Constance E. Walker¹  
Institution(s): ¹ NOAO

243.07 Dark Skies, Bright Kids Year 6  
Author(s): Sandra Liss¹, Nicholas William Troup³, Kelsey E. Johnson³, Loreto D Barcos-Munoz¹, Rachael Beaton¹, Lauren Bittle¹, Henry J Borish³, Andrew Burkhardt¹, Joanna Corby³, Janice Dean¹, Danielle Hancock¹, Jennie King³, Brian Prager¹, Charles Romero¹, Kimberly R. Sokal¹, Sabrina Stierwalt¹, Trey Wenger¹, Catherine Zucker¹  
Institution(s): ¹ University of Virginia

243.08 RU SciTech: Weaving Astronomy and Physics into a University-sponsored Summer Camp for Middle School Students  
Author(s): Quyen N. Hart¹  
Institution(s): ¹ Regis University, Regis College

243.09 Using USNO’s API to Obtain Data  
Author(s): Michael V. Lesniak², Daniel Pozniak², Tarun Punnoose²  
Institution(s): ² Science & Engineering Apprenticeship Program (SEAP), ² U.S. Naval Observatory

243.10 The Aloha Telescope for K-12 STEM Education  
Author(s): James R. Sowell¹  
Institution(s): ¹ Georgia Inst. of Tech.

243.11 Developing the OORCC: A Multifaceted Astronomical Research and Outreach Facility at the University of Oregon  
Author(s): Teiler J Kwan¹, Jeremy Bullis¹, Annika Gustafsson¹, Robert Scott Fisher¹  
Institution(s): ¹ University of Oregon

243.12 Physically Based Rendering in the Nightshade NG Visualization Platform  
Author(s): Karrie Berglund¹, Trystan Larey-Williams¹, Rob Spearman¹, Arthur Bogard¹  
Institution(s): ¹ Digitalis Education Solutions, Inc

244 NASA/IPAC Teacher Archive Research Program (NITARP) Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

244.01 NITARP Summative Evaluation Report: 2013 Class  
Author(s): Luisa M. Rebull¹, Kim Burtynk³, Varoujian Gorjian², Gordon K. Squires¹  
Institution(s): ² Caltech, ² JPL, ² Science for Society: Science Communication Consulting and Evaluation  
Contributing team(s): NITARP team
244.02 Crowd Sourcing as a Means of Collecting Astronomical Data  
**Author(s):** Linda Childs¹, Todd Burke¹, Varoujan Gorjian⁴, Caroline Odden⁶, Sarp Orgul⁵, David Strasburger⁵, Kevin Tambara¹  
**Institution(s):** ¹ Bert Lynn Middle School, ² Estes Park High School, ³ Florida Virtual School, ⁴ JPL, ⁵ Noble & Greenough School, ⁶ Phillips Academy

244.03 Next Generation Scientists - Creating opportunities for high school students through astronomical research  
**Author(s):** Madeline Kelly², Hannah Cebulla¹, Lynn Powers²  
**Institution(s):** ¹ Bozeman High School, ² NITARP

244.04 NITARP: Measuring The Effectiveness of an Authentic Research Experience in Secondary Astronomy Education Through Concept Mapping  
**Author(s):** Elin Deeb¹, Luisa M. Rebull⁵, David V Black⁵, John Gibbs⁴, Estefania Larsen⁴  
**Institution(s):** ¹ Bear Creek High School, ² Caltech, ³ Glencoe High School, ⁴ Millard South High School, ⁵ Walden School of Liberal Arts

245 Astronomy Education Research Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

245.01 Fostering a positive attitude towards science through college courses  
**Author(s):** Helene Flohic¹  
**Institution(s):** ¹ University of the Pacific

245.02 Astronomy for Astronomical Numbers: a Worldwide Massive Open Online Class  
**Author(s):** Carmen Austin¹, Chris David Impey¹, Matthew Wenger¹  
**Institution(s):** ¹ University of Arizona

245.03 Applying Neurological Learning Research to an Intro Astronomy Online Lab Course  
**Author(s):** Gene G. Byrd², Dana Byrd¹  
**Institution(s):** ¹ Texas A & M University-Kingsville, ² University of Alabama - Tuscaloosa

245.04 Preliminary Evaluation of a New Cosmology Curriculum  
**Author(s):** Kimberly A. Coble¹, Dominique Martin¹, Patrycia Hayes¹, Tom Targett², Janelle M. Bailey¹, Lynn R. Cominsky¹  
**Institution(s):** ¹ Chicago State Univ., ² Sonoma State Univ., ³ Temple Univ.

245.05 Learning to Work with Databases in Astronomy: Quantitative Analysis of Science Educators’ and Students’ Pre-/Post-Tests  
**Author(s):** Andria C. Schwortz¹, Andrea C Burrows ¹, Adam D. Myers¹  
**Institution(s):** ¹ University of Wyoming

245.06 Enhancing Undergraduate Education through Mentored Research and Practical Writing Experiences  
**Author(s):** Denise C. Stephens¹, Eric G. Hintz¹, Michael D. Joner¹, J. Ward Moody¹  
**Institution(s):** ¹ Brigham Young Univ.
Using Multiple Methods to teach ASTR 101 students the Path of the Sun and Shadows
Author(s): Noella L. D’Cruz
Institution(s): 1. Joliet Junior College

Do Gains in Secondary Teachers’ Content Knowledge Provide an ASSET to Student Learning?
Author(s): Travis Hites
Institution(s): 1. Sam Houston State University

Perspectives on Science Teacher Professional Development: A study of the ASSET Experience
Author(s): Katrina Reeves, Scott Miller, Andrea Foster
Institution(s): 1. Sam Houston State University

The Siren Song of the Absurd Answer
Author(s): Jeremy Bailin
Institution(s): 1. University of Alabama

Have Astronomers Been to Neptune? Results of a Study of High School Students’ Ideas about How Astronomers Study the Solar System
Author(s): Christopher Palma, Julia Plummer, Chrysta Ghent, Timothy Gleason, Yann Shiou Ong, Scott McDonald
Institution(s): 1. Penn State Univ.
Contributing team(s): The Earth and Space Science Partnership

Recognition of American Sign Language (ASL) Classifiers in a Planetarium Using a Head-Mounted Display
Author(s): Eric G. Hintz, Michael Jones, Jeannette Lawler, Nathan Bench
Institution(s): 1. Brigham Young Univ.

Design of the iSTAR International Study on Astronomy Reasoning
Author(s): Coty B. Tatge, Stephanie J. Slater
Institution(s): 1. CAPER Center for Astronomy & Physics Education Research, 2. University of Wyoming

What types of astronomy images are most popular?
Author(s): Alice Allen, Jerry T. Bonnell, Paul Connelly, Ralf Haring, Stuart R. Lowe, Robert J. Nemiroff
Institution(s): 1, 2, 3, 4. CRESST / Goddard Space Flight Center, 5. Jami Institution Test, 6. Michigan Technological University

Astronomy Research for K-12 Students and Teachers Posters
Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

Astronomy across State Lines: A Collaborative Model for Astronomical Research
**246.02 Teaching Advanced Data Analysis Tools to High School Astronomy Students**

**Author(s):** David V Black\textsuperscript{2}, Julie Herring\textsuperscript{2}, Eric G. Hintz\textsuperscript{1}

**Institution(s):** \textsuperscript{1} Brigham Young Univ., \textsuperscript{2} Walden School of Liberal Arts

**246.03 A Survey of Light Pollution in the Rogue Valley, Southwest Oregon, By St. Mary's School, Medford, Oregon**

**Author(s):** Holly Bensel\textsuperscript{1}

**Institution(s):** \textsuperscript{1} St. Mary's School

**Contributing team(s):** Arianna Ashby, Colin Cai, Thomas Cox, Genna Dorrell, Gabe FitzPatrick, Meaghan FitzPatrick, Jason Mars Liu, Mitchell Moczygemba, Kieran Rooney, Emry Timmons, and Ray You, students, (St. Mary's School)

**246.04 Exoplanet Research at a Southwestern Urban High School: Lessons Learned from the Tucson High Astronomy Club Research Program**

**Author(s):** Zachary T. Watson\textsuperscript{1}, Stephen M. Pompea\textsuperscript{1}

**Institution(s):** \textsuperscript{1} National Optical Astronomy Observatory

**Contributing team(s):** Tucson High Astronomy Research Club

**246.05 Collaboration Between Astronomers at UT Austin and K-12 Teachers: Connecting the Experience of Observing and Research with the Classroom**

**Author(s):** Keely D. Finkelman\textsuperscript{1}, Christopher Sneden\textsuperscript{1}, Mary Kay Hemenway\textsuperscript{1}, Sandra Preston\textsuperscript{1}

**Institution(s):** \textsuperscript{1} University of Texas at Austin

**Contributing team(s):** EXES Teachers Associate Program

### 247 Star Associations, Star Clusters - Galactic & Extra-galactic Posters

#### 247.01 The Globular Cluster System of the Elliptical Galaxy NGC 2937 as a Marker of its Evolutionary History

**Author(s):** Emily Longley\textsuperscript{1}

**Institution(s):** \textsuperscript{1} Carleton College

**Contributing team(s):** Dr. Michael West Maria Mitchell Observatory, Dr. William Harris McMaster University

#### 247.02 Analysis of the changing brightness of stars in nearby young stellar clusters

**Author(s):** Emily Rolen\textsuperscript{1}, Joseph E. Rodriguez\textsuperscript{1}, David A. Weintraub\textsuperscript{1}, Joshua Pepper\textsuperscript{1}, Keivan Stassun\textsuperscript{1}

**Institution(s):** \textsuperscript{1} Vanderbilt University

**Contributing team(s):** KELT-South Science Team
TUESDAY, 6 JANUARY 2015

247.03 A Wide-Field Photometric Survey of Globular Clusters in the Merger Remnant M85
Author(s): Youkyung Ko³, Myung Gyoon Lee³, Jubee Sohn³, Sungsoon Lim²,
Hong Soo Park¹, Narae Hwang¹, Byeong-Gon Park¹
Institution(s): ¹ Korea Astronomy and Space Science Institute, ² Peking University, ³ Seoul National University

247.04 Tidal streams in triaxial systems
Author(s): Adrian M. Price-Whelan¹, Kathryn V. Johnston¹, Sarah Pearson¹,
Andreas Hans Wilhelm Kupper¹
Institution(s): ¹ Columbia University

247.06 Radial Stellar Population Gradients in the Galactic Globular Cluster 47 Tucanae
Author(s): Richard de Grijs¹, Chengyuan Li³
Institution(s): ¹ Kavli Institute for Astronomy and Astrophysics, Peking University

247.07 Sizes and Shapes of Young, Massive Star Clusters in M83
Author(s): Jenna E. Ryon⁴, Nate Bastian¹, Angela Adamo², Esteban Silva-Villa³,
John S. Gallagher⁴
Institution(s): ¹ Liverpool John Moores University, ² Stockholm University, ³,
Universite Laval, ⁴ University of Wisconsin - Madison

247.08 The extinction law inside the 30 Doradus nebula
Author(s): Guido De Marchi¹, Nino Panagia²
Institution(s): ¹ European Space Agency, 2. STScI

247.09 Kinematics of Intracluster Globular Clusters in the Core of the Virgo Cluster
Author(s): Myung Gyoon Lee⁴, Youkyung Ko⁴, Ho Seong Hwang³, Jubee Sohn⁴,
Sungsoon Lim³, Hong Soo Park¹, Narae Hwang¹, Byeong-Gon Park¹, In Sung Jang⁴
Institution(s): ¹ Korea Astronomy and Space Science Institute, ² Korea Institute for Advanced Study, ³ Seoul National University

247.10 The Search for Mass Correlations between Globular Cluster Systems and their Host Galaxies
Author(s): Jonathan Jackson¹, Gretchen L. H. Harris¹, Michael West¹
Institution(s): ¹ Maria Mitchell Observatory

247.11 Does the linear conversion between calcium infrared triplet and metallicity of globular clusters in early-type galaxies hold in the whole range of metallicity?
Author(s): Chul Chung¹, Suk-Jin Yoon², Young-Wook Lee², Sang-Yoon Lee²
Institution(s): ¹ Center for Galaxy Evolution Research, ² Yonsei University

247.12 Is Latham 1 a True Cluster?: A High-Resolution Chemical and Dynamical Analysis.
Author(s): Kylee Marie Martens³, Julia O’Connell¹, Peter M. Frinchaboy¹,
Matthew D. Shetrone²
Institution(s): ¹ Texas Christian University, ² University of Texas- Austin,
³ University of Wisconsin-Madison

247.13 Color-magnitude Diagrams for the Stellar Open Cluster M 67 in the Vilnius Photometric System
Author(s): Richard P. Boyle¹, Robert Janusz¹
Institution(s): ¹ Vatican Observatory
247.14 UBV Photometry of the young open cluster Berkely 87
Author(s): Abolaji Akinyemi¹, Paul B. Eskridge¹
Institution(s): ¹ Minnesota State University

247.15 A WIYN Study of the Globular Cluster Population of the Virgo Elliptical Galaxy
NGC 4473
Author(s): Margaret Panetta¹, Katherine L. Rhode², Dr. Michael West³
Institution(s): ¹ Harvard University, ² Indiana University, ³ Maria Mitchell Observatory

247.16 Globular Cluster Populations of 11 Giant Elliptical Galaxies in Clusters
Associated with the Shapley Supercluster
Author(s): Regina Barber DeGraaff², John Blakeslee¹
Institution(s): ¹ Herzberg Astrophysics, ² Western Washington University

247.17 Neutron Capture Elements in the Open Cluster Chemical Abundance &
Mapping (OCCAM) Survey
Author(s): Julia O’Connell³, Peter M. Frinchaboy³, Matthew D. Shetrone⁴, Fred R. Hearty², Steven R. Majewski³, Gail Zasowski¹
Institution(s): ¹ Johns Hopkins University, ² Pennsylvania State University, ³ Texas Christian University, ⁴ University of Texas, ⁵ University of Virginia
Contributing team(s): SDSS III/APOGEE-1

247.18 Optical and Infrared Stellar abundances in the globular clusters NGC 5466 and
NGC 5024
Author(s): Masen Lamb¹
Institution(s): ¹ University of Victoria

247.19 Mass Functions for the Three Main Sequences in NGC 2808
Author(s): Nathaniel Paust³, Henny J. G. L. M. Lamers¹, Nate Bastian²
Institution(s): ¹ Astronomical Institute Anton Pannekoek, University of Amsterdam, ² Astrophysics Research Institute, Liverpool John Moores University, ³ Whitman College

247.20 Chemical Abundances in NGC 5053: A Very Metal Poor and Dynamically
Complex Globular Cluster
Author(s): Owen Boberg¹, Eileen D. Friel¹, Enrico Vesperini¹
Institution(s): ¹ Indiana University

247.21 Sample Selection and [Fe/H]-variations in NGC 3201
Author(s): Joanne D. Hughes¹, George Wallerstein³, Myra Stone³, Meagan Albright³
Institution(s): ¹ Seattle Univ., ² University of Maryland, ³ University of Washington

247.22 The Structure of the Nearest Nuclear Star Clusters
Author(s): Christopher DiLullo¹
Institution(s): ¹ Connecticut College

247.23 A Science Portal and Archive for Extragalactic Globular Cluster Systems Data
Author(s): Michael Young¹, Katherine L. Rhode¹, Arvind Gopu¹
Institution(s): ¹ Indiana University
TUESDAY, 6 JANUARY 2015

247.24 Exploring Evidence for Cosmic Ray Acceleration in Westerlund 1
Author(s): Nora Shipp1, T. J. Brandt1
Institution(s): 1. Goddard Space Flight Center
Contributing team(s): The Fermi LAT Collaboration

247.25 Comparing AGB and RGB Sodium Abundances in the Globular Cluster 47 Tucanae (NGC 104)
Author(s): Christian I. Johnson1, Iain McDonald1, Catherine A. Pilachowski2, Mario L. Mateo3, John Ira Bailey4, Maria Jose Cordero5, Albert Zijlstra3

247.26 Characterizing the Stellar Content of the Young Open Cluster Blanco 1
Author(s): Piera Andrea Soto King2, David James1
Institution(s): 1. CTIO, 2. Universidad de La Serena

247.27 WIYN Open Cluster Study: Lithium in the Open Cluster NGC 6811
Author(s): Aaron J. Steinhauser2, Daniel M Krolikowski2, Luke Thomas Taverne2, Constantine P. Deliyannis1, Barbara J. Anthony-Twarog3, Bruce A. Twarog3
Institution(s): 1. Indiana University, 2. SUNY Geneseo, 3. University of Kansas

247.28 WIYN Open Cluster Study: UBVRI Photometry of NGC 2158
Author(s): Luke T Taverne2, Aaron J. Steinhauser2, Constantine P. Deliyannis1
Institution(s): 1. Indiana University, 2. SUNY Geneseo

247.29 Photometrically Derived Metallicities of Open Clusters Czernik 17 and Kronberger 60
Author(s): Juan David Trujillo1, Ramon Sharma1, Tiffany C Jansen1, Ana M. Larson1, Meagan Albright1
Institution(s): 1. University of Washington

248 Dwarf and Irregular Galaxies Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

248.01 The Initial Mass Function and Star Formation Law in The Outer Disk of NGC2915
Author(s): Gerhardt Meurer6, Sarah Bruzzone6, Claudia Lagos1, Edward C Elson5, Jessica Werk4, John Blakeslee4, Holland Ford3

248.02 Investigating the Diffuse Ionized Gas throughout the Magellanic Cloud System with WHAM
Author(s): Brianna Smart1, L. Matthew Haffner4, Kathleen Barger3, Gregory J Madsen2, Alex S. Hill1
248.03 Kinematic Anomalies in Dwarf Elliptical Galaxies: New Constraints on Current Evolutionary Models  
**Author(s):** Ajinkya Nene², Alice Wu¹, Elisa Toloba³, Puragra Guhathakurta³  
**Institution(s):** ¹ Harker School, ² Lynbrook High School, ³ UC Santa Cruz

248.04 Two-Component Models of Dwarf Galaxy Tidal Disruption  
**Author(s):** Jacob Bauer², Heidi Jo Newberg², Roland Judd¹, Larry Widrow¹, Siddartha Shelton², Jeffery Thompson¹, Jake Weiss²  
**Institution(s):** ¹ Queens University, ² Rensselaer Polytechnic Institute

248.05 Centaurus A halo through the eye of the PISCeS: a plethora of new satellites and streams  
**Author(s):** Denija Crnojevic⁴, David J. Sand⁴, Nelson Caldwell³, Puragra Guhathakurta⁵, Brian A. McLeod², Anil Seth⁶, Joshua D. Simon¹, Jay Strader⁴, Elisa Toloba⁵  
**Institution(s):** ¹ Carnegie Observatories, ² Harvard-Smithsonian, CfA, ³ Michigan State University, ⁴ Texas Tech University, ⁵ UC Santa Cruz, ⁶ University of Utah

248.06 New, Faint Satellite Galaxies of NGC253  
**Author(s):** David J. Sand⁴, Denija Crnojevic⁴, Nelson Caldwell³, Puragra Guhathakurta⁵, Brian A. McLeod², Anil Seth⁶, Joshua D. Simon¹, Jay Strader⁴  
**Institution(s):** ¹ Carnegie Observatories, ² Michigan State University, ³ Smithsonian Center for Astrophysics, ⁴ Texas Tech University, ⁵ UC Santa Cruz, ⁶ University of Utah

248.07 Exploring the Faint End of the Luminosity-Metallicity Relation with Hα Dots  
**Author(s):** Alec S. Hirschauer¹  
**Institution(s):** ¹ Indiana University

248.08 Deep Optical Imaging of TiNy Titans Dwarf Galaxy Interactions  
**Author(s):** Sandra Liss³, Catherine Zucker³, Kelsey E. Johnson³, Sabrina Stierwalt³, Gurtina Besla³, Nitya Kallivayalil³, David R. Patton³  
**Institution(s):** ¹ Trent University, ² University of Arizona, ³ University of Virginia

248.09 Confirming Tiny Dwarf Galaxy Candidates on the Edge of the Local Group  
**Author(s):** Jennifer Donovan Meyer⁴, Erik Jon Tollerud⁶, Joshua E Peek⁵, Mary E. Putman⁴, Jana Grcevich¹, Daniel Wavle³  
**Institution(s):** ¹ American Museum of Natural History, ² Columbia, ³ Indiana University, ⁴ NRAO, ⁵ Space Telescope Institute, ⁶ Yale

248.10 Galactic Needle in a Haystack: The Search for Ultra Compact Dwarf Galaxies  
**Author(s):** Katie Butler¹, Michael West², Michael Gregg³  
**Institution(s):** ¹ Agnes Scott College, ² Maria Mitchell Observatory, ³ UC Davis

248.11 The unique structural parameters of the underlying host galaxies in Blue Compact Dwarfs  
**Author(s):** Steven Janowiecki¹, John Joseph Salzer¹  
**Institution(s):** ¹ Indiana University
TUESDAY, 6 JANUARY 2015

248.12 A systematic search for dwarf counterparts to ultra compact high velocity clouds
Author(s): Paul Bennet, David J. Sand, Denija Crnojevic, Jay Strader
Institution(s): 1 Michigan State University, 2 Texas Tech University

248.13 Searching for Stellar Counterparts to ALFALFA Ultra-Compact High Velocity Clouds with WIYN / pODI
Author(s): William Janesh, Katherine L. Rhode, John Joseph Salzer, Steven Janowiecki, Elizabeth A. Adams, Martha P. Haynes, Riccardo Giovanelli, John M. Cannon, Ricardo Munoz
Institution(s): 1 ASTRON, 2 Cornell University, 3 Indiana University, 4 Macalester College, 5 Universidad de Chile

248.14 WSRT HI imaging of ultra-compact high velocity clouds: gas-bearing dark matter minihalos?
Author(s): Elizabeth A. Adams, Tom Oosterloo, Riccardo Giovanelli, Martha P. Haynes, John M. Cannon, Yakov Faerman, William Janesh, Steven Janowiecki, Ricardo Munoz, Katherine L. Rhode, John Joseph Salzer, Amiel Sternberg
Institution(s): 1 ASTRON, 2 Cornell University, 3 Indiana University, 4 Macalester College, 5 Tel Aviv University, 6 Universidad de Chile

248.15 Metallicities of Low Mass Inefficient Star Forming Dwarfs in S4G: Testing the Closed Box Paradigm
Author(s): Myles McKay, Sabrina Stierwalt, Kartik Sheth, Dr. Bonita de Swardt, Donald K. Walter
Institution(s): 1 NRAO, 2 South Carolina State University, 3 Square Kilometre Array South Africa, 4 University of Virginia

248.16 A Radio Continuum Study of Dwarf Galaxies: 6 cm imaging of LITTLE THINGS
Author(s): Ben Kitchener, Elias Brinks, Volker Heesen, Deidre Ann Hunter, Hongxin Zhang, Urvashi Rau, Michael P. Rupen
Institution(s): 1 Lowell Observatory, 2 NRAO, 3 University of Hertfordshire, 4 University of Southampton
Contributing team(s): LITTLE THINGS collaboration

248.17 CO at Low-metallicity: Molecular Clouds in the dwarf galaxy WLM
Author(s): Deidre Ann Hunter, Monica Rubio, Phil Cigan, Juan R. Cortes, Bruce Elmegreen, Elias Brinks, Caroline E. Simpson, Lisa Young
Institution(s): 1 ALMA, 2 Florida International University, 3 IBM T. J. Watson Research Center, 4 Lowell Obs., 5 New Mexico Institute of Mining and Technology, 6 University of Chile, 7 University of Hertfordshire

248.18 CO Observations of DDO 68: An Extreme Outlier on the Mass-Metallicity Relation
Author(s): Edward Molter, John M. Cannon, Alberto D. Bolatto, Andreas Schruba, Fabian Walter, Steven R. Warren
Institution(s): 1 Macalester College, 2 Max Planck Institute for Astronomy, 3 Max Planck Institute for Extraterrestrial Physics, 4 University of Maryland
248.19 Discovery Of A Gas-Rich Companion To The Extremely Metal-Poor Galaxy DDO 68
Author(s): John M. Cannon, Megan C. Johnson, Kristen B. McQuinn, Erik Alfvin, Jeremy Bailin, Alyson Ford, Leo Girardi, Alec S. Hirschauer, Steven Janowiecki, John Joseph Salzer, Angela Van Sistine, Andrew E. Dolphin, Edward C Elson, Baerbel Koribalski, Paola Marigo, Jessica L. Rosenberg, Philip Rosenfield, Evan D. Skillman, Aparna Venkatesan, Steven R. Warren

248.20 The SHIELD Multi-Wavelength Archive
Author(s): Andrew McNichols, Yaron Teich, John M. Cannon, Elizabeth A. Adams, Andrew E. Dolphin, Edward C Elson, Riccardo Giovanelli, Martha P. Haynes, Kristen B. McQuinn, Juergen Ott, Amelie Saintonge, John Joseph Salzer, Evan D. Skillman

248.21 Do Tidal Interactions Trigger Starbursts in Dwarf Galaxies?
Author(s): Charlotte Martinkus, John M. Cannon, Kristen B. McQuinn, Megan C. Johnson, Evan D. Skillman, Jeremy Bailin, Alyson Ford, Baerbel Koribalski

248.22 Comparing Chemical Compositions of Dwarf Elliptical Galaxies and Globular Clusters
Author(s): Jason Chu, Lea Sparkman, Elisa Toloba, Puragra Guhathakurta
Institution(s): 1. Castilleja School, 2. Harker School, 3. University of Santa Cruz, California

249 Elliptical Galaxies Posters
Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

249.01 Discovery of Compact Quiescent Galaxies at Intermediate Redshifts in DEEP2
Author(s): Kirsten Blancato, Igor Chilingarian, Ivana Damjanov, Sean Moran, Ivan Katkov

249.02 Star formation and nuclear activity in the blue early-type galaxy NGC 5373
Author(s): Tayeb Zaidi, Brendan P. Miller, Elena Gallo, Erik Alfvin, Charlotte Martinkus, Edward Molter
TUESDAY, 6 JANUARY 2015

249.03 Recovering the Dynamical Structure and Formation History of Early-Type Galaxies
Author(s): Athanasia Tsatsi, Glenn van de Ven, Andrea V Macciò
Institution(s): 1. Max-Planck-Institut für Astronomie

249.04 Morphology, star formation, and nuclear activity in void galaxies
Author(s): Sophia Wiedmann, Brendan Miller, Elena Gallo, Beni Pazar, Erik Alfvin

250 Spiral Galaxies Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

250.01 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for NGC4707 and NGC5229
Author(s): Laura Herzog, Daniel A. Dale, Kate L. Barnes, Gillian Beltz-Mohrmann, Arika Egan, Alan Hatlestad, Henry A. Kobulnicky, Andrew S. Leung, Jacob McLane, Christopher Phenicie, Jareth Roberts, Shawn Staudaher, Liese van Zee

250.02 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for Six Nearby Galaxies
Author(s): Jacob Noel Mclane, Andrew S. Leung, Daniel A. Dale, Kate L. Barnes, Gillian Beltz-Mohrmann, Arika Egan, Alan Hatlestad, Laura Herzog, Henry A. Kobulnicky, Christopher Phenicie, Jareth Roberts, Shawn Staudaher, Liese van Zee

250.03 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for NGC4242 and UGC7301
Author(s): Arika Egan, Daniel A. Dale, Kate L. Barnes, Gillian Beltz-Mohrmann, Alan Hatlestad, Laura Herzog, Henry A. Kobulnicky, Andrew S. Leung, Jacob McLane, Christopher Phenicie, Jareth Roberts, Shawn Staudaher, Liese van Zee
250.04 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for NGC4485, NGC4490 and NGC5273

Author(s): Beltz-Mohrmann Gillian, Daniel A. Dale, Kate L. Barnes, Arika Egan, Alan Hatlestad, Laura Herzog, Henry A. Kobulnicky, Andrew S. Leung, Jacob McLane, Christopher Phenicie, Jareth Roberts, Shawn Staudaher, Liese van Zee


250.05 EDGES: Deep Multi-Wavelength Photometry and Radial SED Analysis for UGC8303 and UGC8320

Author(s): Christopher Phenicie, Daniel A. Dale, Kate L. Barnes, Gillian Beltz-Mohrmann, Arika Egan, Alan Hatlestad, Laura Herzog, Henry A. Kobulnicky, Andrew S. Leung, Jacob McLane, Jareth Roberts, Shawn Staudaher, Liese van Zee


250.08 Exploration of a SMBH Mass-Pitch Angle Relation at Intermediate Redshifts

Author(s): Logan H Jones, Amanda Schilling, Benjamin L. Davis, Robert S. Barrows, Julia D. Kennefick

Institution(s): 1. Arkansas Center for Space & Planetary Sciences, 2. Center for Astrophysics and Space Astronomy - University of Colorado, 3. Dept. of Physics - University of Arkansas

250.09 Spirality: A Novel Way to Measure Spiral Arm Pitch Angle

Author(s): Douglas W. Shields, Benjamin Boe, Casey L. Henderson, Matthew Hartley, Benjamin L. Davis, Hamed Pour Imani, Daniel Kennefick, Julia D. Kennefick

Institution(s): 1. University of Arkansas

250.10 SAMI Galaxy Survey: Disk and Bar Kinematics, Mass Decompositions with Dark Matter

Author(s): Gerald N. Cecil, Jonathan Bland-Hawthorn, Lisa Fogarty

Institution(s): 1. Sydney University Institute for Astrophysics, 2. Univ. of North Carolina

Contributing team(s): SAMI Galaxy Survey Team, GAMA Survey Team

250.11 Halo Mass Concentration and the Morphology of Simulated Spiral Galaxies

Author(s): Jazmin Berlanga Medina, Joel C. Berrier, Daniel Kennefick

Institution(s): 1. Rutgers University, 2. University of Arkansas

Contributing team(s): Arkansas Galaxy Evolution Survey

250.12 The Effect of Large-Scale Structure on the Formation of Disk Galaxies: Specific Angular Momentum Point of View

Author(s): Ji Hoon Kim

Institution(s): 1. National Astronomical Observatory of Japan
250.13 A Census of Galactic Disk Warps with an Automated Process
Author(s): Woongbae Galaxy Jee¹, Jeonghwan Henry Kim¹, Jun-Sung Moon¹, Suk-Jin Yoon¹
Institution(s): ¹ Yonsei University

250.15 The Role of Cold Gas in Low-level Supermassive Black Hole Activity
Author(s): Erik Alfvin², Brendan Miller¹, Elena Gallo³
Institution(s): ¹ College of St. Scholastica, ² Macalester College, ³ University of Michigan

250.16 A Method for Measuring the Transverse Velocity Vector and the Geometric Distance of the Andromeda Galaxy Using Water Masers
Author(s): Nikta Amiri¹, Jeremiah K. Darling¹
Institution(s): ¹ University of Colorado Boulder

250.17 Resolving Andromeda’s Structure with PHAT
Author(s): Anil Seth¹, Dylan Gregersen³, Julieanne Dalcanton⁴, Benjamin F. Williams⁴, Dustin Lang¹, Lent C. Johnson⁶, Tod R. Lauer²
Institution(s): ¹ Carnegie Mellon University, ² NOAO, ³ University of Utah, ⁴ University of Washington
Contributing team(s): PHAT Team

250.18 Color Index Imaging of the Stellar Stream Around NGC 5907
Author(s): Seppo Laine³, Carl J. Grillmair², David Martinez-Delgado¹, Aaron J. Romanowsky⁶, Peter Capak³, Richard G. Arendt³, Matthew Ashby⁴, James E Davies⁴, Steven R. Majewski¹, R. Jay GaBany²
Institution(s): ¹ ARI/U. Heidelberg, ² Black Bird Obs., ³ Caltech, ⁴ CfA/Harvard, ⁵ NASA/GSFC, ⁶ San Jose State U., ⁷ U. Virginia

250.19 Population Gradients in Stellar Halos from GHOSTS
Author(s): Jeremy Bailin³, Antonela Monachesi², Eric F. Bell⁴, Roelof S de Jong¹
Institution(s): ¹ AIP, ² MPA, ³ University of Alabama, ⁴ University of Michigan
Contributing team(s): GHOSTS Survey

250.20 Flux Calibration and Spectral Typing of the SPLASH Sample
Author(s): Caroline Chang², Nikita Vemuri¹, Katherine Hamren³, Puragra Guhathakurta³
Institution(s): ¹ Archbishop Mitty, ² Ardenwood, ³ University California Santa Cruz

250.21 The nuclear near-infrared spectral properties of nearby galaxies
Author(s): Rachel Mason⁴, Alberto Ardila⁶, Lucimara Martins⁹, Rogerio Riffel¹¹, Omaira Gonzalez-Martin¹, Christina Ramos Almeida ³, Daniel Ruschel Dutra¹¹, Luis C. Ho⁵, Karun Thanjavur¹³, Helene Flohic¹², Almudena Alonso-Herrero⁴, Paulina Lira⁸, Richard McDermid², Rogemar A Riffel¹⁰, Ricardo P. Schiavon⁷, Claudia Winge², Eric S. Perlman¹, Michael D. Hoenig²
Institution(s): ¹ Florida Institute of Technology, ² Gemini Observatory, ³ Instituto Astrofisica de Canarias, ⁴ Instituto de Fisica de Cantabria, ⁵ Kavli Institute for Astronomy and Astrophysics, ⁶ Laboratorio Nacional de Astrofisica, ⁷ Liverpool John Moores University, ⁸ Universidad de Chile, ⁹ Universidade Cruzeiro do Sul, ¹⁰ Universidade Federal do Rio Grande do Sul, ¹¹ University of the Pacific, ¹² University of Victoria
250.22  Mapping the Star Formation in NGC 1097 Using the JVLA  
Author(s): Aara’l Yarber\textsuperscript{1}, Kartik Sheth\textsuperscript{2}, Dana S. Balser\textsuperscript{1}, Sarah J. Wood\textsuperscript{2}  
Institution(s): \textsuperscript{1} Howard University, \textsuperscript{2} NRAO

250.23  Magnetic Fields In NGC 6946 Using Wide-Band Radio Polarimetry  
Author(s): Anna Williams\textsuperscript{2}, George Heald\textsuperscript{1}, Eric M. Wilcots\textsuperscript{2}, Ellen Gould Zweibel\textsuperscript{2}  
Institution(s): \textsuperscript{1} ASTRON, \textsuperscript{2} University of Wisconsin-Madison

250.24  Taking the Radio Blinders Off of M83: A Wide Spectrum Analysis of the Historical Point Source Population  
Author(s): Christopher Stockdale\textsuperscript{5}, Michael Nichols\textsuperscript{5}, Colton Rujevcan\textsuperscript{5}, William P. Blair\textsuperscript{4}, John J. Cowan\textsuperscript{10}, Leith Godfrey\textsuperscript{1}, James Miller-Jones\textsuperscript{2}, K. D. Kuntz\textsuperscript{4}, Knox S. Long\textsuperscript{8}, Larry A. Maddox\textsuperscript{7}, Paul P. Plucinsky\textsuperscript{3}, Tyler A. Pritchard\textsuperscript{9}, Roberto Soria\textsuperscript{2}, Bradley C. Whitmore\textsuperscript{6}, P. Frank Winkler\textsuperscript{6}  
Institution(s): \textsuperscript{1} ASTRON, \textsuperscript{2} Curtin University, \textsuperscript{3} Harvard Smithsonian CfA, \textsuperscript{4} Johns Hopkins University, \textsuperscript{5} Marquette University, \textsuperscript{6} Middlebury College, \textsuperscript{7} Northrop Grumman Corp, \textsuperscript{8} STScI, \textsuperscript{9} Swinburne University, \textsuperscript{10} University of Oklahoma

250.25  An Unusual DRAGN: The Spiral Galaxy, 0313-192  
Author(s): Gia Johnson\textsuperscript{1}, Minnie Mao\textsuperscript{2}, Emmanuel Momjian\textsuperscript{2}  
Institution(s): \textsuperscript{1} Adams State University, \textsuperscript{2} NRAO

250.26  A Shock in M51 Between NGC 5194 and NGC 5195?  
Author(s): Eric M. Schlegel\textsuperscript{3}, Laura D. Vega\textsuperscript{1}, Christine Jones\textsuperscript{2}  
Institution(s): \textsuperscript{1} Fisk University/Vanderbilt University, \textsuperscript{2} Harvard-Smithsonian Center for Astrophysics, \textsuperscript{3} Univ. of Texas, San Antonio

250.27  Detection of an Extended Outflow in NGC 4102  
Author(s): Timothy Trent Braun\textsuperscript{1}, Liese van Zee\textsuperscript{1}, Emily E. Richards\textsuperscript{1}, Kristen B. McQuinn\textsuperscript{2}, Evan D. Skillman\textsuperscript{1}  
Institution(s): \textsuperscript{1} Indiana University, \textsuperscript{2} University of Minnesota  
Contributing team(s): EDGES

251 Starburst Galaxies Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

251.01  A new view on the radiocontinuum emission in NGC 3079 from CHANG-ES  
Author(s): Ralf-Juergen Dettmar\textsuperscript{2}, Carlos Sotomayor-Beltran\textsuperscript{2}, Judith Irwin\textsuperscript{1}, Theresa van Vliet Wiegert\textsuperscript{1}  
Institution(s): \textsuperscript{1} Queens University, \textsuperscript{2} Ruhr-University Bochum  
Contributing team(s): CHANG-ES

251.02  Survey of Water and Ammonia in Nearby galaxies (SWAN): Physical Conditions in NGC 253  
Author(s): Mark Gorski\textsuperscript{4}, Jürgen Ott\textsuperscript{2}, Richard J. Rand\textsuperscript{4}, David S. Meier\textsuperscript{3}, Emmanuel Momjian\textsuperscript{2}, Fabian Walter\textsuperscript{1}  
Institution(s): \textsuperscript{1} Max Planck Institut für Astronomie, \textsuperscript{2} National Radio Astronomy Observatory, \textsuperscript{3} New Mexico Institute of Mining and Technology, \textsuperscript{4} University of New Mexico
251.03 Resolved Molecular Gas Properties in Local Luminous Infrared Galaxies  
Author(s): Kazimierz Sliwa¹, Christine Wilson¹  
Institution(s): ¹ McMaster University

251.04 The Uses of Fine Structure Lines in Constraining the Physical Properties of a Starburst  
Author(s): Moiya McTier¹, Drew Brisbin²  
Institution(s): ¹ Harvard University, 2. NRAO

251.05 Accurate Galactic Wind Simulations Require Gas Cooling to 10 K  
Author(s): Ryan Tanner¹, Fabian Heitsch°, Gerald N. Cecil¹  
Institution(s): ¹ University of North Carolina

251.06 An Atlas of Starburst Galaxy Emission Lines  
Author(s): Helen Meskhidze¹, Chris T. Richardson¹, Gary J. Ferland²  
Institution(s): ¹ Elon University, 2. University of Kentucky

251.07 Analyzing Hydrogen Recombination Lines in the Infrared and Optical to Determine Extinction and SFRs of Local LIRGs  
Author(s): Anna Payne³, Hanae Inami¹  
Institution(s): ¹ National Optical Astronomy Observatory, 3 Wellesley College

251.08 The CO-H2 conversion factor and the CO excitation ladder  
Author(s): Joel Robert Christian¹, Desika Narayanan¹  
Institution(s): ¹ Haverford College

251.09 Indirect Evidence for Escaping Lyman Continuum Photons in Local Lyman Break Galaxy Analogs  
Author(s): Rachael Alexandroff¹, Timothy M. Heckman¹, Sanchayeeta Borthakur¹, Roderik Overzier²  
Institution(s): ¹ Johns Hopkins University, 2. National Observatory of Brazil

251.10 Massive Compact Galaxies with High-velocity Outflows: Morphological Analysis and Constraints on AGN Activity  
Author(s): Paul Sell⁷, Christina A. Tremonti⁷, Ryan C. Hickox¹, Aleksandar M. Diamond-Stanic³, John Moustakas³, Alison L. Coil³, Anna Williams⁷, Gregory Rudnick³, Aday Robaina⁶, James Geach², Sebastian Heinz², Eric M. Wilcots⁷  

251.11 High-resolution dust emission and the resolved star formation law in the z~4 submillimeter galaxy GN20  
Author(s): Jacqueline Hodge⁴, Dominik A. Riechers², Roberto Decarli³, Fabian Walter³, Chris Luke Carilli³, Emanuele Daddi³, Helmut Dannerbauer⁶  
Institution(s): ¹ CEA, 2 Cornell, 3 MPIA, 4 NRAO, 5 NRAO, 6 University of Vienna

251.12 Large Millimeter Telescope Observations of Extremely Luminous High Redshift Infrared Galaxies Detected by the Planck Survey  
Author(s): Kevin Cornelius Harrington¹, Min Su Yun¹, John R Cybulski¹, Grant Wilson¹  
Institution(s): ¹ University of Massachusetts-Amherst

Contributing team(s): Large Millimeter Telescope (LMT) Team
251.13 Analyzing Star Formation Properties in Dusty Early Universe Galaxies Using Gravitational Lensing
Author(s): Jaclyn C Bradli\textsuperscript{1}, R. Shane Bussmann\textsuperscript{1}, Dominik A. Riechers\textsuperscript{1}, David Clements\textsuperscript{2}, Ismael Perez-Fournon\textsuperscript{3}
Institution(s): \textsuperscript{1} Cornell University, \textsuperscript{2} Imperial College London, \textsuperscript{3} Instituto de Astrofísica de Canarias

251.14 Multiplicity of High-z Submillimeter Galaxies from Cosmological Simulations
Author(s): David Ball\textsuperscript{4}, Desika Narayanan\textsuperscript{2}, Philip F. Hopkins\textsuperscript{1}, Matthew Turk\textsuperscript{3}
Institution(s): \textsuperscript{1} California Institute of Technology, \textsuperscript{2} Haverford College, \textsuperscript{3} NCSA, \textsuperscript{4} Whitman College

251.15 The Formation of High-Redshift Submillimeter Galaxies
Author(s): Desika Narayanan\textsuperscript{1}
Institution(s): \textsuperscript{1} Haverford College

252 Galaxy Cluster Posters
Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

252.01 Can Thermal Instability Explain the Cold Gas in Galaxy Cluster Centers?
Author(s): Christopher Cappiello\textsuperscript{1}, Paul Nulsen\textsuperscript{2}
Institution(s): \textsuperscript{1} Department of Physics, Yale University, \textsuperscript{2} Smithsonian Astrophysical Observatory

252.02 A search for counterparts to unconfirmed Planck cluster candidates in ROSAT, Chandra, XMM-Newton, and Swift archival data
Author(s): August Jon Miller\textsuperscript{1}, John Patrick Hughes\textsuperscript{4}, Felipe Menanteau\textsuperscript{4}, Felipe Barrientos\textsuperscript{3}, Leopoldo Infante\textsuperscript{3}
Institution(s): \textsuperscript{1} Bowdoin College, \textsuperscript{2} NCSA, \textsuperscript{3} Pontifica Univ Catolica de Chile, \textsuperscript{4} Rutgers University

252.03 The Chandra Observation of the Planck SZ Selected Cluster RXC J0528.9-3927
Author(s): Zhoujian Zhang\textsuperscript{3}, Christine Jones\textsuperscript{2}, Marie E. Machacek\textsuperscript{2}, Ralph P. Kraft\textsuperscript{2}, Scott W. Randall\textsuperscript{3}, Felipe Andrade-Santos\textsuperscript{2}, Elke Roediger\textsuperscript{1}
Institution(s): \textsuperscript{1} Hamburg University Observatory, \textsuperscript{2} Harvard-Smithsonian, CfA, \textsuperscript{3} Nanjing University

252.04 Jet-driven redistribution of metal in galaxy clusters
Author(s): Brian J. Morsony\textsuperscript{4}, Sebastian Heinz\textsuperscript{1}, Christopher S. Reynolds\textsuperscript{3}, Mateusz Ruszkowski\textsuperscript{3}, Marcus Brüggen\textsuperscript{2}
Institution(s): \textsuperscript{1} Univ. Of Wisconsin Madison, \textsuperscript{2} University of Hamburg, \textsuperscript{3} University of Maryland, \textsuperscript{4} University of Michigan

252.05 Time Evolution of Clustering Statistics During Simulated Galaxy Cluster Mergers
Author(s): Ryan Johnson\textsuperscript{1}, Tessa J Thorsen\textsuperscript{1}, Andre J Hinds\textsuperscript{1}, John A. ZuHone\textsuperscript{2}
Institution(s): \textsuperscript{1} Gettysburg College, \textsuperscript{2} NASA GSFC
252.06 High precision measurements of galaxy cluster escape velocities through phase-space stacking.
   **Author(s):** Christopher J. Miller¹, Daniel Gifford¹, Nicholas S. Kern¹
   **Institution(s):** ¹ University of Michigan

252.07 The Gemini Frontier Field: Multi-conjugate Adaptive Optics Ks-band imaging of selected HST Frontier Field galaxy clusters
   **Author(s):** Gaetano Sivo¹
   **Institution(s):** ¹ Gemini South Observatory
   Contributing team(s): Rodrigo Carrasco, Mischa Schirmer, Peter Pessev, Claudia Winge, Vincent Garrel, Benoit Neichel, Fabrice Vidal

252.08 Determining the Dynamical Mass of Subclusters within HST Frontier Fields Cluster MACSJ0171.5+3745
   **Author(s):** Aquiel Warner³, Christine Jones¹, Michael West², Reinout J. Van Weeren¹, Felipe A Santos¹
   **Institution(s):** ¹ Harvard-Smithsonian Center for Astrophysics, ² Maria Mitchell Organization, ³ Yale University

252.09 Digging Deep in Pandora’s Cluster
   **Author(s):** John P. Blakeslee², Karla Alamo-Martinez³, Elisa Toloba¹, Guillermo Barro¹, Eric W Peng³
   **Institution(s):** ¹ Lick Observatory, ² NRC Herzberg Institute of Astrophysics, ³ Peking University

252.10 Analysis of Spectral Lines from SparsePak Observations of Brightest Cluster Galaxies Abell 1668, Abell 2199, MKW3s, and Zw8338
   **Author(s):** Saisneha Koppaka¹, Louise O. V. Edwards¹, Hannah Alpert¹, Tara Abraham¹
   **Institution(s):** ¹ Yale University

252.11 Spectral Line Maps of a Sample of Local Brightest Cluster Galaxies
   **Author(s):** Hannah Alpert¹, Louise O. V. Edwards¹, Tara Abraham¹, Vasilije Dobrosavljevic¹
   **Institution(s):** ¹ Yale University

252.12 The Alignment of Red-Sequence Dwarf Galaxies
   **Author(s):** Haylee Archer², Wayne Barkhouse², Jaford Burgad², Gregory Foote², Cody Rude¹, Omar Lopez-Cruz¹
   **Institution(s):** ¹ Instituto Nacional de Astrofisica, ² University of North Dakota

252.13 Star Formation in Dwarf Galaxies as a Function of Cluster-Centric Radii
   **Author(s):** Cody Rude¹, Wayne Barkhouse¹
   **Institution(s):** ¹ University of North Dakota

252.14 Evolution of Star Formation Rates in Clusters Using Spitzer MIPS Imaging
   **Author(s):** Ethan Batson³, Kenneth J. Rines³, Rose Finn¹, Alexey Vikhlinin²
   **Institution(s):** ¹ Siena College, ² Smithsonian Astrophysical Observatory, ³ Western Washington University
252.15 Dynamical Properties of Luminous Galaxies in 132 Clusters
Author(s): Zachary Schutte, Kenneth J. Rines, Margaret J. Geller, Antonaldo Diaferio, Ho Seong Hwang

252.16 Dynamical Properties of Clusters Identified in Large Surveys Using the HectoMap Redshift Survey
Author(s): David Mark Reiman, Kenneth J. Rines, Margaret J. Geller, Attonaldo Diaferio, Ho Seong Hwang

252.17 HeCS-SZ: The Hectospec Cluster Survey of SZ-Selected Clusters
Author(s): Kenneth J. Rines, Margaret J. Geller, Antonaldo Diaferio, Ho Seong Hwang

252.18 The C4 Cluster Abundance Function Using Caustic Mass Estimates
Author(s): Daniel Gifford, Christopher J. Miller, Nicholas S. Kern, Alyssa Keimach, Ryan C. Hickox, Kevin Nicholas Hainline
Institution(s): 1. Dartmouth College, 2. University of Michigan

252.19 Merger Activity and Radio Emission Within A2061
Author(s): Avery Bailey, Craig L. Sarazin, Tracy E. Clarke, Marios Chatzikos, Taylor Hogge, Daniel R. Wik, Lawrence Rudnick, Damon Farnsworth, Reinout J. Van Weeren, Shea Brown

252.20 Probing the intragroup medium with bent-double lobed radio sources
Author(s): Danielle M. Nielsen, Eric M. Wilcots
Institution(s): 1. University of Wisconsin-Madison

252.21 Optical Follow-Up Observations for the High-z COBRA (Clusters Occupied by Bent Radio AGN) Survey
Author(s): Emmet Golden-Marx, Elizabeth L. Blanton, Rachel Paternomahler, Joshua Wing, Matthew Ashby, Mark Brodwin
Institution(s): 1. Boston University, 2. CfA, 3. SAO, 4. University of Missouri-Kansas City
TUESDAY, 6 JANUARY 2015

253 Large Scale Structure, Cosmic Distance Scale and Intergalactic Medium, QSO Absorption Line Systems Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

253.01 An Evolving Neighborhood: Tracking the Local Environment and its Influence on the Evolution of Galaxies
Author(s): L. A. Phillips¹, Ali Snedden¹
Institution(s): ¹ University of Notre Dame

253.02 A Computational Analysis of the Expanding Photosphere Method and the Distances to Type II-P Supernovae
Author(s): Robert C. Mitchell¹, Brian Didier¹
Institution(s): ¹ St. Ambrose University

253.03 Assembly Bias of Dark Matter Halos in LasDamas
Author(s): Andres Nicolas Salcedo¹, Andreas A. Berlind³, Ariyeh Maller², Manodeep Sinha³
Institution(s): ¹ Lehigh University, ² New York City College of Technology, ³ Vanderbilt University

253.04 The Theoretical Basis of Surface Brightness Fluctuations for Precision Cosmology and Stellar Population Studies
Author(s): Edward A. Ajhar², John Blakeslee¹, Joseph B. Jensen³
Institution(s): ¹ NRC Herzberg Institute of Astrophysics, ² St. Thomas University, ³ Utah Valley University

253.05 The Surface Brightness Fluctuation Distance to the Coma Cluster
Author(s): Joseph B. Jensen³, John Blakeslee¹, Hyejeon Cho⁴, Hyun-chul Lee³, Crystal-Lynn Bartier³, Zachary Gibson³
Institution(s): ¹ NRC - Herzberg, ² University of Texas Pan-American, ³ Utah Valley University, ⁴ Yonsei University

253.06 Interstellar Silicate Dust Grain Properties in Distant Galaxies Probed by Quasar Absorption Systems
Author(s): Monique C. Aller¹, Varsha P. Kulkarni³, Donald G. York³, Daniel E. Welty³, Giovanni Vladilo², Debopam Som⁴
Institution(s): ¹ Georgia Southern University, ² Osservatorio Astronomico di Trieste, ³ University of Chicago, ⁴ University of South Carolina

253.07 Characterizing the non-equilibrium ionization state of the intergalactic medium
Author(s): Devin W. Silvia¹, Brian W. O’Shea¹, Britton D. Smith³, J. Michael Shull¹, Matthew Turk², Daniel Reynolds³
Institution(s): ¹ Michigan State University, ² National Center for Supercomputing Applications, ³ Southern Methodist University, ⁴ University of Colorado - Boulder, ⁵ University of Edinburgh
253.08  Realistic Multi-ion Absorption Spectra from Simulations of the Intergalactic Medium  
**Author(s):** Jacob Kneibel\(^\d\), Devin Silvia\(^\d\), Brian W. O’Shea\(^\d\)  
**Institution(s):** \(^\d\) Michigan State University

253.09  The Effect of Galaxy Environment on Lyα Absorption  
**Author(s):** David M French\(^\d\), Bart P. Wakker\(^\d\)  
**Institution(s):** \(^\d\) University of Wisconsin - Madison

253.10  More Constraints on the Physical Conditions of the Kinematically Complex, Multiphase Absorption Line System at z=0.93 toward PG1206+459  
**Author(s):** Ben Rosenwasser\(^\d\), Sowgat Muzahid\(^\d\), Jackson Norris\(^\d\), Jane C. Charlton\(^\d\)  
**Institution(s):** \(^\d\) Pennsylvania State University

253.11  Resolving the Distribution of IGM Metals with Quasar Pair Spectroscopy  
**Author(s):** Jason X. Prochaska\(^\d\), Camille N Leibler\(^\d\)  
**Institution(s):** \(^\d\) UC, Santa Cruz

253.12  Detection of Extend Wind Emission out to 10 kpc from starforming galaxies at z~1  
**Author(s):** Hassen Yesuf\(^\d\), Sandra M. Faber\(^\d\), David C. Koo\(^\d\), Aaron Huang\(^\d\), Pranav Sekhar\(^\d\)  
**Institution(s):** \(^\d\) University of California Santa Cruz  
**Contributing team(s):** DEEP3 Redshift Survey

253.13  The Ionization Source and Distance to the Magellanic Stream  
**Author(s):** Kathleen Barger\(^\d\), Gregory J. Madsen\(^\d\), Andrew Fox\(^\d\), Bart P. Wakker\(^\d\), Jonathan Bland-Hawthorn\(^\d\), David L. Nidever\(^\d\), L. Matthew Haffner\(^\d\), Nicolas Lehner\(^\d\), Alex S. Hill\(^\d\)  
**Institution(s):** \(^\d\) Haverford College, \(^\d\) Space Telescope Science Institute, \(^\d\) Texas Christian University, \(^\d\) University of Cambridge, \(^\d\) University of Michigan, \(^\d\) University of Notre Dame, \(^\d\) University of Sydney, \(^\d\) University of Wisconsin-Madison

254 Gamma Ray Burst Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

254.00  The GRB All-sky Spectrometer Experiment II: Data Collection and Analysis  
**Author(s):** Elana Voigt\(^\d\), Zachary Martinot\(^\d\), Zachary Banks\(^\d\), Jonathan Pober\(^\d\), Miguel F. Morales\(^\d\)  
**Institution(s):** \(^\d\) University of Washington

254.01  The GRB All-sky Spectrometer Experiment I: Instrument Overview and Science Drivers  
**Author(s):** Zachary Martinot\(^\d\), Elana Voigt\(^\d\), Zachary Banks\(^\d\), Jonathan Pober\(^\d\), Miguel F. Morales\(^\d\)  
**Institution(s):** \(^\d\) University of Washington
254.02 The GRB All-sky Spectrometer Experiment III: Upgrades and Commissioning
Author(s): Zachary Banks¹, Zachary Martinot¹, Elana Voigt¹, Jonathan Pober¹, Miguel F. Morales¹
Institution(s): ¹ University of Washington

254.03 A New Astrometric Technique Applied to the Likely Tidal Disruption Event, Swift J166+57
Author(s): Rebekah Alianora Hounsell¹, Andrew S. Fruchter¹, Andrew J Levan²
Institution(s): ¹ Space Telescope Science Institute, ² The University of Warwick

254.04 Searching for Progenitor Clues in the Local Environments of Long GRB Hosts
Author(s): Peter Blanchard¹, Edo Berger¹
Institution(s): ¹ Harvard University

254.05 A Comprehensive Analysis of GRB Afterglows with Deep Chandra Follow-up: Implications for Off-Axis Jets
Author(s): David N. Burrows¹, Binbin Zhang²
Institution(s): ¹ Penn State Univ., ² UAH
Contributing team(s): et al.

255 Cosmology, CMB, and Dark Matter Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

255.01 The Effects of Massive Neutrino Self-Interactions on the Cosmic Microwave Background and Large Scale Structure
Author(s): Christina Kreisch³, Olivier Doré¹, Francis-Yan Cyr-Racine¹, Kris R. Sigurdson²
Institution(s): ¹ NASA Jet Propulsion Laboratory, ² University of British Columbia, ³ Washington University in St. Louis

255.02 Extinction and the rate of superstring microlensing detection for WFIRST survey of the Bulge
Author(s): Taylor Andrew Morris², David F. Chernoff³
Institution(s): ² Cornell University, ³ Sewanee: The University of the South

255.03 Instrumental Simulations of the 21cm Epoch of Reionization Signal
Author(s): Carina Cheng², Aaron Parsons², Adrian Liu², Haoxuan Zheng¹
Institution(s): ¹ Massachusetts Institute of Technology, ² University of California, Berkeley
Contributing team(s): HERA Collaboration

255.04 Simulations of Galaxy-Galaxy Lensing by SDSS Galaxies
Author(s): Brandon Harrison¹, Tereasa G. Brainerd¹
Institution(s): ¹ Boston University

255.05 Creating an Analysis Pipeline to Discover the Epoch of Reionization
Author(s): Nichole Barry¹, Ian S. Sullivan¹, Bryna Hazelton¹, Miguel F. Morales¹, Adam Beardsley¹, Patricia Carroll¹
Institution(s): ¹ University of Washington
255.06 Comparison of Intrinsic Alignment of Galaxies in MassiveBlack-II Hydrodynamic and N-body Simulations
Author(s): Ananth Tenneti\textsuperscript{2}, Rachel Mandelbaum\textsuperscript{2}, Tiziana DiMatteo\textsuperscript{2}, Nishikanta Khandai\textsuperscript{1}
Institution(s): \textsuperscript{1} Brookhaven National Laboratory, \textsuperscript{2} Carnegie Mellon University

255.07 Testing MONDian Dark Matter with Galactic Rotation Curves
Author(s): Duncan Farrah\textsuperscript{4}, Doug Edmonds\textsuperscript{4}, Chiu Man Ho\textsuperscript{2}, Djordje Minic\textsuperscript{4}, Jack Ng\textsuperscript{1}, Tatsu Takeuchi\textsuperscript{4}
Institution(s): \textsuperscript{1} Emory & Henry College, \textsuperscript{2} Michigan State University, \textsuperscript{3} University of North Carolina, \textsuperscript{4} Virginia Tech

255.08 Prospects for Detecting a Cosmic Bulk Flow
Author(s): Benjamin Rose\textsuperscript{1}, Peter M. Garnavich\textsuperscript{5}, Grant James Mathews\textsuperscript{1}
Institution(s): \textsuperscript{1} University of Notre Dame

255.09 Propelling Reionization with the Faintest Galaxies
Author(s): John H. Wise\textsuperscript{1}, Vasily G. Demchenko\textsuperscript{1}, Martin T. Halicek\textsuperscript{1}, Michael L. Norman\textsuperscript{1}, Matthew J. Turk\textsuperscript{2}, Tom Abel\textsuperscript{3}, Britton D. Smith\textsuperscript{1}
Institution(s): \textsuperscript{1} Georgia Institute of Technology, \textsuperscript{2} NCSA, \textsuperscript{3} Stanford University, \textsuperscript{4} UCSD, \textsuperscript{5} University of Edinburgh

255.10 The Hubble Expansion is Isotropic in the Epoch of Dark Energy
Author(s): Jeremy Darling\textsuperscript{1}
Institution(s): \textsuperscript{1} Univ. of Colorado, Boulder

255.11 Cosmology with the Nearby Supernova Factory
Author(s): Greg Aldering\textsuperscript{1}, Mickael Rigault\textsuperscript{4}, David Rubin\textsuperscript{5}, Cecilia Aragon\textsuperscript{12}, Stephen Bailey\textsuperscript{9}, Charles Baltay\textsuperscript{13}, Dan Birchall\textsuperscript{9}, Sebastien Bondard\textsuperscript{10}, Kyle Boone\textsuperscript{9}, Clement Buton\textsuperscript{8}, Michael Childress\textsuperscript{3}, Nicolas Chotard\textsuperscript{9}, Yannick Copin\textsuperscript{3}, Parker Fargrelius\textsuperscript{9}, Hannah Fakhouri\textsuperscript{7}, Ulrich Feindt\textsuperscript{5}, Mathilde Fleury\textsuperscript{10}, Dominique Fouchez\textsuperscript{4}, Emmanuel Gangler\textsuperscript{2}, Brian Hayden\textsuperscript{9}, Alex G. Kim\textsuperscript{9}, Marek Kowalski\textsuperscript{8}, Pierre-Francois Leget\textsuperscript{4}, Simona Lombardo\textsuperscript{6}, Jakob Nordin\textsuperscript{9}, Reynald Pain\textsuperscript{10}, Emmanuel Pecontal\textsuperscript{5}, Rui Pereira\textsuperscript{8}, Saul Perlmutter\textsuperscript{3}, David L. Rabinowitz\textsuperscript{13}, Karl Runge\textsuperscript{9}, Clare Saunders\textsuperscript{9}, Richard A. Scalzo\textsuperscript{1}, Gerard Smadja\textsuperscript{8}, Caroline Sofiatti\textsuperscript{11}, Nao Suzuki\textsuperscript{7}, Charling Tao\textsuperscript{3}, Rollin Thomas\textsuperscript{9}, Benjamin Weaver\textsuperscript{12}
Institution(s): \textsuperscript{1} Australian National University, \textsuperscript{2} Clermont University, \textsuperscript{3} CRAL, \textsuperscript{4} Florida State University, \textsuperscript{5} Humbolt University, \textsuperscript{6} IPMU, \textsuperscript{7} IPNL, \textsuperscript{8} Lawrence Berkeley Lab, \textsuperscript{9} LPNHE, \textsuperscript{11} New York University, \textsuperscript{12} University of Washington, \textsuperscript{13} Yale University
Contributing team(s): Nearby Supernova Factory

255.12 The Union3 Supernova Ia Compilation
Author(s): David Rubin\textsuperscript{1}, Greg Scott Aldering\textsuperscript{1}, Rahman Amanullah\textsuperscript{1}, Kyle H. Barbary\textsuperscript{1}, Adam Bruce\textsuperscript{1}, Greta Chappell\textsuperscript{1}, Miles Currie\textsuperscript{1}, Kyle S. Dawson\textsuperscript{1}, Susana E. Deustua\textsuperscript{1}, Mamoru Doi\textsuperscript{1}, Hannah Fakhouri\textsuperscript{1}, Andrew S. Fruchter\textsuperscript{1}, Rachel A. Gibbons\textsuperscript{1}, Ariel Goobar\textsuperscript{1}, Eric Hsiao\textsuperscript{1}, Xiaosheng Huang\textsuperscript{1}, Yutaka Ihara\textsuperscript{1}, Alex G. Kim\textsuperscript{1}, Robert A. Knop\textsuperscript{1}, Marek Kowalski\textsuperscript{1}, Evan Krechmer\textsuperscript{1}, Chris Lidman\textsuperscript{1}, Eric Linder\textsuperscript{1}, Joshua Meyers\textsuperscript{1}, Tomoki Morokuma\textsuperscript{1}, Jakob Nordin\textsuperscript{1}, Saul Perlmutter\textsuperscript{1}, Pascal Ripoche\textsuperscript{1}, Eli S. Rykoff\textsuperscript{1}, Clare Saunders\textsuperscript{1}, Anthony L. Spadafora\textsuperscript{1}, Nao Suzuki\textsuperscript{7}, Naohiro Takanashi\textsuperscript{1}, Naoki Yasuda\textsuperscript{7}
Institution(s): \textsuperscript{1} Florida State University
Contributing team(s): Supernova Cosmology Project
255.13 Testing Quantum Mechanics and Bell’s Inequality with Astronomical Observations
Author(s): Andrew S. Friedman¹, Jason Gallicchio², David I Kaiser³, Alan H. Guth¹
Institution(s): ¹ Massachusetts Institute of Technology, ² University of Chicago, ³ Kavli Institute for Cosmological Physics

255.14 Variability Search in GALFACTS
Author(s): Joseph Kania¹, Trey Wenger², Tapasi Ghosh³, Christopher J. Salter³
Institution(s): ¹ Carnegie Mellon University, ² University of Virginia, ³ NAIC/Arecibo Observatory

255.15 The HST Frontier Fields: Current Status and Complete Science Data Products Release for the First Two Clusters
Author(s): Anton M. Koekemoer¹, Jennifer Mack¹, Jay Anderson¹, Roberto J. Avila¹, Elizabeth A. Barker¹, Norman A. Grogin¹, Bryan Hilbert¹, Harish G. Khandrika¹, Jennifer Lotz¹, Ray A. Lucas¹, Sara Ogaz¹, Massimo Robberto¹, Matt Mountain¹
Institution(s): ¹ STScI

255.16 Hubble Space Telescope Wide Field Camera 3 Observations of Escaping Lyman Continuum Radiation from Galaxies and AGN at Redshifts z⊙2.3–6.
Author(s): Brent Mathew Smith¹, Rogier A. Windhorst¹, Seth H. Cohen¹, Rolf A Jansen¹, Lihhua Jiang¹, Mark Dijkstra³, Anton M. Koekemoer¹, Richard Bielby², John W. MacKenty³, Robert W. O’Connell⁶, Joseph I Silk¹
Institution(s): ¹ Arizona State University, ² Durham University, ³ Institute of Theoretical Astrophysics, University of Oslo, ⁴ Space Telescope Science Institute, ⁵ The Johns Hopkins University, ⁶ University of Virginia

255.17 See-Change: an HST program to probe Dark Energy time variation
Author(s): Brian Hayden⁷, Saul Perlmutter⁷, Jakob Nordin⁵, David Rubin⁵, Chris Lidman¹, Susana E. Deustua¹, Andrew S. Fruchter¹, Greg Scott Aldering⁷, Mark Brodwin¹, Carlos E. Cunha¹, Peter R. Eisenhardt⁵, Anthony H. Gonzalez²¹, Myungkook J. Lee¹, Hendrik Hildebrandt¹⁷, Henk Hoekstra¹⁸, Joana Santos⁹, S. Adam Stanford¹⁰, Daniel Stern⁵, Rene Fassbender¹⁰, Johan Richard², Piero Rosati²¹, Risa H. Wechsler¹², Adam Muzzin¹³, Jon Willis²⁶, Hans Boehringer⁶, Michael Gladders²⁰, Ariel Goobar¹⁴, Rahman Amanullah¹⁴, Isobel Hook²⁵, Dragan Huterer²³, Xiaosheng Huang⁶, Alex G. Kim⁷, Marek Kowalski¹⁹, Eric Linder⁷, Reynald Pain⁶, Clare Saunders⁷, Nao Suzuki⁴, Kyle H. Barbary⁷, Eli S. Rykoff¹², Joshua Meyers¹², Caroline Soﬁatti⁷, Gillian Wilson¹⁶, Eduardo Rozo¹², Matt Hilton²², Anthony L. Spadafora⁷
Institution(s): ¹ Australian National Observatory, ² Centre de Recherche Astronomique de Lyon, ³ Florida State University, ⁴ IPMU, ⁵ Jet Propulsion Laboratory, ⁶ Laboratoire de Physique Nucléaire des Hautes Energies, ⁷ Lawrence Berkeley National Lab, ⁸ Max Planck Institute fur extraterrestrische physics, ⁹ Osservatorio Astroﬁsico di Arcetri, ¹⁰ Osservatorio Astronomico di Roma, ¹¹ Space Telescope Science Institute, ¹² Stanford University, ¹³ Sterrewacht Leiden, ¹⁴ Stockholm University, ¹⁵ UC Davis, ¹⁶ UC Riverside, ¹⁷ Universitat Bonn, ¹⁸ Universiteit Leiden, ¹⁹ University of Bonn, ²⁰ University of Chicago, ²¹ University of Florida, ²² University of KwaZulu-Natal, ²³ University of Michigan, ²⁴ University of Missouri - Kansas City, ²⁵ University of Oxford, ²⁶ University of Victoria, ²⁷ University of Ferrara
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<td>¹Cornell University, ²Dartmouth College, ³Rutgers University</td>
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<td>¹Harvard University</td>
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<td>Teresa G. Brainerd¹, Ingolfur Agustsson¹</td>
<td>¹Boston University</td>
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<td>¹Fermi National Accelerator Laboratory</td>
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<td>Sarah Katherine Martens¹</td>
<td>¹University of Wisconsin Madison</td>
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<td>Lee G. Mundy¹, Shaye Storm³, Maxime Rizzo¹, Leslie Looney¹, Che-Yu Chen¹, Eve C. Ostriker², Katherine I Lee¹</td>
<td>¹Center for Astrophysics, ²Princeton University, ³Univ. of Maryland, ⁴University of Illinois</td>
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<td>Mark Graham¹</td>
<td>¹Harvard-Smithsonian CfA</td>
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<td>Sara Bruhns², Lisa A. Prato¹</td>
<td>¹Lowell Observatory, ²University of Virginia</td>
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<td>Mass Assembly of Stellar Systems and their Evolution with the SMA (MASES)</td>
<td>Katherine I Lee¹, Michael Dunham¹, Philip C. Myers¹, Lars Kristensen¹, Alyssa A. Goodman¹, Tyler L. Bourke⁴, John J. Tobin³, Jaime E. Pineda³, Jes Jorgensen³, Hector G. Arce³, Stella Offner³, Eduard Vorobyov⁷</td>
<td>¹CfA, ²ETH, ³Leiden University, ⁴SKA, ⁵University of Copenhagen, ⁶University of Massachusetts, ⁷University of Vienna, ⁸Yale University</td>
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256.06 6.7 GHz Methanol Masers Associated with Jets in Very Early High Mass Protostars  
Author(s): Viviana Rosero3, Peter Hofner3, Mark J. Claussen2, Stan Kurtz1, Ricardo Cesaroni4, Luca Moscadelli5  
Institution(s): 1 Centro de Radioastronomía y Astrofísica, 2 National Radio Astronomy Observatory, 3 New Mexico Tech, 4 Osservatorio Astrofisico di Arcetri, 5 Osservatorio Astronomico di Cagliari

256.07 Ammonia and HC7N Emission in Starless Dense Cores  
Author(s): Tierra M. Candelaria1  
Institution(s): 1 The College of Idaho  
Contributing team(s): Scott Schnee, Kathryn Devine, John Carpenter, Paola Caselli, Mario Tafalla, Youngmin Seo, Yancy Shirley, James Di Francesco, John Tobin, Shadi Chitsazzadeh, Sarah Sadavoy, Alyssa Goodman, Luca Ricci, and Shigehisa Takakuwa

256.08 The Star Formation in Radio Survey: Mapping Star Formation in Nearby Galaxies with 33GHz Emission  
Author(s): Dillon Dong7, Eric J. Murphy3, Emmanuel Momjian6, Kristina Nyland1, James J. Condon5, George Helou2, David S. Meier6, Juergen Ott6, Eva Schinnerer4, Jean Turner8  
Institution(s): 1 ASTRON, 2 Caltech, 3 IPAC/Caltech, 4 MPIA, 5 NRAO, Charlottesville, 6 NRAO, Soccoro, 7 Pomona College, 8 UCLA

256.09 NGC 1097: Constraining mechanisms for star formation with the VLA  
Author(s): Sarah Wood2, Kartik Sheth2, Dana S. Balser2, Aara’L Yarber1  
Institution(s): 1 Howard University, 2 NRAO

256.10 Velocity Gradients in Star-forming Dense Cores  
Author(s): Luhong (Larry) Li1  
Institution(s): 1 Columbia University

256.11 Low-Mass Visual Companions to Young Spectroscopic Binaries  
Author(s): Lisa A. Prato2, Gail Schaefer1  
Institution(s): 1 CHARA/GSU, 2 Lowell Observatory

256.12 SOFIA multi-wavelength observations of nearby star-forming clusters  
Author(s): Maxime Rizzo4, Lee G. Mundy4, Stephen Rinehart3, Dominic J. Benford1, Xavier Koenig3, David Leisawitz3, Joseph D. Adams1, Luke D. Keller2  
Institution(s): 1 Cornell University, 2 Ithaca College, 3 NASA Goddard Space Flight Center, 4 University of Maryland, College Park, 5 Yale University

256.13 An Investigation into PAH Destruction in Nearby Supernova Remnants, North Polar Spur and Cygnus Loop  
Author(s): Sarah M. Burkhart1, Adolf N. Witt2  
Institution(s): 1 Arizona State University, 2 University of Toledo

256.14 A 100-3000 GHz model of thermal dust emission observed by Planck, DIRBE and IRAS  
Author(s): Aaron M. Meisner3, Douglas P. Finkbeiner1  
Institution(s): 1 Harvard University
256.15 Modeling the Carbon Dust Around Evolved Carbon Stars
Author(s): John Derby1, Jean E. Chiar2, Matthew S. Povich1, Michael P. Egan4, Anthony P. Jones2, Xander Tielens3
Institution(s): 1 Cal Poly Pomona, 2 Institut d’Astrophysique, 3 Leiden University, 4 National Geospatial-Intelligence Agency, 5 SETI Institute

256.16 A Generalized Method for Measuring RV in the Milky Way
Author(s): Albert Lee1, Gregory Green1, Edward Ford Schlafly2, Aaron M. Meisner1, Douglas P. Finkbeiner1
Institution(s): 1 Harvard University, 2 Max Planck Institute for Astronomy

256.17 Uncertainty in the Extinction-to-Reddening Ratio in the Near Infrared Due to Uncertainty in the Assumed Spectral Type of Main-Sequence Background Stars
Author(s): Holly Christenson1, Kristen A. Larson1
Institution(s): 1 Western Washington University

256.18 3D Dust Mapping Reveals that Orion Forms Part of a Large Ring of Dust
Author(s): Edward Ford Schlafly2, Gregory Green1, Douglas P. Finkbeiner1, Hans-Walter Rix2
Institution(s): 1 Harvard, 2 MPIA

256.19 Milky Way Dust and Stars in 3D
Author(s): Gregory Green1, Eddie Ford Schlafly2, Douglas P. Finkbeiner1
Institution(s): 1 Harvard Univ., 2 Max-Planck-Institut für Astrophysik

257 Extrasolar Planets: Characterization Posters
Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

257.01 Constraining the Atmospheric Composition of WASP-18b
Author(s): Robert Wells2, Mercedes Lopez-Morales2, Nikole Lewis3, Daniel Apai6, Andres Jordan5, Nestor Espinoza5, Benjamin Rackham6, David J. Osip1, Jonathan D. Fraine8, Jonathan J. Fortney7, Florian Rodler4
Institution(s): 1 Carnegie Institution for Science, 2 Harvard-Smithsonian Center for Astrophysics, 3 Massachusetts Institute of Technology, 4 Max Planck Institute for Astronomy, 5 Pontificia Universidad Catolica, 6 University of Arizona, 7 University of California, 8 University of Maryland

257.02 Fundamental Parameters of the Two Hall-of-Famers HD 189733 and HD 209458
Author(s): Kaspar von Braun9, Tabetha S. Boyajian16, Gregory A. Feiden15, Daniel Huber10, Sarbani Basu16, Pierre Demarque16, Debra Fischer16, Gail Schaefer4, Timothy White6, Vicente Maestro14, John Michael Brewer16, Brooke Lamell16, Federico Spada7, Andrew Mann13, Mercedes Lopez-Morales3, Michael Ireland4, Christopher D. Farrington9, Gerard van Belle8, Stephen R. Kane12, Jeremy Jones5, Theo Ten Brummelaar4, David R. Ciardi2, Harold A. McAlister5, Stephen T. Ridgway11, PJ Goldfinger4
Institution(s): 1 ANU, 2 Caltech, 3 CfA, 4 CHARA, 5 Georgia State, 6 Göttingen, 7 Leibniz Institut, 8 Lowell Observatory, 9 MPIA, 10 NASA Ames, 11 NOAO, 12 SFSU, 13 Texas, 14 U. of Sydney, 15 Uppsala University, 16 Yale
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257.03 Empirically determined properties of the K-dwarf HD 189733 and implications for evolutionary models of low-mass stars

Author(s): Tabetha S. Boyajian, Kaspar von Braun, Gregory A. Feiden, Daniel Huber, Sarbani Basu, Pierre Demarque, Debra Fischer, Gail Schaefer, Timothy White, Vicente Maestro, John Michael Brewer, Brooke Lamell, Federico Spada, Andrew Mann, Mercedes Lopez-Morales, Michael Ireland, Christopher D. Farrington, Gerard van Belle, Stephen R. Kane, Jeremy Jones, Theo Ten Brummelaar, David R. Ciardi, Harold A. McAlister, Stephen T. Ridgway, P. J. Goldfinger


257.04 A Pair of Massive Planets Orbiting an Oscillating Kepler Red Giant in a Binary System

Author(s): Samuel Noah Quinn, Daniel Huber, David W. Latham, Matthew J. Payne, David M. Kipping, David Sliski, William J Chaplin, Rasmus Handberg, Dennis Stello, Timothy R White, Lars A Buchhave


Contributing team(s): Kepler Science Team, Kepler Asteroseismic Science Consortium

257.05 The Properties of Exomoons Around the Habitable Zone Planet, Kepler 22b

Author(s): Christopher R. Fuse, Jake Bokorney

Institution(s): 1. Rollins College

257.06 Analysis of Secondary Eclipse Observations of Exoplanet WASP-34b

Author(s): Ryan Challener, Joseph Harrington, Justin Garland, Patricio Cubillos, Jasmina Blecic, Barry Smalley

Institution(s): 1. Keele University, 2. University of Central Florida

257.07 A Gemini Planet Imager investigation of the atmosphere of the HD 95086b planet

Author(s): Robert J De Rosa, Laurent Pueyo, Jenny Patience, James R. Graham

Institution(s): 1. Arizona State University, 2. Space Telescope Science Institute, 3. University of California

Contributing team(s): Gemini Planet Imager team

257.08 Metallicity Analysis of Kepler-65, Kepler-93, Kepler-99, Kepler-102, Kepler-406, and Kepler-409

Author(s): Zachary A Vaz, Simon C. Schuler, Orlando J. Katime Santrich, Katia M. L. Cunha, Verne V. Smith

Institution(s): 1. NOAO, 2. Observatório Nacional, 3. University of Tampa
257.09 High-Resolution Abundance Analysis of Stars with Small Planets Discovered by Kepler  
Author(s): Drake Williams³, Simon C. Schuler¹, Zachary A Vaz³, Katia M. L. Cunha², Verne V. Smith¹  
Institution(s): ¹ NOAO, ² Observatório Nacional, ³ University of Tampa  

257.10 Exoplanet Transmission Spectroscopy in the Near Infrared with Keck/MOSFIRE  
Author(s): Brett Morris³, Avi Mandell³, Daniel Angerhausen¹, Marc Kassis⁴, Nikku Madhusudhan⁵, Michael W. McElwain¹  
Institution(s): ¹ NASA GSFC, ² University of Cambridge, ³ University of Washington, ⁴ W. M. Keck Observatory  

257.11 Dayside emission spectrum of Kepler-13Ab from HST and ground-based observations  
Author(s): Ming Zhao³, Heather Knutson¹, Jason Wright³, Ronald L. Gilliland³, Nikku Madhusudhan³, Travis Barman⁴, Avi Shporer², Joseph O’Rourke¹  
Institution(s): ¹ California Institute of Technology, ² Jet Propulsion Lab, ³ Penn State University, ⁴ University of Arizona, ⁵ University of Cambridge  

257.12 KELT-7b: A Hot Jupiter Transiting a Bright V=8.57 F-Star  
Author(s): Allyson Bieryla², Karen A Collins⁹, Thomas G. Beatty⁷, Jason D Eastman⁹, Robert Siverd¹⁰, Joshua Pepper⁴, B. Scott Gaudi⁶, Keivan Stassun¹⁰, Caleb Canas², David W. Latham², Lars A Buchhave², Roberto Sanchis Ojeda², Joshua N. Winn², Eric L. N. Jensen⁸, John F. Kielkopf³, Kim K. McLeod¹¹, Joao Gregorio¹, Knicole D. Colon⁴, Rachel Street¹, Rachel J. Ross⁵, Matthew Penny⁶, Thomas E. Oberst¹², BJ Fulton³, Perry L. Berlind², Michael L Calkins², Gilbert Esquerdo²  
Institution(s): ¹ Atalaia Group and CROW Observatory, ² Harvard-Smithsonian Center for Astrophysics, ³ LCOGT, ⁴ Lehigh University, ⁵ MIT, ⁶ Ohio State University, ⁷ Pennsylvania State University, ⁸ Swarthmore College, ⁹ University of Louisville, ¹⁰ Vanderbilt University, ¹¹ Wellesley College, ¹² Westminster College  

257.13 Secondary Eclipse Observations of the Hot-Jupiter WASP-26b  
Author(s): Em DeLarme¹, Joseph Harrington¹, Patricio Cubillos⁴, Andrew S. D. Foster¹, Justin Garland¹, Madison Stemm¹, Jasmina Bleicic¹, Andrew Cameron², Thomas J. Loredo¹  
Institution(s): ¹ Cornell University, ² University of St Andrews  

257.14 Constructing Mass-radius Relationships of Low Mass Gaseous Exoplanets with MESA  
Author(s): Howard Chen¹, Leslie Rogers²  
Institution(s): ¹ Boston University, ² Cahill Center for Astronomy and Astrophysics, California Institute of Technology  

257.15 Clouds in Super-Earth Atmospheres: Chemical Equilibrium Calculations  
Author(s): Rostom Mbarek¹, Eliza Kempton¹  
Institution(s): ¹ Grinnell College
257.16 The Effects of Modeling Clouds and Hazes in Transit Transmission Spectra of Extra Solar Planets  
Author(s): Kyle Luther¹, Michael R. Line², Jonathan J. Fortney²  
Institution(s): ¹ UC Berkeley, ² UC Santa Cruz

257.17 Exo-Transmit: A Publicly Available Exoplanet Transmission Spectrum Code and Accompanying Spectral Library  
Author(s): Eliza Kempton¹, Roxana E. Lupu², Patrick Slough¹, Albert Owusu-Asare¹, Bryson Cale¹  
Institution(s): ¹ Grinnell College, ² NASA Ames Research Center

257.18 Examining the Relative Compositions of Giant Planets and their Parent Stars  
Author(s): Daniel Thorngren¹, Jonathan J. Fortney¹  
Institution(s): ¹ UCSC

257.19 Effects of Photoevaporation on Planet Migration  
Author(s): Alexander Wise¹, Sarah E. Dodson-Robinson¹  
Institution(s): ¹ University of Delaware

257.20 Formation of Giant Planets by Gravitational Instability in Layered Accretion Disk: A Study on Dust Settling  
Author(s): Debanjan Sengupta¹  
Institution(s): ¹ University of Delaware

257.21 The Impact of Stellar Multiplicity on Planet Occurrence  
Author(s): Adam L. Kraus³, Michael Ireland¹, Trent J. Dupuy³, Andrew Mann³, Daniel Huber²  
Institution(s): ¹ Australian National University, ² NASA Ames, ³ University of Texas - Austin

257.22 The In Situ Formation of Systems with Tightly-packed Inner Planets  
Author(s): Aaron C. Boley³, Melissa A. Morris¹, Eric B Ford²  
Institution(s): ¹ Center for Meteorite Studies, Arizona State University, ² Pennsylvania State University, ³ The University of British Columbia

257.23 The Orbital Architectures of Planet-Hosting Binary Systems  
Author(s): Trent J. Dupuy³, Adam L. Kraus³, Michael Ireland¹, Andrew Mann³, Daniel Huber²  
Institution(s): ¹ Australian National University, ² NASA Ames Research Center, ³ University of Texas at Austin

257.24 A secular model for efficient exploration of mutually-inclined planetary systems  
Author(s): Russell Deitrick¹, Rory Barnes¹  
Institution(s): ¹ University of Washington

257.25 Direct imaging of exoplanets around multiple star systems  
Author(s): Sandrine Thomas¹  
Institution(s): ¹ NASA/UARC
257.26 High-precision ground-based observations of transiting exoplanets to detect their magnetic fields and undiscovered companions
Author(s): Morgan Ryleigh Fitzpatrick2, Zachary Watson2, Robert Zellem2, Kyle Pearson1, Caitlin Ann Griffith2
Institution(s): 1 Northern Arizona University, 2 University of Arizona
Contributing team(s): AzGOE

257.27 Connecting historical disk interactions with current planetary system architectures
Author(s): Emily Ellinger1, Jason H. Steffen1
Institution(s): 1 Northwestern University

257.28 Inclination Excitation in Extrasolar Planetary Systems
Author(s): Juliette Becker1, Fred C. Adams1
Institution(s): 1 University of Michigan

257.29 Shedding Light on the Eccentricity Valley: Gap Heating and Eccentricity Excitation of Giant Planets in Protoplanetary Disks
Author(s): David Tsang1, Neal J. Turner2, Andrew Cumming1
Institution(s): 1 McGill University, 2 NASA JPL

257.30 Analyzing Mass Loss and Tidal Circularization as a Source for Sustained Eccentric Orbits in Hot Jupiters
Author(s): Rachel L. Salmon1, Jeremy F. Sepinsky1
Institution(s): 1 University of Scranton

257.31 Characterizing the Hot Kepler Objects of Interest
Author(s): Ellen Price2, Leslie Rogers2, John Johnson1, Avi Shporer3, Tim Morton4, Justin R. Crepp5, Jonathan Swift2, Philip Steven Muirhead1
Institution(s): 1 Boston University, 2 California Institute of Technology, 3 Harvard-Smithsonian Center for Astrophysics, 4 Jet Propulsion Laboratory, 5 Notre Dame University, 6 Princeton University

257.32 MINERVA-Red: A Census of Planets Orbiting the Nearest Low-mass Stars to the Sun
Author(s): Cullen Blake5, John Johnson1, Peter Plavchan2, David Sliski5, Robert A. Wittenmyer4, Jason D Eastman1, Stuart Barnes4
Institution(s): 1 Harvard University, 2 Missouri State University, 3 Stuart Barnes Optical Design, 4 University of New South Wales, 5 University of Pennsylvania

257.33 Inferring Planet Occurrence Rates With a Q1-Q16 Kepler Planet Candidate Catalog Produced by a Machine Learning Classifier
Author(s): Joseph Catanzarite2, Jon Michael Jenkins1, Christopher J. Burke2, Sean D McCauliff3
Institution(s): 1 NASA Ames Research Center, 2 SETI Institute, 3 Wyle
Contributing team(s): Kepler Science Operations Center

257.34 Estimates of Planetary System Properties using TTV data and Least-Excited Orbital Configurations
Author(s): Daeyoung Lee1, Jason H. Steffen1
Institution(s): 1 Northwestern University
257.35 Identifying transiting planets candidates in Kepler data using PyKE  
**Author(s):** Clement Gaillard¹, Denise C. Stephens¹, Thomas E. Stephens¹  
**Institution(s):** ¹ Brigham Young University

257.36 The Kepler False Positive Table  
**Author(s):** Steve Bryson¹  
**Institution(s):** ¹ NASA Ames Research Center  
**Contributing team(s):** The Kepler False Positive Working Group

257.37 Orbital Phase Curves of Kepler Exoplanetary Systems  
**Author(s):** Dilovan Serindag¹, Seth Redfield¹  
**Institution(s):** ¹ Wesleyan University

257.38 Modelling Phase Curves and Occultations in KOI Light Curve  
**Author(s):** Laura C Mayorga¹, Jason Jackiewicz¹  
**Institution(s):** ¹ New Mexico State University

257.39 Characterizing Retired A Stars  
**Author(s):** Luan Ghezzi¹, John Johnson¹, José Dias do Nascimento¹  
**Institution(s):** ¹ Harvard-Smithsonian Center for Astrophysics

257.40 Young Nearby Suns and Stellar Jitter Dependence on Age  
**Author(s):** Nicole Cabrera¹, Russel White¹, Xavier Delfosse³, Samuel Noah Quinn¹, David W. Latham²  
**Institution(s):** ¹ Georgia State University, ² Harvard-Smithsonian, CfA, ³ Université Joseph Fourier

257.41 KIC 12557548 and Similar Stars as SETI Targets  
**Author(s):** Kimberly Michelle Star Cartier¹  
**Institution(s):** ¹ Pennsylvania State University

258 Extrasolar Planets: Detection Posters

Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

258.01 The MEarth project: an all-sky survey for transiting Earth-like exoplanets orbiting nearby M-dwarfs  
**Author(s):** Jonathan Irwin¹, Zachory K. Berta-Thompson², David Charbonneau¹, Jason Dittmann¹, Elisabeth R. Newton¹  
**Institution(s):** ¹ Harvard-Smithsonian Center for Astrophysics, ² MIT

258.02 Exoplanets with LSST: Period Recoverability of Transiting Hot Jupiters  
**Author(s):** Savannah Jacklin³, Michael Lund², Joshua Pepper¹, Keivan Stassun²  
**Institution(s):** ¹ Lehigh University, ² Vanderbilt University, ³ Villanova University

258.03 A Novel Technique for Narrow-Band Tunable Filter Photometry to Enable Ground-Based Detection of Earth-Sized Exoplanets  
**Author(s):** Benjamin Kimock¹, Knicole Colón², Joshua Pepper²  
**Institution(s):** ¹ Dickinson College, ² Lehigh University

258.04 Testing the refurbished 30-inch Leuschner telescope and its exoplanet detection capabilities  
**Author(s):** Eileen Gonzales¹, Adam Fries¹, Adrienne Cool¹  
**Institution(s):** ¹ San Francisco State University
258.05 Determining the Photometric Precision of the 0.9-m CTIO SMARTS Telescope
Author(s): Cameron Clarke1, Angelle M. Tanner2, Todd J. Henry1, Jarrod Marsh3
Institution(s): 1 Georgia State University, 2 Mississippi State University
Contributing team(s): RECONS, SMARTS

258.06 Mechanical design for the Evryscope: a minute cadence, 10,000-square-degree FoV, gigapixel-scale telescope
Author(s): Jeff Ratzloff1, Nicholas M. Law1, Octavi Fors Aldrich1, Philip J. Wulfken1
Institution(s): 1 UNC Chapel Hill

258.07 Image Quality of the Evryscope: Method for On-Site Optical Alignment
Author(s): Philip J. Wulfken1, Nicholas M. Law1
Institution(s): 1 University of North Carolina

258.08 Calibrating the pixel-level Kepler imaging data with a causal data-driven model
Author(s): Dun Wang2, Daniel Foreman-Mackey2, David W. Hogg2, Bernhard Schölkopf1
Institution(s): 1 Max Planck Institute for Intelligent Systems, 2 New York University

258.09 High-contrast imager for Complex Aperture Telescopes (HiCAT): APLC/shaped-pupil hybrid coronagraph designs
Author(s): Mamadou N’Diaye5, Elodie Choquet5, Alexis Carlotti2, Laurent Pueyo1, Sylvain Egron5, Lucie Lebouleux5, Olivier Levecq5, Marshall D. Perrin5, J. Kent Wallace3, Chris Long5, Rachel Lajoie5, Charles-Philippe Lajoie5, A J Eldorado Riggs4, Neil T Zimmerman5, Tyler Dean Groff3, N. Jeremy Kasdin1, Robert J. Vanderbei1, Dimitri Mawet1, Bruce Macintosh6, Stuart Shaklan1, Remi Soummer5
Institution(s): 1 ESO, 2 Institute of Planetology and Astrophysics of Grenoble, 3 Jet Propulsion Laboratory, 4 Princeton University, 5 Space Telescope Science Institute, 6 Stanford University

258.10 Design of an occulter testbed at flight Fresnel numbers
Author(s): Dan Sirbu4, N. Jeremy Kasdin1, Yunjong Kim1, Robert J. Vanderbei3
Institution(s): 1 Princeton University

258.11 Performance characterization of a PIAA complex focal plane mask
Author(s): Kevin Newman3, Ruslan Belikov1, Olivier Guyon2, Eugene Pluzhnik1
Institution(s): 1 NASA Ames Research Center, 2 Subaru Telescope, 3 University of Arizona

258.12 Advances in Focal Plane Wavefront Estimation for Directly Imaging Exoplanets
Author(s): A J Eldorado Riggs1, N. Jeremy Kasdin1, Tyler Dean Groff1
Institution(s): 1 Princeton University

258.13 KLIP-ing for Analogs - Detection Statistics for HR8799-like systems
Author(s): Jake R Hanson1, Daniel Apai1
Institution(s): 1 University of Arizona
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258.14 Direct Imaging of Radial Velocity Exoplanets with the WFIRST-AFTA Coronagraph
Author(s): Aastha Acharya¹, Dmitry Savransky¹
Institution(s): ¹ Cornell University

258.15 Development of Integral Field Spectroscopy for the AFTA Coronagraph using an Electron Multiplication CCD
Author(s): Richard Demers¹
Institution(s): ¹ Jet Propulsion Laboratory
Contributing team(s): Jet Propulsion Laboratory, Caltech; Goddard Space Flight Center

258.16 Finding the Needle in the Haystack: High-Fidelity Models of Planetary Systems for Simulating Exoplanet Observations
Author(s): Andrew Lincowski², Aki Roberge¹, Christopher C. Stark¹, Ashlee N. Wilkins⁴, Erika Nesvold³
Institution(s): ¹ NASA/Goddard Space Flight Center, ² University of Arizona, ³ University of Maryland - Baltimore County, ⁴ University of Maryland - College Park
Contributing team(s): the Haystacks Team

258.17 A re-analysis of planet candidates common to the HARPS and Anglo-Australian Planet Search
Author(s): Robert A. Wittenmyer¹, Duncan Wright¹
Institution(s): ¹ UNSW Australia

258.18 RV Search for Young Hot Jupiters in the Infrared
Author(s): Justin R. Cantrell¹, Russel J. White¹, John Ira Bailey¹
Institution(s): ¹ Georgia State University

258.19 Giant Planet Candidates, Brown Dwarfs, and Binaries from the SDSS-III MARVELS Planet Survey.
Author(s): Neil Thomas², Jian Ge³, Rui Li², Nathan M. De Lee¹, Michael Heslar², Bo Ma³
Institution(s): ¹ Northern Kentucky University, ² University of Florida
Contributing team(s): SDSS-III MARVELS Team

258.20 Illumination Profile & Dispersion Variation Effects on Radial Velocity Measurements
Author(s): Nolan Grieves⁴, Jian Ge³, Neil B Thomas³, Bo Ma³, Rui Li³
Institution(s): ³ University of Florida
Contributing team(s): SDSS-III

258.21 Precise Near-Infrared Radial Velocities
Author(s): Peter Plavchan⁴, Peter Gao¹, Jonathan Gagne¹², Elise Furlan⁷, Michael Bottom¹, Cassy Davison², Sean Mills¹⁰, David R. Ciardi⁷, Angelle M. Tanner⁵, Charles A. Beichman⁷, Joseph Catanzarite⁸, John Johnson¹, Russel J. White², Guillem Anglada-Escudé¹¹, Todd J Henry⁹, Kasper von Braun⁶, Bernie Walp⁹, Lisa A. Prato⁴
Institution(s): ¹ Caltech, ² Georgia State University, ³ Harvard, ⁴ Lowell Observatory, ⁵ Mississippi State University, ⁶ MPIA, ⁷ NASA Exoplanet Science Institute, ⁸ Self, ⁹ SETI Institute, ¹⁰ University of Chicago, ¹¹ University of London, ¹² University of Montreal
258.22 Retrieval of Precise Radial Velocities from High Resolution Near-Infrared Spectra of M Dwarfs

Author(s): Peter Gao, Peter Plavchan, Jonathan Gagne, Elise Furlan, Michael Bottom, Guillem Anglada-Escudé, Russel J. White, Cassy Davison, Sean Mills, Charles A. Beichman, Carolyn Brinkworth, John Johnson, David R. Ciardi, J. Kent Wallace, Bertrand Mennesson, Kaspar von Braun, Gautam Vasisht, Lisa A. Prato, Stephen R. Kane, Angelle M. Tanner, Bernie Walp, Sam Crawford, Sean Lin


258.23 The Habitable-zone Planet Finder (HPF): Achieving high precision radial velocities and mitigating stellar activity noise

Author(s): Suvrath Mahadevan, Lawrence W. Ramsey, Ryan Terrien, Paul Robertson, Robert C. Marchwinski, Fred Hearty, Eric Levi, Gudmundur Kári Stefánsson, Chad F. Bender, Samuel Halverson, Arpita Roy, Matt Nelson, Christian Schwab

Institution(s): 1. Penn State, 2. University of Virginia

258.24 Spotting Spots: Simulating Stellar Noise for Spot Detection

Author(s): Aida Behmard, Cyril Zhang, Matthew J. Giguere, Debra Fischer

Institution(s): 1. Yale University

258.25 MINERVA: A Dedicated Observatory for Detection of Nearby Low-Mass Exoplanets

Author(s): Nate McCrady, John Johnson, Jason Wright, Robert A. Wittenmyer, Cullen Blake, Jonathan Swift, Jason D Eastman, Peter Plavchan, Reed L. Riddle, Philip Steven Muirhead, Michael Bottom, Ming Zhao, Thomas G. Beatty


258.26 Optimization of the MINERVA Exoplanet Search Strategy via Simulations

Author(s): Chantell Nava, Samson Johnson, Nate McCrady

Institution(s): 1. University of Montana

Contributing team(s): MINERVA

258.27 Autonomous Observing and Planet Discovery with the Automated Planet Finder (APF)

Author(s): Jennifer Burt, Russell Hanson, Bradford Holden, R. Paul Butler, Steven S. Vogt, Greg Laughlin

Institution(s): 1. Carnegie Institute of Washington, 2. University of California - Santa Cruz
258.28 Stellar Radial Velocities with Subaru/IRCS and an Ammonia Absorption Cell
Author(s): Steven Gilhool2, Motohide Tamura1, Tomonori Usuda1, Cullen Blake2
Institution(s): 1 National Astronomical Observatory of Japan, 2 University of Pennsylvania

258.29 The Spectroastrometric Detection of Exomoons
Author(s): Tiffany C. Jansen1, Brianna Lacy1, Tyler D. Robinson1, Eric Agol1
Institution(s): 1 University of Washington
Contributing team(s): The Virtual Planetary Laboratory

258.30 Differential Astrometry to detect giant planets around A-stars
Author(s): John D. Monnier4, Keith Johnson4, Samuel Swihart4, Michael Ireland1, Ming Zhao3, Theo Ten Brummelaar2
Institution(s): 1 Australian National University, 2 Georgia State University, 3 Pennsylvania State University, 4 Univ. of Michigan

258.31 Short duration microlensing events: Searching for rogue planets
Author(s): Kathryn E. St. Laurent2, Rosanne Di Stefano3, Francis A. Primini1, Wei Peng Lew1, Lai Su Gau1, Sophie Benson1
Institution(s): 1 Harvard-Smithsonian CfA, 2 UMass Dartmouth
Contributing team(s): The Optical Gravitational Lensing Experiment, Microlensing Observations in Astrophysics

258.32 The Subaru SEEDS Direct Imaging Survey for Planets of Early-Type Stars
Author(s): Kellen D Lawson1, Joseph Carson1, Christian Thalmann2
Institution(s): 1 College of Charleston, 2 Institute for Astronomy
Contributing team(s): SEEDS Survey Team

259 Probe-Scale Exoplanet Mission Concepts Posters
Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

259.01 Probe-Scale Mission Concepts for Direct Imaging and Spectroscopy of Nearby Exoplanet Systems
Author(s): Stephen C. Unwin2, Sara Seager3, Karl R. Stapelfeldt1, Keith Warfield1, Frank G Dekens2, Gary Blackwood2
Institution(s): 1 GSFC, 2 JPL, 3 MIT
Contributing team(s): Exo-S Science and Technology Definition Team, Exo-C Science and Technology Definition Team, JPL Probe Study Design Teams

259.02 Exoplanet Science with a Starshade: Exo-S Study Results
Author(s): Margaret C. Turnbull1, Sara Seager3, Aki Roberge4, Shawn Domagal-Goldman4, Stuart Shaklan4
Institution(s): 1 Global Science Institute, 2 JPL, 3 MIT, 4 NASA GSFC
Contributing team(s): Exo-S Science and Technology Definition Team
259.03 Imaging Exoplanets with the Exo-S Starshade Mission: Key Enabling Technologies
Author(s): N. Jeremy Kasdin\textsuperscript{2}, Doug Lisman\textsuperscript{1}, Stuart Shaklan\textsuperscript{1}, Mark Thomson\textsuperscript{1}, David Webb\textsuperscript{1}, Eric Cady\textsuperscript{1}
Institution(s): \textsuperscript{1} Jet Propulsion Laboratory, \textsuperscript{2} Princeton University
Contributing team(s): Exo-S Science and Technology Definition Team, Exoplanet Program Probe Study Design Team

259.04 Imaging Exoplanets with the Exo-S Starshade Mission: Baseline Design
Author(s): Eric Cady\textsuperscript{1}, Doug Lisman\textsuperscript{1}, Stefan Martin\textsuperscript{1}, Daniel Scharf\textsuperscript{1}, Stuart Shaklan\textsuperscript{1}, Rachel Trabert\textsuperscript{1}, David Webb\textsuperscript{1}
Institution(s): \textsuperscript{1} Jet Propulsion Laboratory
Contributing team(s): Exo-S Science and Technology Definition Team, Exoplanet Program Probe Study Design Team

259.05 High Contrast Science Program for the Exo-C Space Telescope Mission
Author(s): Karl R. Stapelfeldt\textsuperscript{3}, Mark S. Marley\textsuperscript{2}, Geoffrey Bryden\textsuperscript{1}, Victoria Meadows\textsuperscript{4}, Ruslan Belikov\textsuperscript{2}, Michael W. McElwain\textsuperscript{3}
Institution(s): \textsuperscript{1} Jet Propulsion Laboratory / Caltech, \textsuperscript{2} NASA Ames Research Center, \textsuperscript{3} NASA Goddard Space Flight Center, \textsuperscript{4} University of Washington
Contributing team(s): Exo-C Science and Technology Definition Team

259.06 Exo-C: Mission and Science Payload Design
Author(s): Frank G Dekens\textsuperscript{2}, Karl R. Stapelfeldt\textsuperscript{1}, Keith Warfield\textsuperscript{2}, Stephen C. Unwin\textsuperscript{2}
Institution(s): \textsuperscript{1} GSFC, \textsuperscript{2} JPL
Contributing team(s): Exo-C Science and Technology Definition Team, Exo-C JPL Study Design Team

259.07 Enabling Technologies for Characterizing Exoplanet Systems with Exo-C
Author(s): Kerri Lynn Cahoy\textsuperscript{1}, Ruslan Belikov\textsuperscript{2}, Karl R. Stapelfeldt\textsuperscript{1}, Supriya Chakrabarti\textsuperscript{5}, John T. Trauger\textsuperscript{4}, Eugene Serabyn\textsuperscript{4}, Michael W. McElwain\textsuperscript{3}, Christopher M. Pong\textsuperscript{4}, Paul Brugarolas\textsuperscript{4}
Institution(s): \textsuperscript{1} MIT, \textsuperscript{2} NASA Ames Research Center, \textsuperscript{3} NASA Goddard Space Flight Center, \textsuperscript{4} NASA Jet Propulsion Laboratory, \textsuperscript{5} University of Massachusetts Lowell

260 Astrobiology Posters
Tuesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

260.01 On the thermal, magnetic, and orbital evolution of tidally heated Earth-mass exoplanets
Author(s): Peter E. Driscoll\textsuperscript{1}, Rory Barnes\textsuperscript{1}
Institution(s): \textsuperscript{1} University of Washington
TUESDAY, 6 JANUARY 2015

260.02 Enumerating the Progress of SETI Observations
Author(s): Lindsay Lesh1, Jill C. Tarter2
Institution(s): 1 Bowling Green State University, 2 The SETI Institute

260.03 Detecting Traces of Life in the Plume of Enceladus
Author(s): Daniel M. Krolikowski2, Jonathan I. Lunine1
Institution(s): 1 Cornell University, 2 State University of New York, College at Geneseo

260.04 Habitability of Planets Orbiting Binaries Consisting of Solar Mass Twins
Author(s): Paul A. Mason3, Jorge I Zuluaga1, Andrey G Zhilkin2, Dmitry V Bisikalo2
Institution(s): 1 Harvard, Visiting Fulbright Scholar, 2 Russian Academy of Sciences, Institute for Astronomy, 3 Univ. Of Texas at El Paso
300 Plenary Talk: The Interactions of Exoplanets with their Parent Stars

Wednesday, 8:30 am - 9:20 am; 6E
Chair(s): Nancy Brickhouse (Harvard-Smithsonian, CfA)

300.01 The Interactions of Exoplanets with their Parent Stars
Author(s): Katja Poppenhaeger
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics

301 Cosmology I

Wednesday, 10:00 am - 11:30 am; 6A
Chair(s): John Wise (Georgia Institute of Technology)

301.01 Gravitational wave signature in B-modes and the power in ΛCDM models on large and small scales
Author(s): Quinn Eliot Minor¹, Manoj Kaplinghat²
Institution(s): ¹ Borough of Manhattan Community College, ² University of California, Irvine

301.02 New 21 cm Power Spectrum Upper Limits From PAPER I: Results from PAPER 64
Author(s): Zaki Shiraz Ali¹, Aaron Parsons¹, Jonathan Pober²
Institution(s): ¹ University of California Berkeley, ² University of Washington
Contributing team(s): Team PAPER

301.03 New 21 cm Power Spectrum Upper Limits From PAPER II: Constraints on IGM Properties at z = 7.7
Author(s): Jonathan Pober², Zaki Ali¹, Aaron Parsons¹
Institution(s): ¹ UC Berkeley, ² University of Washington
Contributing team(s): PAPER Team

301.04 Epoch of Reionization observations from the first semester of data from the Murchison Widefield Array
Author(s): Adam Beardsley¹
Institution(s): ¹ University of Washington
Contributing team(s): MWA Collaboration

301.05 Reference MWA EoR Power Spectrum analysis
Author(s): Bryna Hazelton¹, Jonathan Pober¹, Adam Beardsley¹, Miguel F. Morales¹, Ian S. Sullivan¹
Institution(s): ¹ University of Washington
Contributing team(s): MWA Collaboration
301.06 The same with less: The cosmic web of warm versus cold dark matter dwarf galaxies
Author(s): Darren Reed¹, Aurel Schneider³, Robert E Smith², Joachim Stadel³, Ben Moore³
Institution(s): ¹ Barcelona (ICE - CSIC, IEEC), ² Sussex, ³ University of Zurich

301.07 Comparison of Observed and Simulated Reionization Foregrounds from the Murchison Widefield Array
Author(s): Nithyanandan Thyagarajan¹, Danny Jacobs¹, Judd D. Bowman¹
Institution(s): ¹ Arizona State University
Contributing team(s): MWA EoR Collaboration

301.08 Calibration and Imaging for next generation 21cm EoR arrays
Author(s): Ian S. Sullivan¹, Miguel F. Morales¹, Bryna Hazelton¹, Adam Beardsley¹
Institution(s): ¹ University of Washington
Contributing team(s): MWA Collaboration

302 Results from the SDSS-III/APOGEE Survey I

Wednesday, 10:00 am - 11:30 am; 6B

Our understanding of the structure, formation, and evolution of the Milky Way Galaxy is being revolutionized by a new generation of spectroscopic surveys and the recently launched astrometric Gaia satellite. At the forefront of these efforts is the SDSS-III Apache Point Observatory Galactic Evolution Experiment (APOGEE). APOGEE is a recently completed high-resolution, near-infrared (NIR) spectroscopic survey of more than 100,000 stars in the Milky Way disk, bulge, and halo. The bulk of these stars are luminous red giants that in the NIR can be traced out to distances of 10 kpc and beyond, providing us for the first time with a comprehensive view of the Galactic disk and bulge populations. The high-resolution spectra allow precise radial velocities and elemental abundances of 15 elements to be measured. This special session will present the exciting and varied scientific explorations allowed by the high-quality APOGEE data, including the chemodynamical structure of the Milky Way disk, the structure of the bulge, new methods to trace the interstellar medium with diffuse interstellar bands, constraints on stellar physics and Galactic structure from the combination of the APOGEE data with asteroseismology from Kepler and CoRoT, the structure of young nebulous clusters, and others. A presentation of the second stage of APOGEE in SDSS-IV (2014-2020), which will expand the sky coverage to the Southern hemisphere, will also be given. This Special Session will include a survey overview and a combination of invited and contributed talks and posters, highlighting important APOGEE science results from the full three-year survey.

Chair(s): Steven Majewski (Univ. of Virginia)

302.01 Apache Point Observatory Galactic Evolution Experiment (APOGEE): Status and Overview of Results
Author(s): Jo Bovy¹, Steven R. Majewski²
Institution(s): ¹ Institute for Advanced Study, ² University of Virginia
Contributing team(s): SDSS-III/APOGEE Collaboration
302.02 Stellar Populations with APOGEE and Kepler


302.03 The INfrared Survey of Young Nebulous Clusters (IN-SYNC): Surveying the Dynamics and Star Formation Histories of Young Clusters with APOGEE

**Author(s):** Kevin R. Covey, Michiel Cottaar, Jonathan B. Foster, Nicola Da Rio, Jonathan Tan, Michael Meyer, David L. Nidever, Kevin M. Flaherty, Hector G. Arce, Luisa M. Rebull, Peter M. Frinchaboy, Fred R. Hearty, Steven R. Majewski, Michael F. Skrutskie, Keivan Stassun, John C. Wilson, Gail Zasowski


302.04 Results from the APOGEE IN-SYNC Orion: parameters and radial velocities for thousands of young stars in the Orion Complex.

**Author(s):** Nicola Da Rio

**Institution(s):** 1. University of Florida

**Contributing team(s):** SDSS Apogee IN-SYNC ancillary program team

302.05 The APOGEE Low-Mass Star Ancillary Project

**Author(s):** Cullen Blake, Suvrath Mahadevan, Rohit Deshpande, Chad F. Bender, Ryan Terrien, Justin R. Crepp, Joleen K. Carlberg, David L. Nidever, Keivan Stassun, Suzanne L. Hawley, Fred Hearty, Carlos Allende-Prieto

302.06 Chemical Abundance Comparisons Between ASPCAP and Manual Analyses in Open Cluster Red Giants
Author(s): Verne V. Smith\(^7\), Katia M. L. Cunha\(^6\), Diogo Souto\(^6\), Matthew D. Shetrone\(^10\), Szabolcs Meszaros\(^1\), Carlos Allende-Prieto\(^2\), Dmitry Bizyaev\(^6\), Joleen K. Carlberg\(^6\), Ana García Pérez\(^3\), Sten Hasselquist\(^5\), Jon A. Holtzman\(^5\), Jennifer Johnson\(^5\), Steven R. Majewski\(^11\), Ricardo P. Schiavon\(^3\), Jennifer Sobeck\(^11\), Nicholas William Troup\(^11\)
Institution(s): \(^1\) ELTE Gothard Astrophysical Observatory, \(^2\) Instituto de Astrofisica de Canarias, \(^3\) Liverpool John Moores University, \(^4\) NASA Goddard Spaceflight Center, \(^5\) New Mexico State University, \(^6\) NMSU/APO, \(^7\) NOAO, \(^8\) Observatorio Nacional, \(^9\) Ohio State University, \(^10\) University of Texas at Austin, \(^11\) University of Virginia

302.07 The Cannon
Author(s): Melissa Ness\(^2\), David W. Hogg\(^3\), Hans-Walter Rix\(^2\), Gail Zasowski\(^1\)
Institution(s): \(^1\) John Hopkins University, \(^2\) MPIA, \(^3\) New York University

303 AGN, QSO, Blazars V

Wednesday, 10:00 am - 11:30 am; 6C

Chair(s): Timothy Hamilton (Shawnee State Univ.)

303.01 New Insights on Weak Emission Line Quasars from X-shooter Spectroscopy
Author(s): Richard Plotkin\(^7\), Ohad Shemmer\(^8\), Benny Trakhtenbrot\(^3\), Scott F. Anderson\(^9\), W. Niel Brandt\(^4\), Xiaohui Fan\(^6\), Elena Gallo\(^7\), Paulina Lira\(^5\), Bin Luo\(^4\), Gordon T. Richards\(^1\), Jianfeng Wu\(^2\)
Institution(s): \(^1\) Drexel University, \(^2\) Harvard-Smithsonian Center for Astrophysics, \(^3\) Institute for Astronomy, ETH, \(^4\) Pennsylvania State University, \(^5\) Universidad de Chile, \(^6\) University of Arizona, \(^7\) University of Michigan, \(^8\) University of North Texas, \(^9\) University of Washington

303.02 High Energy Emission from Quasar Jets: HST polarimetry, X-ray and Gamma-ray Emission and the IC/CMB hypothesis
Author(s): Eric S. Perlman\(^1\), Markos Georganopoulos\(^3\), Eileen T. Meyer\(^2\), Mihai Cara\(^2\)
Institution(s): \(^1\) Florida Institute of Technology, \(^2\) Space Telescope Science Institute, \(^3\) University of Maryland, Baltimore County

303.03 The Ultraviolet Spectra of Active Galaxies With Double-Peaked Balmer Emission Lines
Author(s): Michael Eracleous\(^3\), Karen T. Lewis\(^5\), Jules P. Halpern\(^1\), Alexei V. Filippenko\(^6\), Thaisa Storchi-Bergmann\(^2\), Mario Livio\(^4\), Andrew S. Wilson\(^7\)
Institution(s): \(^1\) Columbia University, \(^2\) IF-UFRGS, \(^3\) Pennsylvania State Univ., \(^4\) STScI, \(^5\) The College of Wooster, \(^6\) University of California, \(^7\) University of Maryland

303.04 Quasar Line Emission at the Bluest Extreme UV Wavelengths
Author(s): David Syphers\(^1\), Joshua Moloney\(^2\)
Institution(s): \(^1\) Eastern Washington University, \(^2\) University of Colorado
303.05 Far-Infrared Properties of Boss Quasars
Author(s): Kathryn Amy Harris4, Duncan Farrah4, Bernhard Schulz1, Marco Viero1, Nicholas Ross2, Rachel E. Elliott4, Sara M. Petty4, Mariana S. Lazarova3
Institution(s): 1 CalTech, 2 Lawrence Berkeley National Laboratory, 3 University of Nebraska, 4 Virginia Tech

303.06D Searching for Dual AGNs in Galaxy Mergers: Understanding Double-Peaked [O III] and Ultra Hard X-rays as Selection Method
Author(s): Rosalie C. McGurk2, Claire E. Max2, Anne Medling1, Gregory A. Shields3
Institution(s): 1 Australia National University, 2 University of California Santa Cruz, 3 University of Texas

303.07 A Comparison of [OIII] and Mid-Infrared Luminosity Indicators In Optically-Selected Type I and Type II Quasars
Author(s): Kevin N. Hainline1, Ryan C. Hickox1, Christopher M. Carroll1
Institution(s): 1 Dartmouth College

303.08 Rapid CIV BAL Variability in an SDSS-RM Quasar
Author(s): Catherine Grier2, Patrick B. Hall4, W. Niel Brandt2, Jonathan Trump2, Yue Shen1, M. Vivek3
Institution(s): 1 Carnegie Observatories, 2 Pennsylvania State University, 3 University of Utah, 4 York University

303.09 Detection of Quasar Feedback from the Thermal Sunyaev-Zel’dovich Effect in Planck
Author(s): John J. Ruan1, Matthew McQuinn1, Scott F Anderson1
Institution(s): 1 University of Washington

304 Galaxy Clusters I

Wednesday, 10:00 am - 11:30 am; 6E
Chair(s): Kenneth Rines (Western Washington University)

304.01 The Merging Cluster Collaboration (MC2) Analysis of Merging Galaxy Cluster CIZA J2242+5301
Author(s): William Dawson4, Myungkook J. Jee6, Andra Stroe5, David Sobral3, David M. Wittman6, Marcus Brüggen2, Henk Hoekstra5, Huub Röttgering3, Reinout J. Van Weeren1
Institution(s): 1 CfA, 2 Hamburger Sternwarte, 3 Instituto de Astrofisica e Ciencias do Espaco, 4 Lawrence Livermore Nat. Lab, 5 Leiden Observatory, 6 UC Davis Contributing team(s): Merging Cluster Collaboration

304.02D Cooking a ‘Sausage’: the impact of merger shocks in cluster gas and galaxy evolution
Author(s): Andra Stroe5, David Sobral3, Jeremy Harwood2, Reinout J. Van Weeren6, Clare Rumsey1, Huib Intema2, Huub Röttgering3, Marcus Brüggen1, Richard Saunders1, Martin Hardcastle2, Matthias Hoeft7
Institution(s): 1 Astrophysics Group, Cavendish Laboratory, 2 CAR Hertfordshire, 3 Hamburg Observatory, 4 Leiden Observatory, 5 National Radio Astronomy Observatory, 6 Smithsonian Astrophysical Observatory, 7 Thüringer Landessternwarte
304.03D Effects of Mergers and Dynamical State on Galaxy Clusters in Cosmological Simulations
Author(s): Katherine L. Nelson\textsuperscript{1}, Daisuke Nagai\textsuperscript{2}

Institution(s): \textsuperscript{1} Yale University

304.04 The spectacular merger event in A3411: Shock fronts and radio relics
Author(s): Felipe Andrade-Santos\textsuperscript{1}, Christine Jones\textsuperscript{1}, William R. Forman\textsuperscript{1}, Reinout J. Van Weeren\textsuperscript{1}, Georgiana A Ogrean\textsuperscript{1}, Stephen S. Murray\textsuperscript{2}

Institution(s): \textsuperscript{1} Harvard-Smithsonian Center for Astrophysics, \textsuperscript{2} Johns Hopkins

Contributing team(s): Chandra-Planck Collaboration

304.05D A Multi-component Radio Halo in the Merging Galaxy Cluster A2319: Implications for Cluster Dynamics and Cosmic Rays
Author(s): Emma Storm\textsuperscript{1}, Tesla E. Jeltema\textsuperscript{1}, Lawrence Rudnick\textsuperscript{2}, Stefano Profumo\textsuperscript{1}

Institution(s): \textsuperscript{1} University of California, Santa Cruz, \textsuperscript{2} University of Minnesota

304.06 NuSTAR Observations of Galaxy Clusters
Author(s): Daniel R. Wik\textsuperscript{1}

Institution(s): \textsuperscript{1} NASA Goddard Space Flight Center

Contributing team(s): NuSTAR team

305 Supermassive Black Holes

Wednesday, 10:00 am - 11:30 am; 610

Chair(s): Justin Finke (US Naval Research Laboratory)

305.01 The evolving corona and evidence for jet launching from the supermassive black hole in Markarian 335
Author(s): Daniel Wilkins\textsuperscript{1}, Luigi C. Gallo\textsuperscript{1}

Institution(s): \textsuperscript{1} Saint Mary’s University

305.02 Tidal Disruption Events Exhibit a Continuum of H- to He-Rich Spectra and Prefer E+A Galaxies
Author(s): Iair Arcavi\textsuperscript{1}

Institution(s): \textsuperscript{1} Las Cumbres Observatory Global Telescope

305.03 The ongoing hunt for supermassive black hole binaries
Author(s): Jessie C. Runnoe\textsuperscript{4}, Gavin Mathes\textsuperscript{4}, Michael Eracleous\textsuperscript{4}, Todd A. Boroson\textsuperscript{3}, Jules P. Halpern\textsuperscript{1}, Steinn Sigurdsson\textsuperscript{5}, Tamara Bogdanovic\textsuperscript{2}

Institution(s): \textsuperscript{1} Columbia University, \textsuperscript{2} Georgia Institute of Technology, \textsuperscript{3} Las Cumbres Observatory Global Telescope Network, \textsuperscript{4} New Mexico State University, \textsuperscript{5} The Pennsylvania State University

305.04 One Step Beyond: What Can Be Learned From a Sample of Supermassive Black Hole Binaries?
Author(s): Tamara Bogdanovic\textsuperscript{1}, Khai Nguyen\textsuperscript{1}, Michael Eracleous\textsuperscript{2}, Jessie C. Runnoe\textsuperscript{4}, Steinn Sigurdsson\textsuperscript{2}

Institution(s): \textsuperscript{1} Georgia Institute of Technology, \textsuperscript{2} Pennsylvania State University
305.05 Modeling the Observability of Recoiling Black Holes as Offset Quasars  
**Author(s):** Laura Blecha, Paul Adam Torrey, Mark Vogelsberger, Shy Genel, Volker Springel, Debora Sijacki, Greg Snyder, Simeon Bird, Dylan R. Nelson, Dandan Xu, Lars E. Hernquist

**Institution(s):** 1 Cambridge University, 2 Harvard-Smithsonian Center for Astrophysics, 3 HITS, 4 IAS, 5 Massachusetts Institute of Technology, 6 STScI, 7 Univ. of Maryland - College Park

305.06 Songlines from Direct Collapse Seed Black Holes  
**Author(s):** Aycin Aykutalp, John Wise, Marco Spaans, Rowin Meijerink

**Institution(s):** 1 Georgia Institute of Technology, 2 Kapteyn Astronomical Institute, 3 Leiden Observatory, Leiden University

305.07 Off The Beaten Path: Modeling the Dynamics of Supermassive Black Holes in Cosmological Simulations  
**Author(s):** Michael J. Tremmel, Fabio Governato, Marta Volonteri, Thomas R. Quinn

**Institution(s):** 1 University of Michigan, 2 University of Washington

305.08 General Relativistic Ray Tracing for X-ray Reverberation and Polarimetry Studies of Black Holes  
**Author(s):** Janie Hoormann, Henric Krawczynski

**Institution(s):** 1 Washington University in St. Louis

### 306 Extrasolar Planets: Host Stars and Interactions

**Wednesday, 10:00 am - 11:30 am; 616/617**

**Chair(s):** Sarah Ballard *(University of Washington)*

306.01D Detecting Exoplanetary Magnetic Fields  
**Author(s):** Joe Llama

**Institution(s):** 1 Lowell Observatory

306.02D The Effect of Star-Planet Interactions on Planetary Climate  
**Author(s):** Aomawa Shields, Victoria Meadows, Cecília Bitz, Raymond Pierrehumbert, Manoj Joshi, Tyler Robinson, Eric Agol, Rory Barnes, Benjamin Charnay

**Institution(s):** 1 NASA Ames Research Center, 2 UCLA/Harvard-Smithsonian Center for Astrophysics, 3 University of Chicago, 4 University of East Anglia, 5 University of Washington

Contributing team(s): Virtual Planetary Laboratory

306.04 Validation of a Warm Jupiter Transiting a Rapidly Rotating Star  
**Author(s):** Marshall C. Johnson, William D. Cochran, Michael Endl

**Institution(s):** 1 University of Texas at Austin

306.05 Deriving stellar inclination of slow rotators using stellar activity signal  
**Author(s):** Xavier Dumusque

**Institution(s):** 1 Harvard-Smithsonian Center for Astrophysics
306.06 Deciphering thermal phase curves of tidally locked terrestrial planets
Author(s): Daniel D.B. Koll¹, Dorian S Abbot¹
Institution(s): ¹ University of Chicago

306.07 Accurate Stellar Parameters for Exoplanet Host Stars
Author(s): John Michael Brewer², Debra Fischer², Sarbani Basu², Jeff A. Valenti¹
Institution(s): ¹ Space Telescope Science Institute, ² Yale University

307 Neutron Stars in Binary Systems and Millisecond Pulsars

Wednesday, 10:00 am - 11:30 am; 618/619
Chair(s): Rodrigo Fernandez (Institute for Advanced Study)

307.01 Radio Timing and Analysis of Black Widow Pulsar J2256-1024
Author(s): Kathryn Crowter⁵, Ingrid H. Stairs³, Christie A. McPhee⁵, Anne M. Archibald¹, Jason Boyles⁹, Jason Hessels¹, Victoria M. Kaspi², Vlad I. Kondratiev¹, Duncan Lorimer⁶, Ryan S. Lynch³, Maura McLaughlin⁵, Timothy Pennucci¹, Scott M. Ransom⁴, Mallory Roberts², Kevin Stovall⁶, Joeri van Leeuwen¹
Institution(s): ¹ ASTRON, ² Eureka Scientific, ³ McGill University, ⁴ National Radio Astronomy Observatory, ⁵ University of British Columbia, ⁶ University of New Mexico, ⁷ University of Virginia, ⁸ West Virginia University, ⁹ Western Kentucky University

307.02D Wideband Timing of Millisecond Pulsars
Author(s): Timothy Pennucci², Paul Demorest¹, Scott M. Ransom¹
Institution(s): ¹ National Radio Astronomy Observatory, ² University of Virginia
Contributing team(s): The North American Nanohertz Observatory for Gravitational Waves (NANOGrav)

307.03 Heating Before Eating: X-Ray Observations of Redback Millisecond Pulsar Systems in the Ablation State
Author(s): Mallory Roberts², Maura McLaughlin⁵, Paul S. Ray³, Scott M. Ransom¹, Jason Hessels¹
Institution(s): ¹ ASTRON, ² Eureka Scientific, ³ Naval Research Lab, ⁴ NRAO, ⁵ West Virginia University

307.04 Spectral Modeling of the Comptonized Continua of Accreting X-Ray Pulsars
Author(s): Michael Thomas Wolff², Katja Pottschmidt⁴, Peter A. Becker¹, Diana Marcu⁴, Jörg Wilms³, Kent S. Wood²
Institution(s): ¹ George Mason University, ² NRL, ³ Universitaet Erlangen-Nuernberg, ⁴ University of Maryland - Baltimore County

307.05 On Gravitational Wave Limit Determination in the 10 micro-Hertz to 20 milli-Hertz Band Using Millisecond Pulsar Timing
Author(s): Timothy Dolch¹, Shami Chatterjee¹, James M. Cordes¹, Michael T. Lam¹, Dustin Ray Madison¹
Institution(s): ¹ Cornell University
Contributing team(s): NANOGrav Collaboration
307.06 PSR J1930-1852: a Pulsar in the Widest Known Orbit Around Another Neutron Star

Author(s): Joe K Swiggum, Rachel Rosen, Maura McLaughlin, Duncan Lorimer, Sue Ann Heatherly, Ryan S. Lynch, Sarah A. Scoles, Brad Barlow

Institution(s): 1. High Point University, 2. McGill University, 3. NRAO, 4. West Virginia University

Contributing team(s): Pulsar Search Collaboratory

307.07 Coalescence of Magnetized Binary Neutron Star Systems

Author(s): Patrick M. Motl, Matthew Anderson, Luis Lehner, Steven L Liebling, David Neilsen, Carlos Palenzuela, Marcelo Ponce

Institution(s): 1. Brigham Young University, 2. Canadian Institute for Theoretical Astrophysics, 3. Indiana University, 4. Indiana University Kokomo, 5. Long Island University, 6. Perimeter Institute for Theoretical Physics, 7. University of Guelph

308 Reports from NASA’s Program Analysis Groups (CoPAG, PhysPAG and ExoPAG)

Wednesday, 10:00 am - 11:30 am; 606

This special session will report on the current activities of NASA’s Program Analysis Groups (PAGs.) These groups serve as forums for soliciting and coordinating input and analysis from the scientific community in support of the Astrophysics Division’s program objectives. This session will begin with an introduction to the PAGs by representatives from NASA Headquarters and then include reports on current activities from the Chairs of the Exoplanet Exploration PAG (ExoPAG), the Cosmic Origins PAG (COPAG), and Physics of the Cosmos PAG (PhysPAG). Topics to be discussed include synergy between HST and WFIRST as well as future possibilities for space-based studies of both exoplanets and the imprint of primordial gravitational waves on the Cosmic Microwave Background.

Chair(s): Ann Hornschemeier (NASA GSFC)

308.01 Overview of NASA Astrophysics Program Analysis Groups

Author(s): Wilton T. Sanders, Rita M. Sambruna, Mario R. Perez, Douglas M. Hudgins

Institution(s): 1. NASA Headquarters

308.02 Report from the Cosmic Origins Program Analysis Group (COPAG)

Author(s): Kenneth Sembach

Institution(s): 1. STScI

308.03 Report from the Exoplanet Exploration Program Analysis Group (ExoPAG)

Author(s): B. Scott Gaudi

Institution(s): 1. Ohio State Univ.

Contributing team(s): The Exoplanet Exploration Program Analysis Group

308.04 Physics of the Cosmos Program Analysis Group (PhysPAG) Report

Author(s): John A. Nousek

Institution(s): 1. Penn State Univ.
309 Elliptical Galaxies

Wednesday, 10:00 am - 11:30 am; 607
Chair(s): John Blakeslee (Washington State Univ.)

309.01D Not Dead Yet: Low-Level Star Formation and Active Nuclei in the Continued Evolution of Nearby Early-Type Galaxies
Author(s): Kristina Nyland\textsuperscript{2}, Lisa Young\textsuperscript{2}, Joan Wrobel\textsuperscript{3}, Raffaella Morganti\textsuperscript{1}
Institution(s): \textsuperscript{1} ASTRON, \textsuperscript{2} New Mexico Tech, \textsuperscript{3} NRAO

309.02D The evolution of early-type galaxies: a strong lensing perspective
Author(s): Alessandro Sonnenfeld\textsuperscript{6}, Tommaso Treu\textsuperscript{5}, Philip J Marshall\textsuperscript{4}, Raphael Gavazzi\textsuperscript{2}, Sherry Suyu\textsuperscript{1}, Carlo Nipoti\textsuperscript{7}, Matthew Auger\textsuperscript{3}
Institution(s): \textsuperscript{1} Academia Sinica Institute of Astronomy and Astrophysics, \textsuperscript{2} Institut d’Astrophysique de Paris, \textsuperscript{3} Institute of Astronomy, University of Cambridge, \textsuperscript{4} Kavli Institute for Particle Astrophysics and Cosmology, \textsuperscript{5} UC Los Angeles, \textsuperscript{6} UC Santa Barbara, \textsuperscript{7} University of Bologna
Contributing team(s): Team 1

309.03 The Black Hole Safari: Big Game Hunting in 30+ Massive Galaxies
Author(s): Nicholas J. McConnell\textsuperscript{3}, Chung-Pei Ma\textsuperscript{2}, Ryan Janish\textsuperscript{2}, Karl Gebhardt\textsuperscript{4}, Tod R. Lauer\textsuperscript{1}, James R Graham\textsuperscript{2}
Institution(s): \textsuperscript{1} NOAO, \textsuperscript{2} UC Berkeley, \textsuperscript{3} University of Hawaii, \textsuperscript{4} UT Austin

309.04D The story of Brightest Cluster Galaxies told through merger signatures in their stellar populations
Author(s): Paola Oliva-Altamirano\textsuperscript{2}, Sarah Brough\textsuperscript{1}, Kim-Vy Tran\textsuperscript{3}, Warrick Couch\textsuperscript{1}
Institution(s): \textsuperscript{1} Australian Astronomical Observatory, \textsuperscript{2} Swinburne University of Technology, \textsuperscript{3} Texas A&M

309.05D Investigating [X/Fe], IMF, and compositeness in integrated-light models
Author(s): Baitian Tang\textsuperscript{1}, Guy Worthey\textsuperscript{1}
Institution(s): \textsuperscript{1} Washington State University

310 White Dwarfs and Variable Stars

Wednesday, 10:00 am - 11:30 am; 608
Chair(s): Kevin Krisciunas (Texas AandM University)

310.01 Numerical Simulations of Giant Eruptions from Massive Stars and their Recoveries
Author(s): Amit Kashi\textsuperscript{1}, Kris Davidson\textsuperscript{1}, Roberta M. Humphreys\textsuperscript{1}
Institution(s): \textsuperscript{1} University of Minnesota

310.02 Optimal Model Discovery of Periodic Variable Stars
Author(s): Earl Patrick Bellinger\textsuperscript{1}, Shashi Kanbur\textsuperscript{2}, Daniel Wysocki\textsuperscript{2}
Institution(s): \textsuperscript{1} Indiana University, \textsuperscript{2} SUNY Oswego
310.03D Classical Cepheids: High-precision Velocimetry, Cluster Membership, and the Effect of Rotation
Author(s): Richard Irving Anderson
Institution(s): 1. Geneva Observatory, University of Geneva

310.04 Observations of Interesting Cataclysmic Variables
Author(s): Zhibin Dai, Paula Szkody, Peter M. Garnavich, Mark Kennedy
Institution(s): 1. Univ. of Notre Dame, 2. University of Washington, 3. Yunnan Observatories

310.05 HST spectrophotometry of accreting white dwarf pulsators
Author(s): Anjum S. Mukadam, Paula Szkody, Boris T Gaensicke
Institution(s): 1. Univ. of Washington, 2. University of Warwick

310.06 Asteroseismology of Stars in NGC 6791 Using Kepler `Superstamps’
Author(s): Charles A. Kuehn, Jason Drury, Beau Bellamy, Dennis Stello, Timothy R Bedding, Mike Reed, Breanna Quick
Institution(s): 1. Missouri State University, 2. University of Sydney

310.07 Recent seismic discoveries for pulsating subdwarf B stars using Kepler data
Author(s): Mike Reed, Heather Foster, John H Telting, Andrzej S Baran, Roy H Ostensen

310.08 Recent developments on SU UMa stars - theory vs. observation
Author(s): John K. Cannizzo
Institution(s): 1. NASA/GSFC/CRESST/UMBC

311 Instrumentation: Space Missions - Ground Based or Airborne I

Wednesday, 10:00 am - 11:30 am; 609
Chair(s): George Sonneborn (NASA’s GSFC)

311.01 How to Directly Image a Habitable Planet Around Alpha Centauri with a ~30cm Space Telescope
Author(s): Ruslan Belikov
Institution(s): 1. NASA Ames Research Center
Contributing team(s): ACEND team, ACESat team

311.02 Space mission and instrument design to image the Habitable Zone of Alpha Centauri
Author(s): Eduardo Bendek, Ruslan Belikov, Sandrine Thomas, Julien Lozi
Institution(s): 1. NASA Ames

311.03 Absolute Calibration of the Radio Astronomy Flux Density Scale from 22 to 43 GHz using Planck
Author(s): Bryan J. Butler, R. Bruce Partridge, Richard A. Perley, Jamie B. Stevens, Marcos Lopez-Caniego, Graca Rocha, Ben Z. Walter, Andrea Zacchei
311.04 Low Frequencies on the NRAO VLA and the new VLA Ionospheric and Transient Experiment (VLITE)
Author(s): Tracy E. Clarke, Namir E. Kassim, Joseph F. Helmboldt, Paul S. Ray, Wendy M. Peters, Brian Hicks, Walter Brisken, Richard A. Perley, Frazer N. Owen, Huib Intema
Institution(s): 1 Naval Research Lab., 2 NRAO

311.05 The Low Band Observatory (LOBO): Expanding the VLA Low Frequency Commensal System for Continuous, Broad-band, sub-GHz Observations
Author(s): Namir E. Kassim, Tracy E. Clarke, Joseph F. Helmboldt, Wendy M. Peters, Walter Brisken, Scott D. Hyman, Emil Polisensky, Brian Hicks
Institution(s): 1 NRAO, 2 NRL, 3 Sweetbriar College

311.06 An Accurate Flux Density Scale from 50 MHz to 50 GHz
Author(s): Richard A. Perley, Bryan J. Butler
Institution(s): 1 NRAO

311.07 An Evolvable Space Telescope for NASA’s Next UVOIR Flagship Mission
Author(s): Charles F. Lillie, James B. Breckinridge, Howard A. MacEwen, Ronald S. Polidan, Martin Flannery, Dean Dailey
Institution(s): 1 Breckinridge Associates, LLC, 2 Lillie Consulting, LLC, 3 Northrop Grumman Aerospace Systems, 4 Reviresco LLC

311.08 The Advanced Energetic Pair Telescope (AdEPT), a Medium-Energy Gamma-Ray Polarimeter
Author(s): Stanley D. Hunter
Institution(s): 1 NASA’s GSFC

311.09 Optimizing the Choice of Filter Sets for Space Based Imaging Instruments
Author(s): Rachel E. Elliott, Duncan Farrah, Sara M. Petty, Kathryn Amy Harris
Institution(s): 1 Virginia Polytech Institute

312 Relativistic Astrophysics, Gravitational Lenses & Waves

Wednesday, 10:00 am - 11:30 am; 611
Chair(s): Roger Blandford (Stanford University)

312.01D A novel approach toward gravitational wave analyses with pulsar timing arrays
Author(s): Chiara M. F. Mingarelli
Institution(s): 1 California Institute of Technology
Contribution team(s): University of Birmingham Gravitational Wave Group (A. Vecchio, K. Grover, R. Smith, T. Sidery, I. Mandel)

312.02D Exploring the cosmos with gravitational-waves
Author(s): Stephen R Taylor, Jonathan R Gair, Ilya Mandel, Lindley Lentati, Justin Ellis
Institution(s): 1 Battcock Centre for Experimental Astrophysics, University of Cambridge, 2 Institute of Astronomy, University of Cambridge, 3 Jet Propulsion Laboratory, 4 University of Birmingham
312.03D Searching for Gravitational Waves using Pulsar Timing Arrays  
Author(s): Justin Ellis¹  
Institution(s): ¹ JPL/Caltech  
Contributing team(s): NANOGrav

312.04 The Effect of Large-Scale Structure on the Magnification of High-Redshift Sources by Cluster-Lenses  
Author(s): Anson D’Aloisio¹, Priyamvada Natarajan², Paul R. Shapiro³  
Institution(s): ¹ University of Texas at Austin, ² Yale University

312.05 Stars as resonant absorbers of gravitational waves  
Author(s): Barry McKernan¹, Saavik Ford¹, Bence Kocsis³, Zoltan Haiman²  
Institution(s): ¹ BMCC-CUNY, ² Columbia University, ³ IAS

312.06 Fermi-LAT stares and double gamma-ray flares in the gravitationally lensed blazar B0218+357  
Author(s): Chi C. Cheung¹, Sara Buson¹, Stefan Larsson⁴, Jeffrey Scargle²  
Institution(s): ¹ INFN & University of Padova, ² NASA Ames Research Center, ³ NRL, ⁴ Stockholm University  
Contributing team(s): on behalf of the Fermi-LAT collaboration

313 Protoplanetary Disks and Stellar Accretion

Wednesday, 10:00 am - 11:30 am; 612

Chair(s): Marc Kuchner (NASA’s GSFC)

313.01 The end of an era: A search for flickering accretion in T Tauri stars  
Author(s): Gaspard Duchene¹  
Institution(s): ¹ University of California Berkeley

313.02 The Surprising Outburst Behavior of Z Canis Majoris, and Resolving the Alpha Oph Companion Near the Diffraction limit  
Author(s): Sasha Hinkley⁶, Benjamin Pope⁵, Frantz Martinache⁷, Lynne Hillenbrand³, Adam L. Kraus¹, Michael Ireland², Ben R. Oppenheimer¹, Emily L. Rice⁵, John D. Monnier¹⁰, Alexey Latyshev¹⁰  
Institution(s): ¹ American Museum of Natural History, ² ANU, ³ California Institute of Technology, ⁴ CfA, ⁵ College of Staten Island, ⁶ Exeter University, ⁷ Observatoire de la Cote d’Azure, ⁸ Oxford University, ⁹ University of Michigan, ¹⁰ University of Sydney

313.03 Extreme Carbon Overabundance in the 49 Ceti Circumstellar Gas  
Author(s): Aki Roberge⁴, Barry Welsh², Inga Kamp¹, Alycia J. Weinberger¹, Carol A Grady⁷  
Institution(s): ¹ Carnegie Institution for Science, ² Eureka Scientific, ³ Kapteyn Institute , ⁴ NASA GSFC

313.04 Ground and space-based observations of water vapor in protoplanetary disks  
Author(s): Colette Salyk⁴, Joan R. Najita⁴, Simon Bruderer⁵, John S Carr³, Klaus Pontoppidan⁵, Geoffrey A. Blake¹, Matthew Richter⁶, Neal J. Evans⁷  
Institution(s): ¹ California Institute of Technology, ² Max Planck Institute for Extraterrestrial Physics, ³ Naval Research Laboratory, ⁴ NOAO, ⁵ Space Telescope Science Institute, ⁶ University of California, Davis, ⁷ University of Texas at Austin
313.05 Radio Monitoring of Protoplanetary Discs
Author(s): Catarina Ubach4, Sarah Tahli Maddison4, Chris M. Wright5, David J. Wilner2, Dave J.P. Lommen3, Baerbel Koribalski1
Institution(s): 1. CSIRO Astronomy and Space Sciences, 2. Harvard Smithsonian, 3. Raffles Institute, 4. Swinburne University, 5. UNSW@ADFA

313.06 A Ring of C2H in the Protoplanetary Disk Orbiting TW Hya
Author(s): Joel H. Kastner3, Chunhua Qi1, Uma Gorti4, Pierre Hily-Blant2, Thierry Forveille2, Karin L. Oberg1
Institution(s): 1. Center for Astrophysics, 2. IPAG, 3. RIT Center for Imaging Science, 4. SETI Institute

313.07D Ionization Driven Chemistry in Protoplanetary Disks and Observational Signatures of Ionization Suppression
Author(s): Lauren Ilsedore Cleeves1, Edwin A. Bergin1
Institution(s): 1. University of Michigan

313.08 Observational Signatures of MRI-driven Turbulence in Protoplanetary Disks: Connecting Numerical Simulations with ALMA
Author(s): Jacob B. Simon3, A. Meredith Hughes4, Kevin M. Flaherty4, Xue-Ning Bai1, Philip J. Armitage2
Institution(s): 1. Harvard University, 2. JILA/University of Colorado, 3. Southwest Research Institute, 4. Wesleyan University

314 Intergalactic Medium, QSO Absorption Line Systems I

Wednesday, 10:00 am - 11:30 am; 615
Chair(s): Gerard Kriss (STScI)

314.01 TeV blazar heating in a inhomogeneous universe
Author(s): Astrid Lamberts1, Philip Chang1
Institution(s): 1. University of Wisconsin-Milwaukee

314.02D The Simulated Lyα Forest: Converged Statistics and Reconstructed Maps
Author(s): Casey W. Stark1
Institution(s): 1. UC Berkeley

314.03 Halo Mass Dependence of HI Absorption: Evidence for Differential Kinematics
Author(s): Nigel Mathes1, Christopher W. Churchill1, Glenn Kacprzak2, Nikole M. Nielsen1, Sebastian Trujillo-Gomez1, Jane C. Charlton1, Sowgat Muzahid3
Institution(s): 1. New Mexico State University, 2. Swinburne University of Technology, 3. The Pennsylvania State University

314.04 Discovery of a Massive Halo Around the Andromeda Galaxy
Author(s): Nicolas Lehner1, J. Christopher Howk1, Bart P. Wakker2
Institution(s): 1. Univ. Of Notre Dame, 2. University of Wisconsin-Madison
314.05D MAApping the Most Massive Overdensity Through Hydrogen (MAMMOTH)
Author(s): Zheng Caï, Xiaohui Fan5, Fuyan Bian5, Brenda L. Frye5, Ian D. McGreer5, Sebastien Peirani3, Martin White4, Shirley Ho2, Yujin Yang3, Ann I. Zabludoff5

314.06 Generating Synthetic Spectra for Observing the Simulated CGM and IGM
Author(s): Cameron B. Hummels1, Hillary Egan2, Devin W. Silvia3, Britton D. Smith4, Matthew Turk5
Contributing team(s): yt Developer Team

314.07 Revealing the Properties of Mg II Absorbing Galaxies at z > 1 with HST WFC3/IR
Author(s): Britt Lundgren5, Dr. Gabriel Brammer2, Donald G. York3, John P. Chisholm5, Dawn Erb6, Varsha P. Kulkarni6, Lorrie Straka1, Christina A. Tremonti5, Pieter G. Van Dokkum7, David Wake5

315 Astroinformatics and Astrostatistics in Astronomical Research: Steps Towards Better Curricula

Wednesday, 10:00 am - 11:30 am; 620

The AAS Working Group on Astroinformatics and Astrostatistics hereby proposes a Special Session for the 225th AAS meeting in Seattle which will highlight the importance of data analytics training in astronomy, both for the sake of astronomical research and in order to make astronomy graduates more employable. Although astronomy and astrophysics are witnessing dramatic increases in data volume as detectors, telescopes, and computers become ever more powerful, the traditional training of astronomy and physics students is not providing skills to handle such voluminous and complex data sets. Equally worrisome, research funds and hiring options in astronomy are diminishing; in particular, a number of candidates for permanent (or steady) jobs significantly exceeds the job availability. As a result many of astronomy graduates have transitioned out of astronomy to work in areas where their analytic skills become highly valuable. Invited talks by a recent astronomy Ph.D. graduate who transitioned to industry, and an industry representative, will critically compare academic and industrial environments. The main goals of the proposed session are to discuss ways to improve Big Data training and research in astronomy, as well as to explore the connections between data science in astronomy and in the other research or technology areas where astronomy postdocs or recent graduates could excel and compete. We will use moderated panel method to facilitate discussion of graduate curriculum at Astronomy Departments, and invited talks to highlight connections to industry.

Chair(s): Zeljko Ivezic (Univ. of Washington)
Aneta Siemiginowska (Harvard-Smithsonian, CfA)
315.01 Working on interesting problems
Author(s): Arfon M Smith¹
Institution(s): ¹ GitHub Inc.

315.02 Astronomer to Data Scientist
Author(s): Jessica Kirkpatrick¹
Institution(s): ¹ InstaEDU

316 Plenary Talk: Inflation and Parallel Universes: Science or Fiction?
Wednesday, 11:40 am - 12:30 pm; 6E
Chair(s): Jack Burns (Univ. of Colorado at Boulder)

316.01 Inflation and Parallel Universes: Science or Fiction?
Author(s): Max Tegmark¹
Institution(s): ¹ MIT

Career Hour 5: Interviewing: What You Need to Do Before, During, and After to Get the Job
Wednesday, 12:30 pm - 1:30 pm; 618/619
What you need to know and do to get the job from the first moment of contact to the moment you leave the interview.
Organizer(s): Alaina Levine (Quantum Success Solutions)

The SKA Telescope: Global Project, Revolutionary Science, Extreme Computing Challenges
Wednesday, 12:30 pm - 3:30 pm; 4C-4
The Square Kilometre Array (SKA) is one of the most awe-inspiring and audacious science and engineering projects of the 21st Century. With its hundreds of thousands of antennas spread across Africa and Australia, the SKA will have unrivalled scope in observations and is designed to address fundamental questions about the earliest stages of the Universe, such as star formation, dark energy, gravity and life itself. When fully operational in the early 2020s, the SKA will produce 10 times the data of the current global internet. Processing this vast quantity of data will require very high performance central supercomputers capable of in excess of 100 petaflops of raw processing power: about three times more powerful than the most powerful supercomputer in 2013. In addition to developing this high performance computing hardware and software capability, the project must also address the incredibly complex tasks of signal processing, data transfer, storage and curation, and data manipulation. To develop these
revolutionary technologies and drive tomorrow’s groundbreaking science, effective global partnerships between governments, academia, and industry are becoming essential. With their long-standing tradition of radio astronomy, the US can bring much expertise to such global partnerships, while at the same time gaining strategic access to world-class instruments.

This session will be divided in 2 parts: - Science: Through the case study of the SKA precursor telescopes MWA, ASKAP and MeerKAT, and of the first-class observatories LOFAR and JVLA, we will see how major science questions are already being touched upon, paving the way for the revolutionary capabilities of the SKA. We will finally examine how a project the scale of the SKA will push the frontiers of scientific knowledge. - Computing: The sheer amount of data collected by the SKA will drive fundamental shifts in science-driven technology with daily-life applications in the areas of data transport, data storage, high-performance computing, and algorithm design. We will first present the SKA global computing and technological challenges, and then give the floor to experts from High Performance Computing industry who will provide their views on how they aim to tackle these challenges and how the SKA is driving technology development in a number of domains.

Organizer(s): Tyler Bourke (Harvard-Smithsonian, CfA)

**Astronomers: Teach Climate Change!**

**Wednesday, 12:30 pm - 2:00 pm, 4C-3**

This splinter session is hosted by the AAS Sustainability Committee. We’ll pursue three topics: (1) teaching climate change in Astro 100; (2) how astronomers can engage in public debate on climate change issues; and (3) addressing sustainability through control of light pollution. All astronomers are welcome!

**Organizer(s): James Lowenthal (Smith College)**

**317 NASA Town Hall**

**Wednesday, 12:45 pm - 1:45 pm; 6E**

Senior representatives from NASA’s Science Mission Directorate and Astrophysics Division will discuss NASA’s science program and outlook. Topics will include the status of the research program, highlights of operating missions, NASA’s response to the Astro2010 decadal survey, progress of missions in development, and anticipated opportunities for both non-flight basic research awards (grants) and flight mission investigations.

**Chair(s): Paul Hertz (NASA Headquarters)**
WEDNESDAY, 7 JANUARY 2015

For Undergrads & Other Inquiring Minds: Dust in Space,
Geoffrey C. Clayton (Louisiana State University)

Wednesday, 1:15 pm – 2:00 pm; 6C

It has been said that we are all “Star Stuff,” referring to the amazing fact that all of the atoms that make up the Earth and everything on it, were once inside of a star. The elements like carbon, oxygen, and iron, that we are made of, were created in the centers of stars and in supernova explosions. These atoms float around in space as part of huge clouds of gas and dust, which eventually collapse to form new stars, and new solar systems. While in these clouds, most atoms other than hydrogen and helium are locked up in solid dust grains. This isn’t the kind of dust that you find under your bed. It is more like grains of sand from the beach or smoke from a fire. I will discuss the important role of dust in the formation of stars, radiation transport in galaxies, and astrochemistry.

318 Cosmology II

Wednesday, 2:00 pm - 3:30 pm; 6A

Chair(s): Ethan Vishniac (University of Saskatchewan)

318.01 Improving Cosmic Microwave Background Constraints with 21cm Cosmology
Author(s): Adrian Liu2, Jonathan R. Pritchard1, Michael Mortonson2, Aaron Parsons2
Institution(s): 1 Imperial College London, 2 University of California Berkeley
Contributing team(s): HERA collaboration

318.02D Hydrogen and the First Stars: First Results from the SCI-HI 21-cm all-sky spectrum experiment
Author(s): Tabitha Voytek1, Jeffrey Peterson1, Omar Lopez-Cruz2, Jose-Miguel Jauregui-Garcia2
Institution(s): 1 Carnegie Mellon University, 2 INAOE
Contributing team(s): SCI-HI Experiment Team

318.04 The STRong-lensing Insights into Dark Energy Survey (STRIDES)
Author(s): Tommaso Treu1, Adriano Agnello1
Institution(s): 1 University of California
Contributing team(s): STRIDES Team

318.05 Removing Line Foregrounds from CO Intensity Mapping Surveys
Author(s): Patrick Breysse1, Ely Kovetz1, Marc Kamionkowski1
Institution(s): 1 Johns Hopkins University

318.06D Formation of the first galaxies under Population III stellar feedback
Author(s): Myoungwon Jeon1
Institution(s): 1 The University of Texas at Austin

318.07 From Darkness to Light: Observing the First Stars and Galaxies with the Redshifted 21-cm Line using the Dark Ages Radio Explorer
Author(s): Jack O. Burns6, Joseph Lazio1, Judd D. Bowman1, Richard F. Bradley6, Abhirup Datta6, Steven Furlanetto5, Dayton L. Jones3, Justin Kasper8, Abraham Loeb2, Geraint Harker7
Institution(s): 1 Arizona State University, 2 Harvard University, 3 JPL/Caltech, 4 NRAO, 5 UCLA, 6 Univ. of Colorado at Boulder, 7 University College London, 8 University of Michigan
319 Results from the SDSS-III/APOGEE Survey II

Wednesday, 2:00 pm - 3:30 pm; 6B

Our understanding of the structure, formation, and evolution of the Milky Way Galaxy is being revolutionized by a new generation of spectroscopic surveys and the recently launched astrometric Gaia satellite. At the forefront of these efforts is the SDSS-III Apache Point Observatory Galactic Evolution Experiment (APOGEE). APOGEE is a recently completed high-resolution, near-infrared (NIR) spectroscopic survey of more than 100,000 stars in the Milky Way disk, bulge, and halo. The bulk of these stars are luminous red giants that in the NIR can be traced out to distances of 10 kpc and beyond, providing us for the first time with a comprehensive view of the Galactic disk and bulge populations. The high-resolution spectra allow precise radial velocities and elemental abundances of 15 elements to be measured. This special session will present the exciting and varied scientific explorations allowed by the high-quality APOGEE data, including the chemodynamical structure of the Milky Way disk, the structure of the bulge, new methods to trace the interstellar medium with diffuse interstellar bands, constraints on stellar physics and Galactic structure from the combination of the APOGEE data with asteroseismology from Kepler and CoRoT, the structure of young nebulous clusters, and others. A presentation of the second stage of APOGEE in SDSS-IV (2014-2020), which will expand the sky coverage to the Southern hemisphere, will also be given. This Special Session will include a survey overview and a combination of invited and contributed talks and posters, highlighting important APOGEE science results from the full three-year survey.

Chairs): Jo Bovy (Institute for Advanced Study)

319.01 Tracing chemical evolution over the extent of the Milky Way’s Disk with APOGEE Red Clump Stars

Author(s): David L. Nidever4, Jo Bovy5, Jonathan C. Bird7, Brett Andrews4, Michael R. Hayden3, Jon A. Holtzman3, Steven R. Majewski6, Verne V. Smith2


 Contributing team(s): APOGEE

319.02 Chemical Cartography with SDSS-III APOGEE: DR12 Results

Author(s): Michael R. Hayden6, Jon A. Holtzman6, Jo Bovy2, Steven R. Majewski10, David L. Nidever10, Gail Zasowski5, Ricardo P. Schiavon5, Peter M. Frinchaboy7, Fred Hearty8, Carlos Allende-Prieto3, Ana García Pérez5, Annie Robin1, Katia M. L. Cunha7, Timothy C. Beers11


Contributing team(s): The APOGEE Team
319.03 Probing Milky Way Structure with Near-Infrared Diffuse Interstellar Bands
Author(s): Gail Zasowski4, Brice Ménard4, Dmitry Bizyaev1, D Garcia-Hernandez3, Ana García Pérez10, Michael R. Hayden4, Fred Hearty3, Jon A. Holtzman6, Jennifer Johnson7, Karen Kinemuchi1, Steven R. Majewski10, David L. Nidever6, Kristen Sellgren7, Matthew D. Shetrone5, David G. Whelan2, John C. Wilson10
Institution(s): 1 APO/NMSU, 2 Austin College, 3 IAC, 4 Johns Hopkins University, 5 McDonald Observatory, 6 NMSU, 7 OSU, 8 PSU, 9 U. of Michigan, 10 UVa

319.04 Unravelling The Chemical History Of The Solar Neighborhood With Giants
Author(s): Diane Feuillet1, Jon A. Holtzman1, Leo Girardi2
Institution(s): 1 New Mexico State University, 2 Osservatorio Astronomico di Padova
Contributing team(s): The APOGEE team

319.05 Detection of Neodymium in APOGEE H-band Spectra and its Application to Chemical Tagging
Author(s): Sten Hasselquist4, Matthew D. Shetrone9, Verne V. Smith5, Jon A. Holtzman4, James E. Lawler12, Inese I. Ivans10, Steven R. Majewski11, Ricardo P. Schiavon3, Gail Zasowski2, David L. Nidever7, Fred Hearty6, Carlos Allende-Prieto1, Timothy C. Beers4, Ana García Pérez1, Jennifer Sobeck9
Institution(s): 1 Instituto de Astrofísica de Canarias, 2 Johns Hopkins University, 3 Liverpool John Moores University, 4 New Mexico State University, 5 NOAO, 6 Pennsylvania State University, 7 University of Michigan, 8 University of Notre Dame, 9 University of Texas, 10 University of Utah, 11 University of Virginia, 12 University of Wisconsin
Contributing team(s): APOGEE team

319.06 A Detailed Characterization of the Milky Way Bulge with APOGEE
Author(s): Ana E García Pérez1, Jennifer Johnson7, Carlos Allende-Prieto1, Katia M. L. Cunha5, Fred Hearty6, Jon A. Holtzman4, Steven R. Majewski9, David L. Nidever8, Ricardo P. Schiavon3, Jennifer Sobeck9, Gail Zasowski2
Institution(s): 1 Instituto de Astrofísica de Canarias, 2 Johns Hopkins University, 3 Liverpool John Moores University, 4 New Mexico State University, 5 NOAO, 6 Pennsylvania State University, 7 The Ohio State University, 8 University of Michigan, 9 University of Virginia

319.07 Double Vision: The Dual Hemisphere Viewpoint of the SDSS-IV/APOGEE-2 Survey
Author(s): Jennifer Sobeck1
Institution(s): 1 University of Virginia
Contributing team(s): SDSS-IV/APOGEE-2 Collaboration
320 AGN, QSO, Blazars VI

Wednesday, 2:00 pm - 3:30 pm; 6C

Chair(s): Michael Eracleous (The Pennsylvania State University)

320.01 A Chandra survey of X-ray emission from radio jets: Correlations of the jet X-ray flux
Author(s): Daniel A. Schwartz\textsuperscript{2}, Herman L. Marshall\textsuperscript{7}, Diana M Worrall\textsuperscript{8}, Mark Birkinshaw\textsuperscript{9}, Eric S. Perlman\textsuperscript{4}, Jim Lovell\textsuperscript{10}, David L. Jauncey\textsuperscript{3}, David William Murphy\textsuperscript{6}, Jonathan Gelbord\textsuperscript{6}, Leith Godfrey\textsuperscript{1}, Geoffrey V. Bicknell\textsuperscript{2}
Institution(s): \textsuperscript{1} ASTRON, \textsuperscript{2} Australian National University, \textsuperscript{3} CISRO, \textsuperscript{4} Florida Institute of Technology, \textsuperscript{5} Harvard-Smithsonian, CfA, \textsuperscript{6} Jet Propulsion Lab, \textsuperscript{7} MIT, \textsuperscript{8} Physics Department, University of Bristol, \textsuperscript{9} The Pennsylvania State University, \textsuperscript{10} University of Tasmania

320.02 Radio Loud and Radio Quiet Quasars
Author(s): Kenneth I. Kellermann\textsuperscript{2}, Amy E. Kimball\textsuperscript{1}, James J. Condon\textsuperscript{2}, Richard A. Perley\textsuperscript{2}, Zeljko Ivezic\textsuperscript{3}
Institution(s): \textsuperscript{1} CSIRO, \textsuperscript{2} NRAO, \textsuperscript{3} Univ. of Washington

320.03 A ~100y study of extreme AGN flares with DASCH
Author(s): Jonathan E. Grindlay\textsuperscript{1}, George Franklin Miller\textsuperscript{1}
Institution(s): \textsuperscript{1} Harvard-Smithsonian, CfA

320.04D The highest redshift quasars with Pan-STARRS1
Author(s): Eduardo Banados\textsuperscript{1}, Fabian Walter\textsuperscript{1}, Bram Venemans\textsuperscript{1}
Institution(s): \textsuperscript{1} Max Planck Institute for Astronomy
Contributing team(s): Pan-STARRS1

320.05 Dust-reddened Quasars in SDSS-III: Trends with Evolution or Orientation?
Author(s): Hanna Herbst\textsuperscript{4}, Fred Hamann\textsuperscript{4}, Carolin Villforth\textsuperscript{5}, Isabelle Paris\textsuperscript{1}, Nicholas Ross\textsuperscript{2}, Kelly Denney\textsuperscript{3}
Institution(s): \textsuperscript{1} Institut d’Astrophysique de Paris, \textsuperscript{2} Lawrence Berkeley National Lab, \textsuperscript{3} Ohio State University, \textsuperscript{4} University of Florida, \textsuperscript{5} University of St Andrews
Contributing team(s): BOSS QSO Team

320.06 Clustering-based redshifts of WISE galaxies and quasars.
Author(s): Alexander Mendez\textsuperscript{1}, Brice Ménard\textsuperscript{1}, Mubdi Rahman\textsuperscript{1}
Institution(s): \textsuperscript{1} Johns Hopkins University

320.07 Revealing Massive Black Holes in Dwarf Galaxies with X-ray and Radio Observations
Author(s): Amy E. Reines\textsuperscript{1}
Institution(s): \textsuperscript{1} University of Michigan
321 Galaxy Clusters II

Wednesday, 2:00 pm - 3:30 pm; 6E

Chair(s): Tracy Clarke (Naval Research Lab.)

321.01 X-ray Observations of the Outskirts of the Nearest Non-Cool Core Cluster: the Antlia Cluster
Author(s): Ka-Wah Wong¹, Jimmy Irwin³, Daniel R. Wik²
Institution(s): ¹ Eureka Scientific, ² GSFC, ³ University of Alabama - Tuscaloosa

321.02D An X-ray View of Galaxies in Compact Groups and the Coma Cluster Infall Region
Author(s): Tyler D. Desjardins¹
Institution(s): ¹ The University of Western Ontario

321.03D Cosmological Simulations of Galaxy Cluster Outskirts
Author(s): Camille Avestruz¹
Institution(s): ¹ Yale University

321.04 The Morphology and Characteristics of the Planck ESZ Detected Clusters of Galaxies Compared to X-ray and Optically Selected Cluster Samples
Author(s): Christine Jones³, William R. Forman¹, Felipe Andrade-Santos¹, Stephen S. Murray², Eugene Churazov¹
Institution(s): ³ Harvard-Smithsonian, CfA, ² Johns Hopkins University, ¹ MPA-Garching
Contributing team(s): Chandra-Planck XVP Cluster Consortium

321.05D The Dynamical Evolution of Galaxies and Their Gas in Group and Cluster Environments
Author(s): Rukmani Vijayaraghavan¹, Paul M. Ricker¹
Institution(s): ¹ University of Illinois at Urbana-Champaign

321.06 Strong Lensing and Giant Arc Statistics In the South Pole Telescope Cluster Survey
Author(s): Matthew Bayliss², Lindsey Bleem¹
Institution(s): ² Argonne National Laboratory, ¹ Harvard-Smithsonian Center for Astrophysics
Contributing team(s): the South Pole Telescope Collaboration
322 The Quest for Gravitational Waves, 100 years After Einstein

Wednesday, 2:00 pm - 3:30 pm; 610

This session will present the past, present and future of the search for gravitational waves, which is reaching a very exciting phase at the 100th anniversary of Einstein’s publication of the General Theory of Relativity that predicts gravitational waves. After decades of theoretical doubts on whether gravitational waves were “real”, the predictions on measurable effects on detectors and on astrophysical observations started the exciting search for gravitational waves. The observation by Hulse and Taylor of orbital decay of the PSR B1913+16 binary pulsar provided another clear proof of Einstein’s theory and showed beautifully the reality of gravitational waves carrying energy. Since then, we have seen many groups devise ways to detect the effects of astrophysical sources producing gravitational waves of many different wavelengths in the spectrum: early universe with cosmological scales imprinted in the CMB polarization, background of orbiting binary supermassive black holes with galactic size wavelengths in correlations in radio signals arrival times on Earth from pulsars, colliding galaxies and galactic binary white dwarfs producing AU wavelengths detectable by space instruments, colliding black holes and neutron stars generating 105 m waves detectable on ground based interferometers. We will present the history and status of the search for gravitational waves with a diverse spectrum of sources and detectors.

Chair(s): Gabriela Gonzalez (Louisiana State University)

322.01 “The Quest for Gravitational Waves, 100 years After Einstein”
Author(s): Gabriela Gonzalez
Institution(s): 1 Louisiana State University

322.02 A brief history of gravitational waves - theoretical insight to measurement
Author(s): Rainer Weiss
Institution(s): 1 MIT
Contributing team(s): on behalf of the LIGO Scientific Collaboration

322.03 Detecting Gravitational Waves with the LIGO and Virgo Detectors
Author(s): Laura Cadonati
Institution(s): 1 Georgia Institute of Technology
Contributing team(s): LIGO Scientific Collaboration, Virgo Collaboration

322.04 Astrophysical sources of gravitational waves and electromagnetic counterparts
Author(s): Daniel Holz
Institution(s): 1 University of Chicago

322.05 Detecting Gravitational Waves of Galactic and AU scales
Author(s): Andrea N. Lommen
Institution(s): 1 Franklin and Marshall College
Contributing team(s): NANOGrav
323 Extrasolar Planets: Individual Systems

Wednesday, 2:00 pm - 3:30 pm; 616/617
Chair(s): Avi Shporer (JPL)

323.01D Constraining the Thermal Structure, Abundances, and Dynamics of the Exoplanet HD 209458b
Author(s): Robert Zellem3, Caitlin Ann Griffith3, Nikole Lewis4, Mark R. Swain7, Heather Knutson1
Institution(s): 1 California Institute of Technology, 2 Jet Propulsion Laboratory, California Institute of Technology, 3 Lunar and Planetary Laboratory - University of Arizona, 4 Massachusetts Institute of Technology

323.02D The Unusual Disintegrating Planet Candidate KIC 125557548b and Hot Jupiter CoRoT-1b in Transmission
Author(s): Everett Schlawin1, Ming Zhao3, Johanna K. Teske2, Terry L. Herter1
Institution(s): 1 Cornell University, 2 Department of Terrestrial Magnetism Carnegie Institution of Washington, 3 Penn State

323.04 3D modeling of clouds in GJ1214b’s atmosphere
Author(s): Benjamin Charnay2, Victoria Meadows2, Jeremy Leconte1, Amit Misra2
Institution(s): 1 University of Toronto, 2 Virtual Planetary Laboratory, University of Washington

323.05 Compositional Constraints on the Best Characterized Rocky Exoplanet, Kepler-36 b
Author(s): Leslie Rogers1, Katherine Deck3, Jack J. Lissauer4, Joshua A. Carter2
Institution(s): 1 California Institute of Technology, 2 Harvard-Smithsonian Center for Astrophysics, 3 Massachusetts Institute of Technology, 4 NASA Ames Research Center

323.06 Characterization of the KOI-273 Planetary System with HARPS-N
Author(s): Sara Gettel1, David Charbonneau1
Institution(s): 1 Harvard-Smithsonian Center for Astrophysics
Contributing team(s): HARPS-N Collaboration

323.07 Detection and characterization of the atmospheres of the HR 8799 b and c planets with high contrast HST/WFC3 imaging
Author(s): Abhijith Rajan1, Travis Barman5, Remi Soummer3, Laurent Pueyo3, Jenny Patience1, J. Brendan Hagan3, Bruce Macintosh4, Christian Marois2, Quinn M. Konopacky6
Institution(s): 1 Arizona State University / SESE, 2 NRC Canada, 3 Space Telescope Science Institute, 4 Stanford University, 5 University of Arizona/ LPL, 6 University of Toronto
323.08 New, Near-to-Mid Infrared High-Contrast Imaging of the Young Extrasolar Planets, HR 8799 bcde
Author(s): Thayne M. Currie⁴, Adam Seth Burrows⁷, Julien Girard⁵, Ryan Cloutier¹¹, Misato Fukagawa⁶, Satoko Sorahana¹⁰, Marc J. Kuchner⁵, Scott Kenyon⁵, Nikku Madhusudhan¹, Yoichi Itoh⁶, Ray Jayawardhana¹¹, Soko Matsumura⁸, Tae-Soo Pyo⁴
Institution(s): ¹ Cambridge, ² CfA, ³ ESO, ⁴ NAOJ, ⁵ NASA-Goddard, ⁶ Osaka University, ⁷ Princeton, ⁸ University of Dundee, ⁹ University of Hyago, ¹⁰ University of Tokyo, ¹¹ University of Toronto

324 Galaxies, Mergers and Black Holes

Wednesday, 2:00 pm - 3:30 pm; 618/619
Chair(s): Helene Flohic (Universidad de Chile)

324.01 Evolution of local luminous compact blue galaxies
Author(s): Katherine Rabidoux¹, Daniel J. Pisano¹
Institution(s): ¹ West Virginia University

324.02 The Galactic Tango: The Elegant Dance of Galaxies and their Supermassive Black Holes
Author(s): Sydney Sherman¹, Yuexing Li¹, Qirong Zhu¹
Institution(s): ¹ Penn State University

324.03 Molecular Rain powers Cold Black Hole Feedback in a Cool Core Brightest Cluster Galaxy
Author(s): Grant Tremblay¹
Institution(s): ¹ Yale University

324.04 Kinematic and Metallicity Comparisons between Dwarf Galaxies and Brightest Cluster Galaxies
Author(s): Jimmy³, Kim-Vy Tran³, Sarah Brough¹, Amelie Saintonge⁴, Paola Oliva-Altamirano¹, Anja Von Der Linden²
Institution(s): ¹ Australian Astronomical Observatory, ² Stanford, ³ Texas A&M University, ⁴ University College London

324.05 Star formation, quenching, black hole feedback and the fate of gas reservoirs
Author(s): Kevin Schawinski³, Ivy Wong³, C. Megan Urry³, Kyle Willett³, Brooke D Simmons²
Institution(s): ¹ ETH Zurich, ² Oxford University, ³ University of Minnesota, ⁴ University of Western Australia, ⁵ Yale University
Contributing team(s): Galaxy Zoo team

Author(s): William R. Forman², Eugene Churazov¹, Christine Jones², Sebastian Heinz¹, Akos Bogdan²
Institution(s): ¹ MPE, ² SAO-CfA, ³ University of Wisconsin
324.07 An ALMA detection of circumnuclear molecular gas in M87
Author(s): Catherine E Vlahakis\textsuperscript{1}, Stephane Leon\textsuperscript{2}, Sergio Martin\textsuperscript{1}
Institution(s): \textsuperscript{1} IRAM, \textsuperscript{2} Joint ALMA Observatory

325 Public Policy Panel: Former Agency Rotators
Wednesday, 2:00 pm - 3:30 pm; 606
With the federal government focused on reducing the deficit, funding for the astronomical sciences is being squeezed along with the rest of federal discretionary spending. It is thus more important than ever for the members of the AAS community to understand how decisions are made at federal science agencies that administer the lion’s share of federal funding for the astronomical sciences. Through a dialog with current chair of the Committee on Astronomy and Public Policy, a panel of former program officers on rotations at NASA and NSF will discuss their perspectives on policies and processes within their respective agencies. This will also provide an opportunity for those considering a rotation to learn what the job is like. There will be ample time for audience questions following a moderated discussion.
Chair(s): Debra Elmegreen (Vassar College)

326 Low Redshift (z<3) Galaxies
Wednesday, 2:00 pm - 3:30 pm; 607
Chair(s): Paola Oliva-Altamirano

326.01 Minor mergers: fundamental but unexplored drivers of galaxy stellar mass growth
Author(s): Sugata Kaviraj\textsuperscript{1}
Institution(s): \textsuperscript{1} University of Hertfordshire

326.02 GLASS: detailed structure of high redshift galaxies from HST grism spectroscopy
Author(s): Tucker Jones\textsuperscript{3}, Tommaso Treu\textsuperscript{2}, Kasper B. Schmidt\textsuperscript{3}, XIN WANG\textsuperscript{3}, Gabriel Brammer\textsuperscript{1}
Institution(s): \textsuperscript{1} Space Telescope Science Institute, \textsuperscript{2} University of California, Los Angeles, \textsuperscript{3} University of California, Santa Barbara
Contributing team(s): GLASS

326.03 Metal-poor, Strongly Star-forming Galaxies in the DEEP2 Survey: The Relationship between Stellar Mass, Temperature-based Metallicity, and Star Formation Rate
Author(s): Chun Ly\textsuperscript{1}, Jane R. Rigby\textsuperscript{1}, Michael Cooper\textsuperscript{2}, Renbin Yan\textsuperscript{3}
Institution(s): \textsuperscript{1} NASA GSFC, \textsuperscript{2} University of California, Irvine, \textsuperscript{3} University of Kentucky

326.04D Starbursting Dwarf Galaxies at z > 1
Author(s): Michael Maseda\textsuperscript{1}, Arjen van der Wel\textsuperscript{1}, Hans-Walter Rix\textsuperscript{1}
Institution(s): \textsuperscript{1} Max Planck Institute for Astronomy
Contributing team(s): 3D-HST
326.05 UV Spectral Slope and Dust Attenuation of Faint Star-Forming Galaxies at 1 < z < 3 Behind the Lensing Cluster A1689
Author(s): Anahita Alavi\(^3\), Brian D. Siana\(^3\), Alberto Dominguez\(^4\), Johan Richard\(^4\), Marc Rafelski\(^1\), Daniel Stark\(^2\)
Institution(s): \(^1\) IPAC, \(^2\) University of Arizona, \(^3\) University of California Riverside, \(^4\) University of Lyon

326.06D KPC-Scale Properties of Emission-line Galaxies
Author(s): Shoubaneh Hemmati\(^1\), Bahram Mobasher\(^1\)
Institution(s): \(^1\) UC Riverside
Contributing team(s): CANDELS

326.07 The MOSDEF Survey: Outflows from Star-forming Galaxies at z~2.3
Author(s): William R. Freeman\(^1\), Brian D. Siana\(^1\), Alice E. Shapley\(^3\), Mariska T Kriek\(^2\), Naveen Reddy\(^1\), Bahram Mobasher\(^1\), Alison L. Coil\(^4\), Sedona Price\(^2\), Ryan Sanders\(^3\), Irene Shivaei\(^1\), Laura DeGroot\(^1\)
Institution(s): \(^1\) Univ of CA Riverside, \(^2\) Univ of CA, Berkeley, \(^3\) Univ of CA, Los Angeles, \(^4\) Univ of CA, San Diego

327 Astronomy Education Research

Wednesday, 2:00 pm - 3:30 pm; 608
Chair(s): Douglas Duncan (Univ. of Colorado)

327.01 Investigating Student Ideas About the Fate of the Universe
Author(s): Mallory Conlon\(^4\), Kimberly A. Coble\(^1\), Janelle M. Bailey\(^3\), Lynn R. Cominsky\(^2\)
Institution(s): \(^1\) Chicago State University, \(^2\) Sonoma State University, \(^3\) Temple University, \(^4\) University of Illinois at Urbana-Champaign

327.02 Comparison of Student Performance in Video Game Format vs. Traditional Approach in Introductory Astronomy Classes
Author(s): Daniel Barringer\(^1\), Julia M. Kregenow\(^1\), Christopher Palma\(^1\), Julia Plummer\(^1\)
Institution(s): \(^1\) Pennsylvania State University

327.03 Beyond the Wobbles: Teaching Students About Detecting Planets with the Transit and Gravitational Microlensing Methods
Author(s): Edward E. Prather\(^1\), Colin Scott Wallace\(^3\), Timothy G. Chambers\(^1\), Gina Brissenden\(^1\), Wesley A. Traub\(^2\), W. M Greene\(^2\), Anya A Biferno\(^2\), Joshua Rodriguez\(^1\)
Institution(s): \(^1\) Center for Astronomy Education (CAE) Univ. of Arizona, \(^2\) NASA Jet Propulsion Laboratory, \(^3\) Univ. of North Carolina at Chapel Hill

327.04 How should we teach faculty about research-based teaching?
Author(s): Alice Olmstead\(^2\), Chandra Turpen\(^2\), Edward E. Prather\(^1\)
Institution(s): \(^1\) Center for Astronomy Education (CAE) Univ. of Arizona, \(^2\) University of Maryland
327.05 Test Of Astronomy STandards TOAST Survey of K-12 Teachers
Author(s): Timothy F. Slater, Stephanie Slater, Debra J Stork
Institution(s): 1. CAPER Center for Astronomy & Physics Education Research, 2. University of Wyoming

327.06 First Results from the iSTAR International STudy on Astronomy Reasoning
Author(s): Coty B. Tatge, Stephanie Slater, Timothy F. Slater
Institution(s): 1. CAPER Center for Astronomy & Physics Education Research, 2. University of Wyoming

327.07 Impacts of Chandra X-ray Observatory Public Communications and Engagement
Author(s): Kimberly K. Arcand, Megan Watzke, Kathleen Lestition, Peter Edmonds
Institution(s): 1. Smithsonian Astrophysical Observatory

328 Instrumentation: Space Missions -Ground Based or Airborne II
Wednesday, 2:00 pm - 3:30 pm; 609
Chair(s): Stephen Unwin (JPL)

328.01 Monitoring All the Sky All the Time with the Owens Valley Long Wavelength Array
Author(s): Gregg Hallinan, Stephen Bourke, Marin Anderson, Michael Eastwood, Ryan Monroe, Lincoln J. Greenhill, Gregory B. Taylor, Joseph Lazio, Sander Weinreb

328.02 Instrumentation to Detect the Dark Ages
Author(s): Danny C Price
Institution(s): 1. Harvard

328.03 Hydrogen Epoch of Reionization Array (HERA)
Author(s): David R. DeBoer
Institution(s): 1. UC, Berkeley
Contributing team(s): HERA

328.04 The Zwicky Transient Facility
Author(s): Eric Christopher Bellm, Shrinivas R. Kulkarni
Institution(s): 1. Caltech
Contributing team(s): ZTF Collaboration
328.05 Optical Spectroscopy with Starbugs, from TAIPAN to the Giant Magellan Telescope

Author(s): Kyler Kuehn¹, David Brown¹, Scott Case¹, Matthew Colless², Robert Content¹, Luke Gers¹, James Gilbert³, Michael Goodwin¹, Andrew Hopkins¹, Michael Ireland³, Nuria Lorente¹, Rolf Muller¹, Vijay Nichani¹, Azizi Rakman¹, Samuel Richards¹, Will Saunders¹, Nick Staszak¹, Julia Tims¹, Lewis Waller¹

Institution(s): ¹Australian Astronomical Observatory, ²Australian National University, ³University of Oxford

328.06 The SDC: high contrast imaging with a multistage vortex coronagraph

Author(s): Michael Bottom¹, Chris Shelton², J. Kent Wallace², Jonas Kuhn³, Bertrand Mennesson², Randall D. Bartos¹, Rick Burruss², Dimitri Mawet¹, Gene Serabyn³

Institution(s): ¹California Institute of Technology, ²Jet Propulsion Lab

328.07 ALTAIR: Precision Photometric Calibration via Low-Cost Artificial Light Sources Above the Atmosphere

Author(s): Justin Albert⁵, Karun Thanjavur⁵, Yorke Brown¹, Christopher Stubbs², J. Paul Kovacs², Divya Bhatnagar⁵, James Hartwick³, Keith Vanderlinde⁵, Matt Dobbs³, Arnold Gaertner⁴

Institution(s): ¹Dartmouth College, ²Harvard University, ³McGill University, ⁴National Research Council of Canada, ⁵Univ. of Victoria, ⁶University of Toronto

Contributing team(s): ALTAIR

328.08 The Gemini Instrument Feasibilities Studies project

Author(s): Pascale Hibon¹, Stephen J. Goodsell¹, Kayla Hardie¹

Institution(s): ¹Gemini Observatory

328.09 Submillimeter Dust Polarimetry with the BLAST-TNG Telescope

Author(s): Nicholas Galitzki¹³, Peter Ade³, Francesco E Angilè¹³, Peter Ashto⁷, James Howard Beall⁶, Dan Becker⁶, Kristi J. Bradford¹, George Che³, Hsiao-Mei Cho⁹, Mark J. Devlin¹³, Bradley Dober¹³, Laura M. Fissel¹, Yasuo Fukui⁴, Jiannesong Gao⁹, Christopher E. Groppi¹, Seth N. Hillbrand², Gene Hilton⁶, Kent Irwin⁵, Jeffrey Klein¹³, Jeffrey Van Lanen⁶, Dale Li⁶, Zhi-Yun Li¹⁵, Nathan Lourie¹³, Hamdi Mani¹, Peter G. Martin¹⁵, Philip Mauskopf³, Fumitaka Nakamura⁹, Giles Novak⁷, David P. Pappas⁶, Enzo Pascale³, Giampaolo Pisano³, Fabio P. Santos⁷, Giorgio Savini¹⁰, Douglas Scott¹⁵, Sara Stanchfield¹³, Carole Tucker³, Joel Ullo⁶, Matthew Underhill¹, Michael Visser⁶, Derek Ward-Thompson¹², Hannes Hubmayr⁶, Simon Doyle³

Institution(s): ¹Arizona State University, ²California State University, ³Cardiff University, ⁴Nagoya University, ⁵National Astronomical Observatory, ⁶National Institute of Standards and Technology, ⁷Northwestern University, ⁸SLAC National Accelerator Laboratory, ⁹Stanford University, ¹⁰University College London, ¹¹University of British Columbia, ¹²University of Central Lancashire, ¹³University of Pennsylvania, ¹⁴University of toronto, ¹⁵University of Virginia
329 Galaxy Star Formation Rate and Stellar Mass

Wednesday, 2:00 pm - 3:30 pm; 611

Chair(s): Richard de Grijs (Peking University)

329.01 The Star Forming Main Sequence and its Scatter as Consequences of the Central Limit Theorem
Author(s): Daniel Kelson1
Institution(s): 1 Carnegie Inst. of Washington

329.02 The Star Formation Rate-Stellar Mass Correlation: Does the Scatter Matter?
Author(s): Eric J. Gawiser1
Institution(s): 1 Rutgers University

329.03DA Turn-over in the Galaxy Main Sequence of Star Formation at M* ~ 1010 Msun
Author(s): Nicholas Lee1
Institution(s): 1 University of Hawaii
Contributing team(s): COSMOS team

329.04 Constraining the Low-Mass Slope of the Star Formation Sequence at 0.5≤z≤2.5
Author(s): Katherine E. Whitaker2, Marijn Franx1, Joel Leja3, Pieter G. Van Dokkum3, Alaina L. Henry1, Rosalind Skelton3, Mattia Fumagalli1, Ivelina G. Momcheva2, Gabriel Brammer4, Ivo Labbe4, Erica Nelson5, Jane R. Rigby2
Institution(s): 1 Leiden Observatory, 2 NASA/GSFC, 3 SAAO, 4 STScI, 5 Yale University
Contributing team(s): 3D-HST collaboration

329.05D Inferring Galaxy Star Formation Histories from Statistical Metrics: What Ensemble Data Has and Hasn’t Taught Us about Galaxy Growth
Author(s): Louis Evan Abramson1
Institution(s): 1 University of Chicago
Contributing team(s): IMACS Cluster Building Survey

329.06 Impact of star formation history on the measurement of star formation rates
Author(s): Mederic Boquien3, Veronique Buat1, Valentin Perret3
Institution(s): 1 Laboratoire d’Astrophysique de Marseille, 2 University of Cambridge, 3 University of Zurich

329.07 Sizing Up Dwarf Galaxies at z > 1: UV Colors, Stellar Masses and Star Formation Rates
Author(s): Peter Kurczynski1, Eric J. Gawiser3, Marc Rafelski2, Harry I. Teplitz1, Duilia F. De Mello5, Steven L. Finkelstein6, Jonathan P. Gardner2, Anton M. Koekemoer4, Emmaris Soto5
Institution(s): 1 IPAC MS 100-22, Cal Tech, 2 NASA Goddard Space Flight Center, 3 Rutgers, The State University of New Jersey, 4 Space Telescope Science Institute, 5 The Catholic University of America, 6 University of Texas at Austin
Contributing team(s): UVUDF Team
330 Circumstellar and Debris Disks

Wednesday, 2:00 pm - 3:30 pm; 612

Chair(s): Gaspard Duchene *(University of California Berkeley)*

330.01 DiskDetective.org: The First 1,000,000 Classifications

*Author(s):* Marc J. Kuchner¹, Steven Silverberg², Alissa Bans³

*Institution(s):* ¹ Adler Planetarium, ² NASA's GSFC, ³ University of Oklahoma

Contribution team(s): The Disk Detective Team

330.02 Planetary Collisions outside the Solar System: Time Domain Characterization of Extreme Debris Disks

*Author(s):* Huan Meng¹, Kate Y.L. Su¹, George Rieke¹

*Institution(s):* ¹ University of Arizona

330.04 Evidence of Sculpting by Stellar and Sub-stellar Companions in Debris Disks in the ScoCen

*Author(s):* Hannah Jang-Condell⁷, Christine Chen³, Erika Nesvold², Marc J. Kuchner², Tushar Mittal⁶, Manoj Puravankara⁴, Dan M. Watson⁶, Casey M. Lisse¹

*Institution(s):* ¹ JHU-APL, ² NASA-GSFC, ³ STScI, ⁴ Tata Institute of Fundamental Research, ⁵ UC Berkeley, ⁶ University of Rochester, ⁷ University of Wyoming

330.05 Gemini Planet Imager Polarimetry of the Circumstellar Ring around HR 4796A

*Author(s):* Marshall D. Perrin², Gaspard Duchene³, Michael P. Fitzgerald⁴, Max Millar-Blanchaer⁶, James R. Graham³, Sloane Wiktorowicz⁶, Paul Kalas⁷, Bruce Macintosh¹

*Institution(s):* ¹ Stanford University, ² STScI, ³ UC Berkeley, ⁴ UCLA, ⁵ UCSC, ⁶ University of Toronto

Contribution team(s): the Gemini Planet Imager Team

330.06D Modeling Collisions in Circumstellar Debris Disks with SMACK

*Author(s):* Erika Nesvold², Marc J. Kuchner¹

*Institution(s):* ¹ NASA/Goddard Space Flight Center, ² University of Maryland, Baltimore County

330.07 Kozai-Lidov Oscillations of Circumstellar Disks

*Author(s):* Stephen H. Lubow², Wen Fu¹, Rebecca G. Martin³

*Institution(s):* ¹ Rice University, ² STScI, ³ University of Colorado

331 Intergalactic Medium, QSO Absorption Line Systems II

Wednesday, 2:00 pm - 3:30 pm; 615

Chair(s): Cameron Hummels *(Columbia Univ.)*

331.01 Thermal Evolution of the Intergalactic Medium

*Author(s):* Phoebe Upton Sanderbeck¹, Matthew McQuinn¹

*Institution(s):* ¹ University of Washington
331.02 Probing Quasar Winds Using Intrinsic Narrow Absorption Lines
Author(s): Christopher S. Culliton1, Amber Roberts1, Jane C. Charlton1, Michael Eracleous1, Rajib Ganguly1, Toru Misawa2
Institution(s): 1 Pennsylvania State University, 2 Shinshu University, 3 University of Michigan, Flint

331.03D Optical depth ratios and metal-line absorption around z≈2.3 star-forming galaxies: insights from observations and simulations
Author(s): Monica Turner3, Joop Schaye1, Charles C. Steidel1, Gwen C. Rudie2, Allison Strom1
Institution(s): 1 California Institute of Technology, 2 Carnegie Observatories, 3 Leiden Observatory

331.04 Simultaneous detections of a Milky Way type 2175 Å bump and CI, CO in a metal-rich and highly dust depleted absorption system at z=2.12 towards QSO J1211+0833
Author(s): Jingzhe Ma2, Paul Caucal3, Pasquier Noterdaeme4, Jian Ge4, Shaohua Zhang4, Tuo Ji4, J. Xavier Prochaska1
Institution(s): 1 Department of Astronomy and Astrophysics, UCO/Lick Observatory, 2 Department of Astronomy, University of Florida, 3 Institut d’Astrophysique de Paris, 4 Polar Research Institute of China

331.05 Searching for HI at NHI≈1017 cm-2 around nearby galaxies.
Author(s): Daniel J. Pisano2, Felix J. Lockman1, Spencer A. Wolfe2
Institution(s): 1 National Radio Astronomy Observatory, 2 West Virginia University

331.06D Kinematics of Baryons Cycling Through Galaxy Halos
Author(s): Nikole M. Nielsen1
Institution(s): 1 New Mexico State University

332 Catalogs/Surveys/Computation - UVOIR
Wednesday, 2:00 pm - 3:30 pm; 620
Chair(s): Steven Rodney (Johns Hopkins University)

332.01 Results from the Pan-STARRS1 Sky Surveys
Author(s): Kenneth C. Chambers1
Institution(s): 1 University of Hawaii
Contributing team(s): PS1 Science Consortium

332.03 Establishing a Network of Next Generation SED Standards with DA White Dwarfs
Author(s): Gautham Narayan2, Abhijit Saha2, Thomas Matheson2, Jay B. Holberg4, Edward W. Olszewski6, Christopher Stubbs1, Susana E. Deustua3, Ralph Bohlin2, Ronald L. Gilliland3, Armin Rest3, Elena Sabbioni3, John W. MacKenty3, Tim S. Axelrod4
Institution(s): 1 Harvard Univ., 2 National Optical Astronomy Observatory, 3 Space Telescope Science Institute, 4 University of Arizona
The Panchromatic Hubble Andromeda Treasury Survey: UV-IR Photometry of 117 Million Stars  
Author(s): Benjamin F. Williams, Dustin Lang, Julianne Dalcanton, Andrew E. Dolphin, Daniel R. Weisz, Lent C. Johnson, Nell Byler, Dylan Gregersen, Anil Seth, Leo Girardi  
Contributing team(s): PHAT Survey Team

Version 1 of the Hubble Source Catalog  
Author(s): Bradley C. Whitmore, Sahar S. Allam, Tamas Budavari, Tom Donaldson, Stephen H. Lubow, Lee Quick, Louis-Gregory Strolger, Geoff Wallace, Richard L. White  
Institution(s): 1. JHU, 2. STScI

GLASS: Spectroscopic samples of Lyα emitters at z > 6  
Author(s): Kasper B. Schmidt, Tommaso Treu  
Institution(s): 1. University of California Los Angeles (UCLA), 2. University of California Santa Barbara (UCSB)  
Contributing team(s): The GLASS Collaboration

Wide Integral Field Infrared Spectroscopic Survey of Nearby Galaxies  
Author(s): Suresh Sivanandam, Dae-Sik Moon, Dennis F. Zaritsky, Richard Chou, Elliot Meyer, Ke Ma, Miranda Jarvis, Joshua A. Eisner  
Institution(s): 1. ASIAA, 2. Dunlap Institute, 3. University of Arizona, 4. University of Toronto

Targeted-mode pipeline for the Evryscope: a minute cadence, 10,000-square-degree FoV, gigapixel-scale telescope  
Author(s): Octavi Fors Aldrich, Nicholas M. Law, Philip J. Wulfken, Jeffrey Ratzloff  
Institution(s): 1. University of North Carolina at Chapel Hill

NOAO Data Reduction Mini-Workshop: Near-IR Data

Wednesday, 2:30 pm - 4:00 pm; 401

The System User Support group at NOAO is sponsoring a series of data reduction mini-workshops as part of a new initiative on post-observing run support. The mini-workshops will cover data reduction topics of interest to the OIR community. The first workshop will focus on reductions of near-infrared data. Near-IR imaging and increasingly also near-IR imaging with AO is offered on a wide variety of 4 to 8 m class telescopes. Most observatories now also offer medium-resolution near-IR spectroscopy covering the 1 to 2.5 micron region. These workhorse capabilities support a wide range of science from solar system to high redshift. The workshop will start with a discussion of near-IR observing techniques and the reduction of near-IR images. The second half of the workshop will focus on the specific case of reducing GNIRS cross dispersed data. The techniques discussed should have wide application. Audience interaction will be encouraged. Links to reduction cookbooks will be provided.

Organizer(s): Kenneth Hinkle (NOAO)
333 Plenary Talk: Bringing the High Energy Universe into Focus: Science Highlights from the NuSTAR Mission

Wednesday, 3:40 pm - 4:30 pm; 6E
Chair(s): Paula Szkody (Univ. of Washington)

333.01 Bringing the High Energy Universe into Focus: Science Highlights from the NuSTAR Mission
Author(s): Fiona Harrison1
Institution(s): 1. Caltech

334 Plenary Talk: Cosmological Results from Planck 2014

Wednesday, 4:30 pm - 5:20 pm; 6E
Chair(s): Jack Burns (Univ. of Colorado)

334.01 Cosmological results from Planck 2014
Author(s): Martin White1
Institution(s): 1. UC, Berkeley

Imposter: Understanding, Discussing, and Overcoming Imposter Syndrome

Wednesday, 5:30 pm - 7:00 pm; 616/617

Imagine that every time you went to school or work, these thoughts spiraled around: “Should I be here?” “I didn’t deserve this position, and soon everyone will find out.” “They’ll know I’m incompetent, that I’m only here by luck” “I had to work much harder than my smarter peers; they’ll know I’ve fooled them. “I’ll be exposed as an impostor.” For many people in astronomy this is a daily reality. Coined as the “Impostor Syndrome” (IS) by Pauline Clance and Suzanne Imes in 1978, such debilitating thoughts erode confidence and can cause individuals to attempt less because they doubt their capacity to achieve the same rigor or status as their peers/mentors. This can lead to depression, stagnation, and even leaving the field. Studies have shown that IS is more frequently experienced by women (but is not absent in men) and underrepresented minorities, and may be an underlying driver of underrepresentation in science, one of the primary climate issues identified in the Decadal Survey. IS can be addressed and combated by improving self-awareness and self-management, exploring how IS protects one’s self-worth versus limits one’s achievement, and learning/accepting one’s strengths and successes. We propose an AAS workshop to do just this. Pre-workshop readings and a short presentation will provide an introduction to IS, while the bulk of the workshop will concentrate
on identifying, exploring, and overcoming IS thoughts and behaviors. Attendees will leave with a deeper understanding of IS and effective IS-combating exercises, plus additional resources to share with their mentors/supervisors/peers. This workshop has been endorsed by the CSWA, CSMA, and WGLE. It is co-organized by Adam Burgasser, Caitlin Casey, Jessica Kirkpatrick, Loic Le Tiran, Kartik Sheth, and Johanna Teske. The title comes from a participant of the MIT Physics’ Diversity & Inclusion luncheon. We propose this as the first in a series of workshops targeting important “wellness of the field” issues, with workshops on mindset, ethics, and sexual harassment planned for subsequent AAS winter meetings.  
Organizer(s): Johanna Teske (University of Arizona)

335 Astronomical Science Policy and AAS Advocacy
Town Hall

Wednesday, 6:30 pm - 7:30 pm; 606
The potential for ground-breaking discoveries in the astronomical sciences continues to grow as we open new eyes on our universe and send new probes out into our solar system. And yet, federal funding for the astronomical sciences is being squeezed, along with all federal discretionary spending, as the government focuses on deficit reduction. In addition to setting budgets, the federal government sets broad policies that determine the overall direction of the US science enterprise, while also regulating scientific conduct (e.g., policies on open-access to data and scientific publications). Join us for a discussion of how federal policies affect the astronomical sciences and how you can get involved. The AAS Public Policy staff will present a brief overview of the astronomical science policy landscape and the society’s advocacy efforts, before opening up the floor for a discussion of these topics. We encourage anyone interested in engaging in science policy and advocacy to attend and contribute.

Chair(s): Debra Elmegreen (Vassar College)

WFIRST Science Planning

Wednesday, 6:00 pm - 8:00 pm; 607
WFIRST is the top ranked large space mission of the Astro2010 Decadal Survey. NASA has recently acquired two “Hubble class” 2.4m mirror telescopes, one of which is being baselined for WFIRST. The NASA name for this configuration of the mission is the Astrophysics Focused Telescope Assets (AFTA). The predicted performance is impressive with IR surveys covering 1000’s of square degrees to 27th magnitude. In addition to a wide-field imaging camera with a grism and an IFU spectrograph, a high contrast coronagraph will significantly advance exoplanet direct imaging, the highest ranked ASTRO2010 mid-scale priority. Observing time will be available to the community through a vigorous Guest Investigator program. The mission will make large advances in studies of dark energy, exoplanets, galaxy formation and many other areas of extragalactic, galactic and solar system astrophysics. This workshop will examine the scientific opportunities for the AAS community made available by the utilization of one of the 2.4m telescopes for the WFIRST-AFTA mission.

Organizer(s): Neil Gehrels (NASA’s GSFC)
350 RAS Gold Medal Winner Talk: Looking for the Identity of Dark Matter in and Around the Milky Way

Wednesday, 8:00 pm - 9:00 pm; 6A
Chair(s): C. Megan Urry (Yale University)

350.01 Looking for the identity of the dark matter in and around the Milky Way
Author(s): Carlos S Frenk¹
Institution(s): ¹ Institute for Computational Cosmology, University of Durham
POSTERS

336 Catalogs, Surveys, and Computation Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

336.00 Sharper Fermi LAT Images
Author(s): Stephen Portillo¹, Douglas P. Finkbeiner¹
Institution(s): ¹ Harvard University

336.01 The X-ray Source Population of M33 as seen by XMM-Newton
Author(s): Kristen Garofali⁷, Benjamin F. Williams⁷, Brian Wold⁷, Frank Haberl³, William P. Blair³, Terrance J. Gaetz¹, K. D. Kuntz², Knox S. Long⁶, Thomas Pannuti³, Wolfgang Pietsch³, Paul P. Plucinsky¹, P. Frank Winkler⁴
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Johns Hopkins University, ³ Max-Planck-Institut fur extraterrestrische, ⁴ Middlebury College, ⁵ Morehead State University, ⁶ Space Telescope Science Institute, ⁷ University of Washington

336.02 Fermi’s Other Source Class: The Unassociated Sources of the Fermi-LAT 3FGL Catalog
Author(s): Elizabeth C. Ferrara¹, Nestor R. Mirabal¹
Institution(s): ¹ NASA/GSFC
Contributing team(s): Fermi-LAT Collaboration

336.03 Science with the Cherenkov Telescope Array
Author(s): Lucy Fortson¹
Institution(s): ¹ University of Minnesota
Contributing team(s): The CTA Consortium

336.04 Planning the installation of the Dark Energy Spectroscopic Instrument on the NOAO Mayall telescope
Author(s): Lori Allen³, David Sprayberry³, Robert D. Blum³, Ron Probst³, Richard R. Joyce³, Arjun Dey³, Matt Evatt³, Bob Marshall³, Robert Besuner², Pat Jelinsky², Robin Lafever², Chris Bebek², Brenna Flaugher¹
Institution(s): ¹ FNAL, ² LBNL, ³ NOAO
Contributing team(s): the DESI collaboration

336.05 The Dark Energy Spectroscopic Instrument (DESI): Science from the DESI Survey
Author(s): Daniel Eisenstein¹
Institution(s): ¹ Harvard Univ.
Contributing team(s): DESI Collaboration

336.06 The Dark Energy Spectroscopic Instrument (DESI): Bright-Time Science Program
Author(s): Risa H. Wechsler¹
Institution(s): ¹ Stanford University
Contributing team(s): the DESI Collaboration
336.07 The Dark Energy Spectroscopic Instrument (DESI): The NOAO DECam Legacy Imaging Survey and DESI Target Selection

**Author(s):** David J. Schlegel, Robert D. Blum, Francisco Javier Castander, Arjun Dey, Douglas P. Finkbeiner, Sebastien Foucaud, Klaus Honscheid, David James, Dustin Lang, Michael Levi, John Moustakas, Adam D. Myers, Jeffrey Newman, Brian Nord, Peter E. Nugent, Anna Patej, Kevin Reil, Gregory Rudnick, Eli S. Rykoff, Eddie Ford Schlafly, Casey Stark, Francisco Valdes, Alistair R. Walker, Benjamin Weaver

**Institution(s):**

**Contributing team(s):** DECam Legacy Survey Collaboration

336.08 The Dark Energy Spectroscopic Instrument (DESI): The Spectrographs

**Author(s):** Jerry Edelstein

**Institution(s):**
1. University of California, Berkeley

**Contributing team(s):** The DESI Collaboration

336.09 The Dark Energy Spectroscopic Instrument (DESI): Data Systems

**Author(s):** Stephen Bailey, Adam S Bolton, Robert N. Cahn, Kyle Dawson, Jaime Forero Romero, Julien Guy, Theodore Kisner, John Moustakas, Peter E. Nugent, David J. Schlegel, Casey Stark, Benjamin Weaver

**Institution(s):**

**Contributing team(s):** DESI Collaboration

336.10 The Dark Energy Spectroscopic Instrument (DESI): Tiling and Fiber Assignment

**Author(s):** Robert N. Cahn, Stephen J. Bailey, Kyle S. Dawson, Jaime Forero Romero, David J. Schlegel, Martin White

**Institution(s):**

**Contributing team(s):** DESI

336.11 A Comparison of Kinematic and Photometric Inclinations in the RESOLVE Survey

**Author(s):** Ryan William Beauchemin, Sheila Kannappan, Kathleen D. Eckert, Erik A. Hoversten, Kirsten Hall

**Institution(s):**
1. University of North Carolina at Chapel Hill

**Contributing team(s):** RESOLVE

336.12 Galaxy and Group Baryonic Mass Functions for the RESOLVE Survey

**Author(s):** Kathleen D. Eckert, Sheila Kannappan, Amanda J. Moffett, Ashley Baker, David Stark, Andreas A. Berlind, Kate Storey-Fisher, Adrienne L. Erickcek, Mark A. Norris

**Institution(s):**
1. University of North Carolina, Chapel Hill, 2. Vanderbilt University

**Contributing team(s):** The RESOLVE Team
336.13 Measuring the Properties of Void Galaxies in Environmental Context (ECO) using RESOLVE
Author(s): Jonathan Florez¹, Andreas A. Berlind⁴, Amanda J. Moffett³, Roberto Gonzalez², Kathleen D. Eckert³, Sheila Kannappan³
Institution(s): ¹ Fisk University, ² Pontifical Catholic University of Chile, ³ University of North Carolina, ⁴ Vanderbilt University
Contributing team(s): RESOLVE

336.14 Characterizing Compact Core Galaxies in the RESOLVE Survey
Author(s): Elaine M. Snyder⁵, Sheila Kannappan⁵, Dara J. Norman⁴, Samantha Dallas², Ian P. Dell’Antonio², Mark A. Norris⁴, Millicent Maier⁴, Kathleen D. Eckert⁵, David V. Stark⁵
Institution(s): ¹ Australian Astronomical Observatory, ² Brown University, ³ Max Planck Institute for Astronomy, ⁴ NOAO, ⁵ University of North Carolina at Chapel Hill
Contributing team(s): RESOLVE team

336.15 Open Exploration of the Time Domain with the Catalina Real-Time Transient Survey (CRTS)
Author(s): Stanislav G. Djorgovski¹, Andrew J. Drake¹, Ashish A. Mahabal¹, Matthew Graham¹, Ciro Donalek¹, Ajit Kembhavi³, Georges Meylan², Giuseppe Longo¹, Eric J. Christensen⁴, Stephen M. Larson⁴
Institution(s): ¹ Caltech, ² EPFL, ³ IUCAA, ⁴ LPL, ⁵ Univ. Federico II
Contributing team(s): CRTS

336.16 APASS - The Latest Data Release
Author(s): Arne A. Henden¹, Stephen Levine², Dirk Terrell⁴, Douglas L. Welch¹
Institution(s): ¹ AAVSO, ² Lowell Observatory, ³ McMaster University, ⁴ Southwest Research Institute

336.17 Pan-STARRS-1 Medium Deep Survey
Author(s): Mark Huber¹
Institution(s): ¹ University of Hawaii
Contributing team(s): PS1-IPP Team, PS1 Science Consortium

336.18 SpIES:The Spitzer IRAC Equatorial Survey
Author(s): John Timlin⁴, Nicholas Ross⁴, Gordon T. Richards⁴, Mark Lacy⁴, Franz E. Bauer⁶, W. Niel Brandt¹, Xiaohui Fan⁸, Daryl Haggard², Martin Makler³, Adam D. Myers⁵, Michael A. Strauss⁷, C. Megan Urry¹⁰
Institution(s): ¹ Penn State University, ² Amherst College, ³ Brazilian Center for Physics Research, ⁴ Drexel University, ⁵ NRAO, ⁶ Pontificia Universidad Católica de Chile, ⁷ Princeton University, ⁸ University of Arizona, ⁹ University of Wyoming, ¹⁰ Yale University
Contributing team(s): SpIES Team

336.19 Understanding Galaxy Cluster MKW10
Author(s): Tim Sanders¹, Swain Henry¹, Kimberly A. Coble¹, Jessica L. Rosenberg², Rebecca A. Koopmann³
Institution(s): ¹ Chicago State University, ² George Mason Univ., ³ Union Coll
336.20 Low Mass Stellar Companions to Nearby A and B Stars
Author(s): Kevin Gullikson¹, Adam L. Kraus¹
Institution(s): ¹ University of Texas Austin

336.21 Galaxy Evolution Explorer (GALEX): Galactic Plane Survey
Author(s): Cameron Lemley³, Steven Mohammed³, David Schiminovich³,
Benjamin Tam⁴, Mark Seibert², Christopher D. Martin¹
Institution(s): ¹ Caltech, ² Carnegie Institution for Science, ³ Columbia University,
⁴ McGill University
Contributing team(s): GALEX Science Team

336.22 PHAT Youths: Metallicity Gradient of M31 using Young Stars in the PHAT Survey
Author(s): Alex Deich¹, Anil Seth²
Institution(s): ¹ Reed College, ² University of Utah

336.23 Grism Data Products from the 3D-HST Survey
Author(s): Ivelina G. Momcheva², Gabriel Brammer¹, Pieter G. Van Dokkum²
Institution(s): ¹ STScI, ² Yale University
Contributing team(s): The 3D-HST Team

336.24 Searching for Distant Galaxies with HST and Spitzer
Author(s): Peter Senchyna², Matthew Ashby¹, Joseph L. Hora¹
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² University of Washington
Contributing team(s): CANDELS, S-CANDELS

336.25 The Hubble Legacy Archive: Data Processing in the Era of AstroDrizzle
Author(s): Louis-Gregory Strolger¹
Institution(s): ¹ Space Telescope Science Institute
Contributing team(s): The Hubble Legacy Archive Team, The Hubble Source Catalog Team

336.26 Identification and Classification of Infrared Excess Sources in the Spitzer Enhanced Imaging Products (SEIP) Catalog
Author(s): David Strasburger⁵, Varoujian Gorjian⁴, Todd Burke², Linda Childs³,
Caroline Odden⁷, Kevin Tambara¹, Antoinette Abate ⁵, Nadir Akhtar ⁹, Skyler Beach ⁵, Ishaan Bhojwani⁵, Caden Brown², AnnaMaria Dear ⁷, Theodore Dumont⁵, Olivia Harden⁵, Laurent Joli-Coeur⁷, Rachel Nahirny⁵, Andie Nakahira⁸, Sabine Nix⁷, Sarp Orgul⁷, Johnny Parry ⁵, John Picken⁷, Isabel Taylor⁷, Emre Toner⁷, Aspen Turner², Jessica Xu ⁶, Emily Zhu⁷
Institution(s): ¹ Bert Lynn Middle School, ² Estes Park High School, ³ Florida Virtual School, ⁴ JPL/Caltech, ⁵ Noble & Greenough School, ⁶ Palos Verdes Peninsula High School, ⁷ Phillips Academy, ⁸ Vistamar School, ⁹ West High School

336.27 The G-HAT Search for Advanced Extraterrestrial Civilizations: The Reddest Extended WISE Sources
Author(s): Jessica Maldonado david, Matthew S. Povich¹, Jason Wright³, Roger Griffith³, Steinn Sigurdsson³, Brendan L. Mullan²
Institution(s): ¹ California State Polytechnic University, ² Carnegie Science Center, ³ Penn State
336.28 An Analysis of Offset, Gain, and Phase Corrections in Analog to Digital Converters  
Author(s): Devin Cody\textsuperscript{2}, John Ford\textsuperscript{1}  
Institution(s): \textsuperscript{1} National Radio Astronomy Observatory, \textsuperscript{2} Yale University

336.29 Searching for Fast Radio Bursts (FRBs) in GALFACTS Data  
Author(s): Kristina Kaldon\textsuperscript{2}, Tapasi Ghosh\textsuperscript{1}, Christopher J. Salter\textsuperscript{1}  
Institution(s): \textsuperscript{1} Arecibo Observatory, \textsuperscript{2} The Pennsylvania State University

336.30 A Blind Search for Neutral Hydrogen  
Author(s): Julia Gross\textsuperscript{1}, Emmanuel Momjian\textsuperscript{2}, Jacqueline H. Van Gorkom\textsuperscript{1}  
Institution(s): \textsuperscript{1} Columbia University, \textsuperscript{2} National Radio Astronomy Observatory

336.31 Direction Dependent Effects In Widefield Wideband Full Stokes Radio Imaging  
Author(s): Preshanth Jagannathan\textsuperscript{1}, Sanjay Bhatnagar\textsuperscript{1}, Urvashi Rau\textsuperscript{1}, Russ Taylor\textsuperscript{2}  
Institution(s): \textsuperscript{1} National Radio Astronomy Observatory, \textsuperscript{2} Univeristy of Cape Town

336.32 Galactic Science with the Very Large Array Sky Survey  
Author(s): T. Joseph W. Lazio\textsuperscript{1}, Rachel A. Osten\textsuperscript{2}, Cornelia C. Lang\textsuperscript{3}  
Institution(s): \textsuperscript{1} Jet Propulsion Laboratory, California Institute of Technology, \textsuperscript{2} Space Telescope Science Institute, \textsuperscript{3} Univ. of Iowa  
Contributing team(s): VLASS Galactic Science Working Group

336.33 Monitoring the Low Frequency Sky with the LWA1 and the Prototype All-Sky Imager  
Author(s): Kenneth Steven Obenberger\textsuperscript{1}  
Institution(s): \textsuperscript{1} University of New Mexico  
Contributing team(s): LWA Collaboration

336.34 A Pipeline for High Resolution Radio Images  
Author(s): Brianna P. Thomas\textsuperscript{1}, Alison B. Peck\textsuperscript{2}, Jacqueline Hodge\textsuperscript{2}, Anthony J. Beasley\textsuperscript{2}  
Institution(s): \textsuperscript{1} Howard University, \textsuperscript{2} National Radio Astronomy Observatory  
Contributing team(s): The VCS Team

336.35 ADMIT: ALMA Data Mining Toolkit  
Author(s): Douglas N. Friedel\textsuperscript{3}, Lisa Xu\textsuperscript{1}, Leslie Looney\textsuperscript{1}, Peter J. Teuben\textsuperscript{4}, Marc W. Pound\textsuperscript{4}, Kevin P. Rauch\textsuperscript{3}, Lee G. Mundy\textsuperscript{4}, Jeffrey S. Kern\textsuperscript{2}  
Institution(s): \textsuperscript{1} National Center for Supercomputing Applications, \textsuperscript{2} National Radio Astronomy Observatory, \textsuperscript{3} Univ. of Illinois, \textsuperscript{4} University of Maryland

336.36 Overview of the SOFIA Data Processing System: A generalized system for manual and automatic data processing at the SOFIA Science Center  
Author(s): Ralph Shuping\textsuperscript{4}, Robert Krzaczek\textsuperscript{1}, William D. Vacca\textsuperscript{4}, Miguel Charcos-Lloren\textsuperscript{3}, William T. Reach\textsuperscript{4}, Rosemary Alles\textsuperscript{4}, Melanie Clarke\textsuperscript{4}, Riccardo Melchiorri\textsuperscript{4}, James T. Radomski\textsuperscript{4}, Sachindev S. Shenoy\textsuperscript{4}, David Sandel\textsuperscript{4}, Eric Omelian\textsuperscript{2}  
Institution(s): \textsuperscript{1} CIS-RIT, \textsuperscript{2} NASA-SOFIA, \textsuperscript{3} Space Science Institute, \textsuperscript{4} USRA-SOFIA
336.37 A Prototype External Event Broker for LSST  
**Author(s):** Gabriella Elan Alvarez¹, Keivan Stassun¹, Dan Burger¹, Robert Siverd¹, Donald Cox¹  
**Institution(s):** ¹ Vanderbilt University

336.38 LSST Site: Sky Brightness Data  
**Author(s):** Jamison Burke², Charles Claver¹  
**Institution(s):** ¹ NOAO/KPNO, ² Swarthmore College

336.39 Simulating Optical Surveys with the LSST Software Stack  
**Author(s):** Scott Daniel¹, K. Simon Krughoff³, Peter Yoachim¹, R. Lynne Jones¹, Yusra AlSayyad¹, Bryce Kalmbach¹, Andrew J. Connolly¹, Zeljko Ivezic¹  
**Institution(s):** ¹ University of Washington  
Contributing team(s): LSST Image Simulation Team

336.40 The LSST Metrics Analysis Framework (MAF)  
**Author(s):** R. Lynne Jones⁴, Peter Yoachim⁴, Srinivasan Chandrasekharan², Andrew J. Connolly⁴, Kem H. Cook¹, Zeljko Ivezic⁴, K. Simon Krughoff⁴, Catherine E. Petry³, Stephen T. Ridgway²  
**Institution(s):** ¹ Eureka Science, ² NOAO, ³ Univ. of Arizona, ⁴ Univ. of Washington

336.41 Analyzing Simulated LSST Surveys With MAF  
**Author(s):** Peter Yoachim⁴, R. Lynne Jones⁴, Srinivasan Chandrasekharan², Andrew J. Connolly⁴, Kem H. Cook¹, Zeljko Ivezic⁴, K. Simon Krughoff⁴, Catherine E. Petry³, Stephen T. Ridgway²  
**Institution(s):** ¹ Eureka Scientific, ² NOAO, ³ Univ. of Arizona, ⁴ University of Washington

336.42 Building POCS: An open source observatory control system for amateur telescopes used by the PANOPTES project for the detection of extrasolar planets  
**Author(s):** Wilfred T Gee¹, Josh Walawender¹, Mike Butterfield², Olivier Guyon¹, Nemanja Jovanovic¹  
**Institution(s):** ¹ Subaru Telescope, National Astronomical Observatory of Japan, ² The College of Optical Sciences, University of Arizona  
Contributing team(s): PANOPTES Team

336.43 Adaptive Optics Images of the Galactic Center: Using Empirical Noise-maps to Optimize Image Analysis  
**Author(s):** Saundra Albers¹, Gunther Witzel¹, Leo Meyer¹, Breann Sitarski¹, Anna Boehle¹, Andrea M. Ghez¹  
**Institution(s):** ¹ UCLA

336.44 Recovering Astrophysical Signals Lost in Noise: Light Curves of Background Objects in Kepler Data  
**Author(s):** Rebecca Lyn Bowers¹, Joshua Pepper¹, Michael Abdul-Masih², Andrej Prsa³  
**Institution(s):** ¹ Lehigh University, ² Rensselaer Polytechnic Institute, ³ Villanova University
336.45 An Exploration Tool for Very Large Spectrum Data Sets
Author(s): Duane F. Carbon¹, Christopher Henze¹
Institution(s): ¹ NASA Ames Research Center

336.46 Understanding and Using the Fermi Science Tools
Author(s): Joseph Asercion¹
Institution(s): ¹ ADNET Systems Inc.
Contributing team(s): Fermi Science Support Center

336.47 Fact Checking LIGO’s Radiometer Code with Simulated LIGO Data.
Author(s): Samantha Elaine Thrush¹
Institution(s): ¹ Ohio University

336.48 AstroML: “better, faster, cheaper” towards state-of-the-art data mining and machine learning
Author(s): Zeljko Ivezic¹, Andrew J. Connolly¹, Jacob Vanderplas¹
Institution(s): ¹ Univ. of Washington

336.49 Bayesian Identification of Emission–Line Galaxies with Photometric Equivalent Widths
Author(s): Andrew S. Leung², Eric J. Gawiser², Viviana Acquaviva¹
Institution(s): ¹ CUNY NYC College of Technology, ² Rutgers University
Contributing team(s): HETDEX Collaboration

336.50 Statistical Computing for Galaxy Modeling and Residual Detection
Author(s): Sean McLaughlin¹, Robert Brunner¹
Institution(s): ¹ University of Illinois Urbana-Champaign

336.51 Separating Stars and Galaxies Probabilistically Based on Color
Author(s): Victoria Strait¹
Institution(s): ¹ Furman University

336.52 Visualizing SPH Cataclysmic Variable Accretion Disk Simulations with Blender
Author(s): Brian R. Kent¹, Matthew A. Wood²
Institution(s): ¹ NRAO, ² Texas A&M University-Commerce

336.53 Computer analysis of digital sky surveys using citizen science and manual classification
Author(s): Evan Kuminski¹, Lior Shamir¹
Institution(s): ¹ Lawrence Technological University

336.54 Report of the Committee on the Participation of Women in the Sloan Digital Sky Survey
Author(s): Adam D. Myers⁵, Aleks Diamond-Stanic⁶, John S. Gallagher⁶, Bruce Andrew Gillespie⁶, Shirley Ho⁶, Karen Kinemuchi⁶, Sara Lucatello⁵, Britt Lundgren⁶, Christina A. Tremonti⁶, Gail Zasowski⁴
Institution(s): ¹ APO, ² CMU, ³ INAF, ⁴ JHU, ⁵ University of Wyoming, ⁶ UW Madison
Contributing team(s): The SDSS-III Collaboration, The SDSS-IV Collaboration
336.55 Improved Functionality and Curation Support in the ADS  
**Author(s):** Alberto Accomazzi¹, Michael J. Kurtz², Edwin A. Henneken¹, Carolyn S. Grant¹, Donna Thompson¹, Roman Chyla², Alexandra Holachek¹, Vladimir Sudilovsky¹, Stephen S. Murray¹  
**Institution(s):** ¹ Harvard Smithsonian, CfA

336.56 Online Activity Around Scholarly Astronomy Literature - A Discussion of Altmetrics  
**Author(s):** Edwin A. Henneken², Alberto Accomazzi¹, Michael J. Kurtz², Donna Thompson², Carolyn S. Grant², Stephen S. Murray¹  
**Institution(s):** ¹ Johns Hopkins University, ² Smithsonian Astrophysical Observatory

336.57 Astrophysics Source Code Library -- Now even better!  
**Author(s):** Alice Allen¹, Judy Schmidt¹, Bruce Berreiman³, Kimberly DuPrie¹, Robert J. Hanisch⁵, Jessica D. Mink⁶, Robert J. Nemiroff⁵, Lior Shamir⁴, Keith Shortridge¹, Mark B Taylor⁹, Peter J. Teuben¹⁰, John F. Wallin⁶  
**Institution(s):** ¹ Astrophysics Source Code Library, ² Australian Astronomical Observatory, ³ California Institute of Technology, ⁴ Lawrence Technological University, ⁵ Michigan Technological University, ⁶ Middle Tennessee State University, ⁷ National Institute of Standards and Technology, ⁸ Smithsonian Astrophysical Observatory, ⁹ University of Bristol, ¹⁰ University of Maryland

336.59 Beyond The Prime Directive: The MAST Discovery Portal and High Level Science Products  
**Author(s):** Scott W. Fleming¹, Faith Abney¹, Tom Donaldson¹, Theresa Dower¹, Dorothy A. Fraquelli¹, Anton M. Koekemoer¹, Karen Levay¹, Jacob Matuskey¹, Brian McLean¹, Lee Quick¹, Anthony Rogers¹, Bernie Shiao¹, Randy Thompson¹, Shui-Ay Tseng¹, Geoff Wallace¹, Richard L. White¹  
**Institution(s):** ¹ STScI

336.60 IRSA’s New Look: Design Considerations  
**Author(s):** Vandana Desai¹, Harry I. Teplitz¹, Timothy Y. Brooke¹, Steven Groom¹, Justin Howell¹, Robert L. Hurt¹, Walter Landry¹, Jacob Llamas¹, Loi Ly¹, Peregrine M. McGehee¹, Wei Mi¹, Serge Monkewitz¹, Mark O’Dell¹, Timothy Pyle¹, Luisa M. Rebull¹, Ramon Rey¹, William Roby¹, Gordon K. Squires¹, Scott Terek¹, Xiuqin Wu¹, Angela Zhang¹  
**Institution(s):** ¹ Caltech

336.61 The Science Content and Usage of the the Keck Observatory Archive  
**Author(s):** Hien D. Tran², G. Bruce Berreiman¹, Christopher R. Gelino¹, Robert W. Goodrich¹, Jen Holt², M. Kong³, A. Laity¹, P. Rosti², M. Swain¹, C. Wang¹  
**Institution(s):** ¹ NExScI, ² W. M. Keck Observatory  
**Contributing team(s):** KOA Team
337 Instrumentation: Ground Based or Airborne Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

337.01 Spectroscopic Capability of a New 17–27 GHz Dual-Horn Receiver on the NASA 70 m Canberra Antenna
Author(s): T. B. H. Kuiper², Graham Baines³, Manuel Franco², Lincoln J. Greenhill⁴, Shini J. Horouchiii, Aquib Moin⁵, Timothy Olin³, Daniel Price⁶, Stephen Smith¹, Ashish Soni³, Lawrence Teitelbaum², Ingyin Zaw⁵
Institution(s): ¹ Caltech, ² Caltech-JPL, ³ CSIRO-CDSCC, ⁴ Harvard-Smithsonian CfA, ⁵ NYU Abu Dhabi

337.02 Flux density calibration of compact low frequency aperture arrays
Author(s): Frank Schinzel², Emil Polisensky¹, Jayce Dowell², Gregory B. Taylor²
Institution(s): ¹ Naval Research Laboratory, ² University of New Mexico
Contributing team(s): LWA1 Collaboration

337.03 Characterization and monitoring of Flamingos-II, a near-IR imager and spectrograph at Gemini South
Author(s): David Krogstrup¹, Ruben Diaz², Gabriel Ferrero¹, Marcelo Mora¹, Felipe Navarrete¹, Mischa Schirmer¹
Institution(s): ¹ Gemini Observatory

337.04 Preliminary Design of the iLocater Acquisition Camera for the LBT
Author(s): Erica J. Gonzales², Andrew Bechter², Ryan Ketterer², Jack Brooks², Jonathan Crass², Justin R. Crepp², Eric Bechter², Bo Zhao¹, Christopher T. Matthews³
Institution(s): ¹ The University of Florida, ² The University of Notre Dame

337.05 Commissioning new Hamamatsu CCDs for GMOS-S
Author(s): Katherine Roth¹, German Gimeno², Kristin Chiboucas¹, Pascale Hibon², Percy L. Gomez², Vinicius Placco¹
Institution(s): ¹ Gemini Observatory, ² Gemini Observatory

337.06 Scheduling Algorithm for the Large Synoptic Survey Telescope
Author(s): Jaimal Ichharam¹, Christopher Stubbs¹
Institution(s): ¹ Harvard University

337.08 The 20-20-20 Airships NASA Centennial Challenge
Author(s): Alina Kiessling¹, Ernesto Diaz¹, Sarah Miller³, Jason Rhodes¹, Sam Ortega², Jeffrey L. Hall³, Randy Friedl¹, Jeff Booth¹
Institution(s): ¹ JPL, ² NASA Marshall Space Flight Center, ³ UC Irvine

337.09 Photometric commissioning results from MINERVA
Author(s): Jason D Eastman⁴, Jonathan Swift³, Thomas G. Beatty³, Michael Bottom³, John Johnson³, Jason Wright³, Nate McCrady³, Robert A. Wittenmyer⁸, Reed L. Riddle³, Peter Plavchan⁴, Philip Steven Muirhead¹, Cullen Blake⁷, Ming Zhao⁵
Institution(s): ¹ Boston University, ² California Institute of Technology, ³ Harvard-Smithsonian Center for Astrophysics, ⁴ Missouri State University, ⁵ Penn State University, ⁶ University of Montana, ⁷ University of Pennsylvania, ⁸ UNSW Australia
337.10 Manhattan Solar Cannon
Author(s): Richard R. Treffers\textsuperscript{3}, George Loisos\textsuperscript{1}, Susan Ubbelohde\textsuperscript{1}, Susanna Douglas\textsuperscript{1}, Eduardo Pintos\textsuperscript{1}, James Mulherin\textsuperscript{2}, David Pasley\textsuperscript{2}
Institution(s): \textsuperscript{1} Loisos + Ubbelohde, \textsuperscript{2} Optical Mechanics Inc., \textsuperscript{3} Starman Systems, LLC

337.11 BCK Network of Optical Telescopes
Author(s): Charles H. McGruder\textsuperscript{2}, Krill Antoniuk\textsuperscript{1}, Michael T. Carini\textsuperscript{2}, Richard Gelderman\textsuperscript{2}, Benjamin Hammond\textsuperscript{2}, Stacy Hicks\textsuperscript{2}, David Laney\textsuperscript{2}, David Shakhovskoy\textsuperscript{1}, Louis-Gregory Strolger\textsuperscript{2}, Joshua Williams\textsuperscript{2}
Institution(s): \textsuperscript{1} Crimea Astrophysical Observatory, \textsuperscript{2} Western Kentucky Univ.

337.12 CHARIS Construction Status, Design, and Future Science
Author(s): Tyler Dean Groff\textsuperscript{4}, N. Jeremy Kasdin\textsuperscript{4}, Mary Anne Peters\textsuperscript{4}, Michael Galvin\textsuperscript{4}, Gillian R. Knapp\textsuperscript{4}, Timothy Brandt\textsuperscript{2}, Craig Loomis\textsuperscript{4}, Michael Carr\textsuperscript{4}, Kyle Mede\textsuperscript{4}, Norman Jarosik\textsuperscript{4}, Michael W. McElwain\textsuperscript{4}, Olivier Guyon\textsuperscript{5}, Nemanja Jovanovic\textsuperscript{5}, Naruhisa Takato\textsuperscript{3}, Masahiko Hayashi\textsuperscript{3}
Institution(s): \textsuperscript{1} Goddard Space Flight Center, \textsuperscript{2} Institute for Advanced Study, \textsuperscript{3} National Astronomical Observatory of Japan, \textsuperscript{4} Princeton University, \textsuperscript{5} Subaru Telescope

337.13 Progress on the Low Frequency All Sky Monitor
Author(s): James Murray\textsuperscript{4}, Fredrick Jenet\textsuperscript{4}, Joseph Craig\textsuperscript{3}, Teviet David Creighton\textsuperscript{4}, Louis Percy Dartez\textsuperscript{4}, Anthony J. Ford\textsuperscript{4}, Andrés Hernandez\textsuperscript{4}, Brian Hicks\textsuperscript{2}, Jesus Hinojosa\textsuperscript{4}, Ricardo Jaramillo\textsuperscript{4}, Namir E. Kassim\textsuperscript{2}, Joseph Lazio\textsuperscript{1}, Grady Lunsford\textsuperscript{4}, Rossina B. Miller\textsuperscript{4}, Paul S. Ray\textsuperscript{2}, Jesus Rivera\textsuperscript{4}, Gregory B. Taylor\textsuperscript{1}, Lawrence Teitelbaum\textsuperscript{1}
Institution(s): \textsuperscript{1} Jet Propulsion Laboratory, \textsuperscript{2} Naval Research Laboratory, \textsuperscript{3} University of New Mexico, \textsuperscript{4} University of Texas at Brownsville
Contributing team(s): Center for Advanced Radio Astronomy, University of Texas at Brownsville, University of New Mexico, Naval Research Laboratory, Jet Propulsion Laboratory

337.14 Low Frequency All Sky Monitor Data, A First Look
Author(s): Louis Percy Dartez\textsuperscript{4}, Fredrick Jenet\textsuperscript{4}, Teviet David Creighton\textsuperscript{4}, Anthony J. Ford\textsuperscript{4}, Brian Hicks\textsuperscript{2}, Namir E. Kassim\textsuperscript{1}, Richard H Price\textsuperscript{6}, Kevin Stovall\textsuperscript{6}, Paul S. Ray\textsuperscript{2}, Gregory B. Taylor\textsuperscript{1}
Institution(s): \textsuperscript{1} Arecibo Observatory, \textsuperscript{2} U.S. Naval Research Lab, \textsuperscript{3} University of New Mexico, \textsuperscript{4} University of Texas - Brownsville

337.15 Systematic and Performance Tests of the Hard X-ray Polarimeter X-Calibur
Author(s): Ryan Endsley\textsuperscript{1}, Matthias Beilicke\textsuperscript{1}, Fabian Kislats\textsuperscript{1}, Henric Krawczynski\textsuperscript{1}
Institution(s): \textsuperscript{1} Washington University in St. Louis
Contributing team(s): X-Calibur/InFOCuS
337.16 Early Results from the HexPak and GradPak Variable-Scale Dual-Head IFUs on the WIYN 3.5-meter Telescope  
Author(s): Eric Hooper, Matthew A. Bershady, Arthur Eigenbrot, Corey M. Wood, Scott Buckley, Michael Smith, Charles Corson, Marsha J. Wolf, Guanying Y. Zhu, Andrea Vang, John S. Gallagher, Andrew Sheinis  
Institution(s): 1. AAO, 2. Nanjing University, 3. NOAO, 4. Univ. of Wisconsin-Madison, 5. WIYN  
Contributing team(s): Washburn Astronomical Laboratories

337.17 The Goddard Integral Field Spectrograph at Apache Point Observatory: Current Status and Progress Towards Photon Counting  

337.18 Towards Using Smartphones to Refine Sunrise and Sunset Time Models  
Author(s): Teresa Wilson, Jennifer L. Bartlett  
Institution(s): 1. Michigan Technological University, 2. US Naval Observatory

338 Instrumentation: Space Mission Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

338.01 First Year of WFIRST/AFTA Coronagraph Technology Development: Testbed Progress Update  
Author(s): Ilya Poberezhskiy  
Institution(s): 1. Jet Propulsion Laboratory  

338.02 Moving Target Photometry Using WISE and NEOWISE  
Author(s): Edward L. Wright  
Institution(s): 1. UC, Los Angeles

338.03 Recent Refinements to HST/ACS Image Reduction Tools: WFC Bias De-striping Using Region Masking, and CTE Correction for WFC 2K Subarrays  
Author(s): Sara Ogaz, Leonardo Ubeda  
Institution(s): 1. Space Telescope Science Institute  
Contributing team(s): ACS Team
338.04 New ACS/WFC Geometric Distortion Model and New 47Tuc Astrometric Catalog
Author(s): David Borncamp1, Vera Kozjurina-Platais1, Jay Anderson1, Roberto J. Avila1
Institution(s): 1 Space Telescope Science Institute

338.05 WFC3/UVIS Photometry of HST standards: Encircled Energy and Spatial Stability with Wavelength
Author(s): Ariel Bowers1, Jennifer Mack1, Susana E. Deustua1, Sylvia M. Baggett1, Derek Hammer1
Institution(s): 1 Space Telescope Science Institute

338.06 WFC3: Instrument Status and Advice for Proposers and Observers
Author(s): John W. MacKenty1
Institution(s): 1 STScI
Contributing team(s): WFC3 Team

338.07 WFC3 UVIS Detector Performance
Author(s): Heather C. Gunning1, Sylvia M. Baggett1, Catherine Gosmeyer1, Matthew Bourque1, John W. MacKenty1, Jay Anderson1
Institution(s): 1 Space Telescope Science Institute
Contributing team(s): WFC3 Team

338.08 WFC3/UVIS Dark Current Calibration and Detector Characteristics
Author(s): Matthew Bourque1, John A. Biretta1, Sylvia M. Baggett1, Jay Anderson1, John W. MacKenty1
Institution(s): 1 STScI
Contributing team(s): The WFC3 Team

338.09 Updated Calibration and Backgrounds for the WFC3 IR Grisms
Author(s): Norbert Pirzkal1, Gabriel Brammer1, Russell E. Ryan1
Institution(s): 1 STScI

338.10 The Far Ultraviolet Channel of the Cosmic Origins Spectrograph on HST: Current Status and the Upcoming Lifetime Move
Author(s): David J. Sahnow1, John H. Debes1, Justin Ely1, Andrew Fox1, Svea Hernandez1, Philip Hodge1, Robert I. Jedrzejewski1, Sean A. Lockwood1, Derck Massa1, Cristina M. Oliveira1, Steven V. Penton1, Charles R. Proffitt1, Julia Roman-Duval1, Hugues Sana1, Paule Sonnentrucker1, Joanna M. Taylor1
Institution(s): 1 Space Telescope Science Institute

338.11 Status of the JWST Integrated Science Instrument Module
Author(s): Matthew A. Greenhouse1, Jamie Dunn1, Randy A. Kimble1, Scott Lambros1, Ray Lundquist1, Bernard J. Rauscher1, Julie Van Campen1
Institution(s): 1 NASA’s GSFC

338.12 Small-Grid Dithering Strategy for Improved Coronagraphic Performance with JWST
Author(s): Charles-Philippe Lajoie1, Remi Soummer1, Laurent Pueyo1, Dean C. Hines1, Edmund P. Nelan1
Institution(s): 1 Space Telescope Science Institute
Contributing team(s): JWST Coronagraphs Working Group
338.13 The JWST Calibration Pipeline
Author(s): Christine Chen1, James Muzerolle1, William Van Dyke Dixon1, Rosa Izela Diaz1, Howard A. Bushouse1
Institution(s): 1. STScI

338.15 Cryo-Vacuum Testing of the JWST Integrated Science Instrument Module
Author(s): Randy A. Kimble5, Scott R Antonille5, Brian J Comber5, Curtis C Fatig5, Pierre Ferruit4, Alistair Glasse3, Stuart D Glazer9, Douglas M. Kelly8, Ray Lundquist5, Steven D Mann5, Andre Martel6, Kevin J Novo-Gradac5, Raymond George Ohl5, Konstantin Penanen4, Edward L Shade5, Joseph Sullivan1, Maria B Vila5, Julie Van Campen6, Dean Zak5, Julia Zhou5

338.16 Observations of Resolved Stellar Populations with the JWST Near Infrared Spectrograph
Author(s): Karoline Gilbert1, Tracy L. Beck1, Diane M. Karakla1
Institution(s): 1. Space Telescope Science Institute

338.17 Improving JWST detector efficiency using row-by-row resets
Author(s): Rachel E. Lajoie1, Michael W. Regan1, Eddie Bergeron1, Douglas Long1
Institution(s): 1. STScI

338.18 Beyond JWST: A Technology Path to the Next Great UVOIR Space Telescope
Author(s): David Redding4, David Schiminovich5, Sara Seager4, Julianne Dalcanton13, Suzanne Aigrain8, Steven Battel1, W. Niel Brandt9, Charlie Conroy15, Lee Feinberg7, Suvi Gezari14, Olivier Guyon11, Walter M. Harris15, Chris Hirata7, John C. Mather7, Marc Postman10, H. Philip Stahl6, Jason Tumlinson10

338.19 Beyond JWST: Science Drivers for the Next Great UVOIR Space Telescope
Author(s): Jason Tumlinson9, Sara Seager4, Julianne Dalcanton13, Marc Postman10, Suzanne Aigrain8, Steven battel1, W. Niel Brandt9, Charlie Conroy3, Lee Feinberg7, Suvi Gezari14, Olivier Guyon13, Walter M. Harris15, Chris Hirata7, John C. Mather7, David Redding4, David Schiminovich9, H. Philip Stahl6

338.20 A Future Large-Aperture UVOIR Space Observatory: Study Overview
Author(s): Marc Postman4, Harley A. Thronson3, Lee Feinberg3, David Redding3, H. Philip Stahl2
338.21 Potential of a Future Large Aperture UVOIR Space Observatory for Breakthrough Observations of Star and Planet Formation
Author(s): William C. Danchi1, Carol A Grady1, Deborah Padgett1
Institution(s): 1. NASA’s GSFC

338.22 A Future Large-Aperture UVOIR Space Observatory: Key Technologies and Capabilities
Author(s): Carl Stahle2, Mark Clampin2, Kunjithapatham Balasubramanian1, Matthew R Bolcar2, Lee Feinberg2, Gary Mosier2, Manuel Quijada2, Bernard J. Rauscher2, David Redding2, Stuart Shaklan1, H. Philip Stahl3, Harley A. Thronson2

338.23 A Future Large-Aperture UVOIR Space Observatory: Reference Designs
Author(s): Norman Rioux3, Lee Feinberg3, David Redding1, H. Philip Stahl2
Institution(s): 1. JPL, 2. MSFC, 3. NASA GSFC

338.24 Measurements of High-Contrast Starshade Performance
Author(s): Tiffany M. Glassman1, Steven Warwick1, Megan Novicki1, Daniel Smith1
Institution(s): 1. Northrop Grumman Aerospace Systems

338.25 Life Finder Detectors: An Overview of Detector Technologies for Detecting Life on Other Worlds
Author(s): Bernard J. Rauscher1, Shawn Domagal-Goldman1, Matthew A. Greenhouse1, Wen-Ting Hsieh1, Michael W. McElwain1, Samuel H Moseley1, Omid Noroozian1, Tim Norton1, Alexander Kutyrev1, Stephen Rinehart1, Joseph stock1
Institution(s): 1. NASA’s GSFC

338.26 High contrast imaging with an arbitrary aperture: active correction of aperture discontinuities: fundamental limits and practical trades offs
Author(s): Laurent Pueyo1, Colin Arthur Norman1, Remi Soummer1, Marshall D. Perrin1, Mamadou N’Diaye1, Elodie Choquet1
Institution(s): 1. Space Telescope Science Institute

338.27 Low Order Wavefront Sensing and Control for WFIRST-AFTA Coronagraph
Author(s): FANG SHI1
Institution(s): 1. Jet Propulsion Laboratory

338.28 A Shaped Pupil Lyot Coronagraph for WFIRST-AFTA
Author(s): Neil Zimmerman1, A J Eldorado Riggs1, N. Jeremy Kasdin1, Alexis Carlotti1, Robert J. Vanderbei1
Institution(s): 1. Princeton University

338.29 Integrated Modeling of the WFIRST AFTA Coronagraph Instrument
Author(s): Bijan Nemati1
Institution(s): 1. Jet Propulsion Laboratory
Contributing team(s): JPL WFIRST-AFTA Integrated Modeling Team
338.30 Post-processing methods for high-contrast imaging in the context of the WFIRST-AFTA telescope
Author(s): Marie Ygouf, Remi Soummer, Marshall D. Perrin, Mamadou N’Diaye, Bruce Macintosh
Institution(s): 1. Stanford University, 2. STScI

338.31 New Stellar Science with Astro-H
Author(s): Yohko Tsuboi, Kazunori Ishibashi, Marc Audard, Kenji Hamaguchi, Maurice A. Leutenegger, Yoshitomo Maeda, Koji Mori, Hiroshi Murakami, Yasuharu Sugawara, Masahiro Tsujimoto
Contributing team(s): The ASTRO-H team

338.32 The ASTRO-H Mission: Unprecedented Spectral Coverage in the X-ray and Soft Gamma-Ray Bands
Author(s): Paolo S. Coppi, L. Stawarz
Institution(s): 1. ISAS/JAXA, 2. Yale Univ.
Contributing team(s): the Astro-H collaboration

338.33 Studying Young and Old Supernova Remnants with the Upcoming ASTRO-H X-ray Mission
Author(s): Samar Safi-Harb
Institution(s): 1. Univ. of Manitoba
Contributing team(s): John P. Hughes (Rutgers), Knox Long (STScI), Aya Bamba (Oyama Gakuin U.), Felix Aharonian (DIAS/MPI-K), Adam Foster (Harvard-Smithsonian Center for Astrophysics), Stefan Funk (Stanford U.), Junko Hiraga (U. Tokyo), Manabu Ishida (ISAS), Satoru Katsuda (ISAS), Katsuki Koyama (Kyoto U.), Maurice Leutenegger (NASA GSFC), Yoshitomo Maeda (ISAS), Hironori Matsumoto (Nagoya U.), Koji Mori (Miyazaki U.), Hiroshi Nakajima (Osaka U.), Takashi Nakamori (Yamagata U.), Masayoshi Nobukawa (Kyoto U.), Masanobu Ozaki (ISAS), Robert Petre (NASA GSFC), Makoto Sawada (Aoyama Gakuin U.), Toru Tamagawa (RIKEN), Keisuke Tamura (ISAS), Takaaki Tanaka (Kyoto U.), Hiroshi Tomida (JAXA), Hiroshi Tsunemi (Osaka U.), Hiroyuki Uchida (Kyoto U.), Shin’ichi Uno (Nihon Fukushi U.), Yasunobu Uchiyama (Rikkyo U.), Hiroya Yamaguchi (NASA/GSFC & UMD), and Shigeo Yamauchi (Nara Womens U.), on behalf of the ASTRO-H science working group

338.34 New Frontiers in Galaxy Clusters with ASTRO-H
Author(s): Eric D. Miller, Tetsu Kitayama, Hiroki Akamatsu, Steven W. Allen, Mark W. Bautz, Jelle de Plaa, Massimiliano Galeazzi, Madoka Kawaharada, Grzegorz Maria Madejski, Maxim L. Markevitch, Kyoko Matsushita, Brian R. McNamara, Kazuhiro Nakazawa, Naoki Ota, Helen Russell, Kosuke Sato, Norio Sekiya, Aurora Simionescu, Takayuki Tamura, Yuusuke Uchida, Eugene Ursino, Norbert Werner, Irina Zhuravleva, John A. ZuHone
Contributing team(s): ASTRO-H Team
338.35 Future ASTRO-H observations of chemical evolution in high-z universe
Author(s): Masanori Ohno\textsuperscript{2}, Makoto S Tashiro\textsuperscript{3}, Daisuke Yonetoku\textsuperscript{4}, Hiroaki Sameshima\textsuperscript{3}, Hiromi Seta\textsuperscript{4}, Haruka Ueno\textsuperscript{5}, Richard Mushotzky\textsuperscript{10}, Richard L. Kelley\textsuperscript{7}, Takao Nakagawa\textsuperscript{3}, Takayuki Tamura\textsuperscript{3}, Frits B. Paerels\textsuperscript{1}, Nobuyuki Kawai\textsuperscript{8}, Takaya Ohashi\textsuperscript{9}
Contributing team(s): ASTRO-H team

338.36 Astro-H: New Spectral Features Seen in High-Resolution X-rays
Author(s): Randall K. Smith\textsuperscript{2}, Hirokazu Odaka\textsuperscript{1}
Institution(s): 1. ISAS/JAXA, 2. Smithsonian Astrophysical Observatory
Contributing team(s): The Astro-H Science Working Group

338.37 Optimizing Focusing X-Ray Optics for Planetary Science Applications
Author(s): Nicole Melso\textsuperscript{2}, Suzanne Romaine\textsuperscript{1}, Jaesub Hong\textsuperscript{1}, Vincenzo Cotroneo\textsuperscript{1}
Institution(s): 1. Harvard-Smithsonian Center for Astrophysics, 2. The Pennsylvania State University

338.38 High-efficiency blazed transmission gratings for high-resolution soft x-ray spectroscopy
Author(s): Ralf K. Heilmann\textsuperscript{1}, Alexander R. Brucoleri\textsuperscript{1}, Mark L. Schattenburg\textsuperscript{1}
Institution(s): 1. MIT

338.39 Testing of a Narrow Gap Detector designed for a sensitive X-ray polarimeter
Author(s): Rafael Gilberto Almonte\textsuperscript{2}, Joanne E. Hill\textsuperscript{1}, David C Morris\textsuperscript{2}, Thomas Emmett\textsuperscript{1}
Institution(s): 1. NASA GSFC, 2. University of the Virgin Islands

338.40 Polarization from Relativistic Astrophysical X-ray Sources: The PRAXYS Small Explorer Observatory
Author(s): Keith Jahoda\textsuperscript{1}, Chryssa Kouveliotou\textsuperscript{2}, Timothy R. Kallman\textsuperscript{1}
Institution(s): 1. NASA’s GSFC, 2. NASA’s MSFC
Contributing team(s): PRAXYS team

338.41 System Architecture of Explorer Class Spaceborne Telescopes: A look at Optimization of Cost, Testability, Risk and Operational Duty Cycle from the Perspective of Primary Mirror Material Selection
Author(s): Anthony B. Hull\textsuperscript{1}, Thomas Westerhoff\textsuperscript{1}
Institution(s): 1. SCHOTT AG, 2. University of New Mexico

338.42 An Evolvable Space Telescope for Future Astronomical Missions
Author(s): Ronald S. Polidan\textsuperscript{3}, James B. Breckinridge\textsuperscript{1}, Charles F. Lillie\textsuperscript{2}, Howard A. MacEwen\textsuperscript{4}, Martin Flannery\textsuperscript{4}, Dean Dailey\textsuperscript{3}

338.43 Advanced Mirror Technology Development (AMTD) Project: 3.0 Year Status
Author(s): H. Philip Stahl\textsuperscript{1}
Institution(s): 1. NASA
338.44 Future Gravitational-Wave Missions  
**Author(s):** Robin T. Stebbins¹  
**Institution(s):** ¹ NASA GSFC  
**Contributing team(s):** The NASA Gravitational-Wave Study Team

338.45 A Giant Leap Towards a Space-based Gravitational-Wave Observatory: LISA Pathfinder, the LISA Test Package, and ST7-DRS  
**Author(s):** James Thorpe², Paul McNamara³, John Ziemer³  
**Institution(s):** ² ESA ESTEC, ³ NASA GSFC, ³ NASA JPL  
**Contributing team(s):** LPF Team, LTP Team, ST7-DRS Team

338.46 Commissioning COSMOS: Detection of Lithium in Young Stars in Lupus 3 through Multi-Object Spectroscopy  
**Author(s):** Kyle Lackey¹, Cesar Briceno¹, Jonathan H. Elias¹  
**Institution(s):** ¹ National Optical Astronomy Observatory

338.47 SubLymE: The Sub-Lyman α Explorer  
**Author(s):** James C. Green¹, Kevin France¹  
**Institution(s):** ¹ Univ. of Colorado

338.48 Changes to the Spectral Extraction Algorithm at the Third COS FUV Lifetime Position  
**Author(s):** Joanna M. Taylor¹, K. Azalee Bostroem¹, John H. Debes¹, Justin Ely¹, Svea Hernandez², Philip E. Hodge¹, Robert I. Jedrzejewski¹, Kevin Lindsay¹, Sean A. Lockwood¹, Derck Massa¹, Cristina M. Oliveira¹, Steven V. Penton¹, Charles R. Proffitt¹, Julia Roman-Duval¹, David J. Sahnow¹, Hugues Sana¹, Paule Sonnentrucker¹  
**Institution(s):** ¹ Space Telescope Science Institute

338.49 Planning Efficient NIRSpec MSA Observations  
**Author(s):** Diane M. Karakla¹, Tracy L. Beck¹, Karoline Gilbert¹, Alexander Shyrokov¹  
**Institution(s):** ¹ STScI

338.50 Potential Impacts of ASTRO-H on the Studies of Accreting White Dwarf Binaries  
**Author(s):** Koji Mukai¹,², Tadayuki Yuasa³, Atsushi Harayama⁴, Takayuki Hayashi⁵, Manabu Ishida⁵, Knox S. Long⁶, Yukikatsu Terada⁶, Masahiro Tsujimoto⁴  
**Institution(s):** ¹ NASA/GSFC, ² University of Maryland, Baltimore, ³ Riken, ⁴ ISAS/JAXA, ⁵ STScI, ⁶ Saitama University

339 Laboratory Astrophysics Posters

**Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB**

339.01 Transition Probabilities of the Rare Earth Neutral Lanthanum  
**Author(s):** Andria Palmer¹, James E. Lawler¹, Elizabeth Den Hartog¹  
**Institution(s):** ¹ University of Wisconsin-Madison

339.02 Improved log(gf) Values for Lines of V I and V II, New Vanadium Abundances in the Sun and the Metal-Poor Star HD 84937  
**Author(s):** James E. Lawler³, Michael P. Wood³, Elizabeth Den Hartog¹, Thomas Feigenson¹, Chris Sneden², John J. Cowan¹  
**Institution(s):** ¹ University of Oklahoma, ² University of Texas, ³ University of Wisconsin
WEDNESDAY, 7 JANUARY 2015

339.03 Analysis of Fe V and Ni V Wavelength Standards in the Vacuum Ultraviolet
Author(s): Jacob Wolfgang Ward1, Gillian Nave2
Institution(s): 1 Arizona State University, 2 National Institute of Standards and Technology

339.04 Improved and Expanded Near-IR Oscillator Strengths for Fe-group Elements
Author(s): Michael P. Wood1, Gillian Nave2
Institution(s): 1 NIST

340 Results from the SDSS-III/APOGEE Survey Posters
Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

340.01 A Puzzling Li-rich Red Giant in the APOGEE Field
Author(s): Joleen K. Carlberg5, Verne V. Smith7, Katia M. L. Cunha8, Steven R. Majewski14, Szabolcs Meszaros3, Matthew D. Shetrone11, Carlos Allende-Prieto3, Dmitry Bizyaev1, Keivan Stassun15, Scott W. Fleming10, Gail Zasowski4, Fred Hearty9, David L. Nidever10, Donald P. Schneider6, Jon A. Holtzman6, Peter M. Frinchaboy11
Institution(s): 1 Apache Point Observatory, 2 ELTE Gothard Astrophysical Observatory, 3 Instituto de Astrofísica de Canarias, 4 Johns Hopkins University, 5 NASA/Goddard, 6 New Mexico State University, 7 NOAO, 8 Observatorio Nacional, 9 Pennsylvania State University, 10 Space Telescope Science Institute, 11 Texas Christian University, 12 University of Michigan, 13 University of Texas, 14 University of Virginia, 15 Vanderbilt University

340.02 A Pipeline for the Analysis of APOGEE Spectra Based on Equivalent Widths
Author(s): Rob Arfon Williams6, Corinne Bosley6, Hayden Jones6, Ricardo P. Schiavon6, Carlos Allende-Prieto3, Dmitry Bizyaev1, Ricardo Carrera4, Katia M. L. Cunha8, Duy Nguyen2, Diane Feuillet6, Peter M. Frinchaboy12, Ana García Pérez4, Sten Hasselquist8, Michael R. Hayden6, Fred R. Hearty11, Jon A. Holtzman6, Jennifer Johnson10, Steven R. Majewski15, Szabolcs Meszaros3, David L. Nidever13, Matthew D. Shetrone14, Verne V. Smith7, Jennifer Sobeck15, Nicholas William Troup15, John C. Wilson15, Gail Zasowski5
Institution(s): 1 Apache Point Observatory and New Mexico State University, 2 Dunlap Institute for Astronomy and Astrophysics, University of Toronto, 3 Indiana University, 4 Instituto de Astrofísica de Canarias, 5 Johns Hopkins University, 6 Liverpool John Moores University, 7 National Optical Astronomy Observatory, 8 New Mexico State University, 9 Observatorio Nacional, 10 Ohio State University, 11 Penn State University, 12 Texas Christian University, 13 University of Michigan, 14 University of Texas at Austin, McDonald Observatory, 15 University of Virginia

340.03 The Open Cluster Chemical Abundances and Mapping (OCCAM) Survey: Detailed Age and Abundance Gradients using DR12
Author(s): Peter M. Frinchaboy4, Benjamin A. Thompson9, Julia O’Connell9, Brianne Meyer8, John Donor6, Steven R. Majewski10, Jon A. Holtzman6, Gail Zasowski13, Timothy C. Beers1, Rachael Beaton10, Katia M. L. Cunha6, Fred Hearty7, David L. Nidever9, Ricardo P. Schiavon7, Verne V. Smith5, Michael R. Hayden4

340.04 The APOGEE-1 Catalog of Keplerian Orbit Fits to RV Variable Sources
Author(s): Nicholas W. Troup9, David L. Nidever6, Scott W. Fleming3, Rohit Deshpande4, Suvrath Mahadevan4, John P. Wisniewski6, Matthew D. Shetrone7, Arpita Roy1, Nathan M. De Lee2, Keivan Stassun10, Joshua Pepper1, Duy Cuong Nguyen8, Fred Hearty4, Jennifer Sobeck8, Steven R. Majewski9

340.05 Two for the Price of One: SB2s in the SDSS-III/APOGEE Survey
Author(s): S. Drew Chojnowski3, Duy Cuong Nguyen10, David L. Nidever8, Gail Zasowski1, Chad F. Bender5, Nicholas William Troup11, Timothy C. Beers9, Nathan M. De Lee2, Scott W. Fleming6, Peter M. Frinchaboy7, Ana García Pérez11, Fred R. Hearty8, Jon A. Holtzman3, Steven R. Majewski11, Ricardo P. Schiavon2
Contributing team(s): APOGEE Team

340.06 A Study of Statistical Binaries with SDSS/APOGEE
Author(s): Duy Cuong Nguyen8, Joleen K. Carlberg1, Nicholas William Troup6, David L. Nidever4, Nathan M. De Lee2, Scott Suriano6, Apurva Oza6, Fred R. Hearty8, Steven R. Majewski6

341 Relativistic Astrophysics, Gravitational Lenses & Waves Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

341.01 A Detailed Study of Contamination in Deep Rapid Searches for Gravitational Wave Optical Counterparts
Author(s): Philip Cowperthwaite1, Edo Berger1, Ryan Chornock3, Wen-fai Fong2
Institution(s): 1. Harvard University, 2. University of Arizona, 3. University of Ohio

341.02 Testing new technologies for the LISA Gravitational Reference Senso
Author(s): John Conklin1, Andrew Chilton1, Taiwo Olatunde1, Stephen Apple1, Giacomo Ciani1, Guido Mueller1
Institution(s): 1. University of Florida
341.03 Superluminal Sweeping Spot Pair Events in Astronomical Settings
Author(s): Robert J. Nemiroff
Institution(s): 1. Michigan Technological Univ.

341.04 Using the null stream approach to find sky position of PTA sources
Author(s): Jeffrey S. Hazboun, Shane L Larson
Institution(s): 1. Center for Interdisciplinary Exploration and Research in Astrophysics, Northwestern University, 2. Utah State University

341.05 BayesWave: Bayesian Inference for Gravitational Wave Bursts and Instrument Glitches
Author(s): Joey Shapiro Key, Neil Cornish, Tyson Littenberg, Jonah Kanner

341.06 Radiation-dominated, relativistic jets and their boundary layers
Author(s): Eric Robert Coughlin, Mitchell C. Begelman
Institution(s): 1. JILA, University of Colorado at Boulder and National Institute of Standards and Technology

341.07 Rapid Monte Carlo Simulation of Gravitational Wave Galaxies
Author(s): Katelyn Breivik, Shane L Larson
Institution(s): 1. Center for Interdisciplinary Exploration and Research in Astrophysics & Department of Physics and Astronomy, Northwestern University

341.08 Techniques for Analysis and Visualization of Black Hole Spacetimes in Numerical Relativity
Author(s): Tehani K. Finch, John G. Baker, Bernard J. Kelly
Institution(s): 1. NASA / GSFC

341.09 NANOGrav Millisecond Pulsar Observing Program
Author(s): David J. Nice
Institution(s): 1. Lafayette College
Contributing team(s): NANOGrav

341.10 Forecasting the Observability and Demographics of Supermassive Black Holes in the Pulsar Timing Array Band
Author(s): Joseph Simon, Sarah Burke-Spolaor, Xavier Siemens
Institution(s): 1. NRAO, 2. University of Wisconsin-Milwaukee

342 Stellar Evolution and Stellar Population Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

342.01 Measuring Boron Abundances in Rapidly Rotating Early-B Stars
Author(s): Charles R. Proffitt
Institution(s): 1. Computer Sciences Corporation

342.02 The Sample Properties of Metallic-line, A-stars in SDSS, Data Release 8
Author(s): Chloe Keeling, Ronald J. Wilhelm
Institution(s): 1. University of Kentucky
342.03 Ultraviolet Synthetic Spectra for Three Lambda Bootis Stars  
Author(s): Kwang-Ping Cheng1, James E. Neff1, Richard O. Gray1, Christopher J. Corbally4, Dustin Johnson2, Erik Tarbell2  
Institution(s): 1 Appalachian State University, 2 California State University, Fullerton, 3 College of Charleston, 4 Vatican Observatory

342.04 The Kinematics of Dwarf Carbon Stars  
Author(s): Kathryn A. Plant1, Bruce H. Margon1, Puragra Guhathakurta1, Constance M. Rockosi1  
Institution(s): 1 University of California, Santa Cruz

342.05 The PTI Giant Star Angular Size Survey: Effective Temperatures & Linear Radii  
Author(s): Gerard van Belle3, David R. Ciardi2, Kaspar von Braun1, Genady Pilyavsky1  
Institution(s): 1 Arizona State University, 2 Caltech, 3 Lowell Observatory

342.06 Mid-Infrared Spectroscopy of M Giants from the Spitzer Space Telescope  
Author(s): Christopher Goes1, Gregory C. Sloan1, Ramses Ramirez2, Kathleen E. Kraemer1, Charles W. Engelage1  
Institution(s): 1 CRSR, Cornell University, 2 Institute for Pale Blue Dots, Cornell University, 3 Institute for Scientific Research, Boston College

342.07 Lithium Abundance in M3 Red Giant  
Author(s): Rashad Givens1, Catherine A. Pilachowski1  
Institution(s): 1 Indiana University of Bloomington

342.08 Effects of Age and Metallicity on the RGB and AGB Luminosity  
Author(s): Hyun-chul Lee1, Charles Cartwright 1  
Institution(s): 1 The University of Texas - Pan American

342.09 Using JVLA Observations of SiO Masers to Probe the Extended Atmosphere of an AGB Star: W Hydrae  
Author(s): Patrick S. Kamieneski1, Lynn D. Matthews2  
Institution(s): 1 Bowdoin College, 2 MIT Haystack Observatory

342.10 Spectroscopy and Multi-Band Photometry of Yellow and Red Supergiants in M31 and M33  
Author(s): Michael Gordon1, Roberta M. Humphreys1  
Institution(s): 1 Minnesota Institute for Astrophysics

342.11 An Infrared High Resolution Spectroscopic Abundance Study of the Metal-Poor Giant HD 122563  
Author(s): Christopher Sneden2, Melike Afsar1, Daniel Thomas Jaffe2, Hwiyun Kim2, Gregory Mace2  
Institution(s): 1 Ege University, 2 Univ. of Texas

342.12 Empirical constraints of stellar evolution models using properties of the red clump and early-AGB bump in M31  
Author(s): Nell Byler3, Philip Rosenfield3, Morgan Fouesneau1, Julianne Dalcanton1  
Institution(s): 1 Max Planck Institute for Astronomy, 2 University of Padova, 3 University of Washington  
Contributing team(s): PHAT Collaboration
342.13 Stellar Parameter Determination Using Bayesian Techniques.  
Author(s): Gemunu B Ekanayake¹, Ronald J. Wilhelm¹  
Institution(s): ¹ University of Kentucky

342.14 Studying Semi-Convection by Pseudo-Incompressible Spectral Element with Variable Diffusivity  
Author(s): Justin Brown¹, Pascale Garaud¹  
Institution(s): ¹ University of California - Santa Cruz

342.15 The Mass-Transfer Formation Frequency of Blue Straggler Stars in the Old Open Cluster NGC 188  
Author(s): Natalie M. Gosnell⁵, Robert D. Mathieu⁶, Alison Sills², Aaron M. Geller³, Nathan Leigh¹, Christian Knigge⁴  
Institution(s): ¹ American Museum of Natural History, ² McMaster University, ³ Northwestern University, ⁴ University of Southampton, ⁵ University of Texas at Austin, ⁶ University of Wisconsin-Madison

342.16 Barium Enhancement in NGC 6819 Blue Stragglers  
Author(s): Katelyn Milliman², Robert D. Mathieu², Simon C. Schuler¹  
Institution(s): ¹ University of Tampa, ² University of Wisconsin-Madison

342.17 A Spectroscopic Study of Anomalous Stellar Populations in M67  
Author(s): Courtney McGahee¹, Jeremy R King³, Constantine P. Deliyannis³  
Institution(s): ¹ Appalachian State University, ² Clemson University, ³ Indiana University

342.18 A spectroscopic and photometric study of post main sequence stars in M68  
Author(s): Marc Schaeuble², George W. Preston¹, Chris Sneden², Ian Thompson¹, Stephen A. Shectman¹, Gregory S. Burley¹  
Institution(s): ¹ Carnegie Observatories, ² University of Texas at Austin

342.19 Hunting the Most Distant Stars in the Milky Way  
Author(s): John J. Bochanski⁶, Beth Willman⁴, Nelson Caldwell⁷, Robyn Ellyn Sanderson¹, Andrew A. West¹, Jay Strader⁵, Warren R. Brown², Tobias Fritz⁷, Nitya Kallivayalil⁷  
Institution(s): ¹ Boston University, ² Center for Astrophysics, ³ Columbia University, ⁴ Haverford College, ⁵ Michigan State University, ⁶ Rider University, ⁷ University of Virginia

342.20 The Radial Distribution of Asymptotic Giant Branch Stars in Nearby Dwarf Galaxies  
Author(s): Mallory B. Mitchell⁵, Kristen B. McQuinn¹, Martha L Boyer³, Evan D. Skillman⁺, Robert D. Gehrz⁵, Greg Sloan¹, Iain McDonald², Martin Groenewegen⁺  
Institution(s): ¹ The Harker School, ² University of California, Santa Cruz
342.22 On the Nature of Bright Infrared Sources in the Small Magellanic Cloud:
Interpreting MSX through the Lens of Spitzer
Author(s): Kathleen E. Kraemer1, G. C. Sloan2
Institution(s): 1 Boston College, 2 Cornell University

342.23 Identification of Red Supergiants in the Magellanic Clouds.
Author(s): Brian Allan Barandi2, Philip Massey1, Emily M. Levesque3
Institution(s): 1 Lowell Observatory, 2 Northern Arizona University, 3 University of Boulder Colorado

342.24 DUSTiNGS Reveals Dust Production in Very Metal Poor Galaxies
Author(s): Martha L. Boyer7, Kristen B. W. McQuinn4, Pauline Barmby12, Alceste Z Bonanos8, Robert D. Gehrz4, Karl D. Gordon10, M. A. T. Groenewegen9, Eric Lagadec11, Daniel J Lennon3, Massimo Marengo5, Iain McDonald6, Margaret Meixner10, Evan D. Skillman4, G. C. Sloan2, George Sonneborn7, Jacco Th. van Loon1, Albert Zijlstra6
Institution(s): 1 Astrophysics Group, Keele University, 2 Cornell University, 3 ESA - European Space Astronomy Centre, 4 Institute for Astrophysics, University of Minnesota, 5 Iowa State University, 6 Jodrell Bank Centre for Astrophysics, University of Manchester, 7 NASA Goddard Space Flight Center, 8 National Observatory of Athens, 9 Royal Observatory of Belgium, 10 Space Telescope Science Institute, 11 University of Nice, Observatoire de la Cote d’Azur, 12 University of Western Ontario

343 Variable Stars and White Dwarfs Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

343.01 Multi-mode Observations of Be Stars from the APOGEE and KELT Surveys
Author(s): Jonathan Labadie-Bartz2, Joshua Pepper2, M. Virginia McSwain5, S. Drew Chojnowski3, John P. Wisniewski4, David G. Whelan1
Institution(s): 1 Austin College, 2 Lehigh University, 3 New Mexico State University, 4 University of Oklahoma

343.02 VX Her: Eclipsing Binary System or Single Variable Star
Author(s): Kathleen Perry2, Michael Castelaz2, Gary Henson1, Andrew Boghozian1
Institution(s): 1 East Tennessee State University, 2 Pisgah Astronomical Research Institute

343.03 Lightcurve Analysis of Six Beta-Lyrae Type Variables
Author(s): Tyler Gardner1, Orion Guan1, Vayujeet Gokhale1
Institution(s): 1 Truman State University

343.04 Radial Velocity Time Corrections and their Effect on Variable Star Periods
Author(s): Rachael Hunter1, Eric G. Hintz1
Institution(s): 1 Brigham Young University

343.05 Mass Loss in Classical and Type II Cepheids
Author(s): Edward G. Schmidt1
Institution(s): 1 Univ. of Nebraska
343.06 Establishing a Reliable Reddening Scale for Galactic Cepheids  
Author(s): David G. Turner

Institution(s): 1. Saint Mary’s Univ.

343.07 Modernizing the Harvard Observatory Catalog of Variable Stars in the Magellanic Clouds  
Author(s): Zachary Murray, Julia Kruk, Lucien Christie-Dervaux, Dong Yi Chen, Or Graur, Ashley Pagnotta

Institution(s): 1. American Museum of Natural History, 2. New York University

343.08 Field 1: A First Look at the KELT RR Lyrae Project  
Author(s): Nathan M. De Lee, Karen Kinemuchi, Joshua Pepper, Joseph E. Rodriguez, Martin Paegert

Institution(s): 1. APO, 2. Lehigh University, 3. Northern Kentucky University, 4. Vanderbilt University

343.09 Periodic Variable Stars Across the Southern Sky  
Author(s): Andrew J. Drake, Matthew Graham, Stanislav G. Djorgovski, Marcio Catelan, Gabriel Torrealba, Ashish A. Mahabal, Ciro Donalek, Eric J. Christensen, Stephen M. Larson, Robert McNaught, Gordon Garradd

Institution(s): 1. ANU, 2. Caltech, 3. Cambridge University, 4. LPL, 5. Pontifica Universidad Catolica

343.10 New BVR Photometry of BL Camelopardalis  
Author(s): Michael D. Joner

Institution(s): 1. Brigham Young Univ.

343.11 The Evolution of ONeMg Cores with MESA  
Author(s): Josiah Schwab, Eliot Quataert, Lars Bildsten

Institution(s): 1. University of California, Berkeley

343.12 Results from recent time-series photometric studies of pulsating extremely low-mass white dwarfs.  
Author(s): Keaton Bell, Warren R. Brown, Alex Gianninas, JJ Hermes, S. O. Kepler, Mukremin Kilic, Michael H. Montgomery, Donald E. Winget


343.13 The Local Population of White Dwarfs within 25 pc  
Author(s): Jay B. Holberg, Terry D. Oswalt, Edward M. Sion

Institution(s): 1. 3 Department of Astrophysics and Planetary Astronomy, 2. Embry-Riddle Aeronautical University, 3. Lunar and Planetary Laboratory

343.14 Origin of Variability of a White Dwarf in the Kepler Field  
Author(s): Donald W. Hoard, Steve B. Howell

Institution(s): 1. Max Planck Institute for Astronomy, 2. NASA-Ames Research Center
343.15 Faint White Dwarfs From A Deep Proper Motion Survey Within The Sloan Digital Sky Survey Footprint
Author(s): Jeffrey A. Munn, Hugh C. Harris, Ted von Hippel, Mukremin Kilic, James W. Liebert, Kurtis A. Williams, Steven DeGenarro, Elizabeth Jeffery, Trudy Tillemann
Institution(s): 1. BYU Department of Physics and Astronomy, 2. Department of Astronomy, University of Texas at Austin, 3. Department of Physics and Astronomy, Texas A&M University-Commerce, 4. Embry-Riddle Aeronautical University, 5. U.S. Naval Observatory, Flagstaff Station, 6. University of Arizona, Steward Observatory, 7. University of Oklahoma

343.17 Luminous Blue Variables are Antisocial: Their Isolation Implies they are Kicked Mass Gainers in Binary Evolution
Author(s): Ryan Tombleson, Nathan Smith
Institution(s): 1. Steward Observatory

343.18 Low-Cost Automated Variable Star Detection System
Author(s): Marin Nicole Meades, Nathaniel Paust
Institution(s): 1. Whitman College

343.19 The Pan-STARRS 1 Medium Deep Field Variable Star Catalog
Author(s): Heather Flewelling
Institution(s): 1. University of Hawaii

343.20 Starspots on LO Pegasi, 2006-2014
Author(s): Robert O. Harmon, Dominique Berry, Mark Chalmers, Josh Denison, Don Stevens, Kaylee Yuhas
Institution(s): 1. Baldwin Wallace University, 2. Florida A&M University, 3. Ohio Wesleyan University

343.21 Using RS CVn Binaries as a Novel Approach to Measuring Gravity Darkening
Author(s): Rachael M. Roettenbacher, John D. Monnier, Heidi Korhonen, Robert O. Harmon, Gregory W. Henry
Institution(s): 1. Ohio Wesleyan University, 2. Tennessee State University, 3. University of Michigan, 4. University of Turku
Contributing team(s): CHARA Collaboration

343.22 EE Cep Winks in Full Color
Author(s): Gary E. Walker
Institution(s): 1. Maria Mitchell Association Observatory

343.23 H-alpha Tracking in the Clusters NGC 659, NGC 663, and Cygnus OB-2
Author(s): Eric G. Hintz, Michael D. Joner
Institution(s): 1. Brigham Young Univ.

343.24 A Search for Variable Stars in Open Cluster NGC 7654
Author(s): Adam Pierce, Eric G. Hintz
Institution(s): 1. Brigham Young University

343.25 Discovering Variable Stars in the Open Clusters of Cygnus and Ophiuchus
Author(s): Emma Dahl, Peter B. Stetson, Chantanelle Nava
Institution(s): 1. Herzberg Institute for Astrophysics, 2. Montana State University, 3. Whitman College
344 Cataclysmic Variables, Stellar Winds and Ejecta, and Eta Carina Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

344.01 New Nova Candidates from the RSBE M31 Nova Survey
Author(s): Stephanie Lauber¹, Travis A. Rector², Allen W. Shafter¹
Institution(s): ¹ San Diego State University, ² University of Alaska Anchorage

344.02 The All-Sky Automated Survey for Supernovae CV Patrol
Author(s): Alexandra Bianca Davis³, Benjamin John Shappee¹, Bartlett Archer Shappee²
Institution(s): ¹ Hubble Carnegie-Princeton Fellow, ² Simplified Complexity Llc, ³ The Ohio State University
Contributing team(s): ASAS-SN

344.03 CSS120422: Diving Below the Period Minimum with HST and LBT Spectra
Author(s): Mark Kennedy², Peter M. Garnavich², Paula Szkody³, Paul Callanan¹
Institution(s): ¹ University College Cork, ² University of Notre Dame, ³ University of Washington
Contributing team(s): ASAS-SN

344.04 Characterizing Cataclysmic Variable Stars in NGC 6791 Using Kepler
Author(s): Peter M. Garnavich², Katrina Magno¹, Martin D. Still¹, Thomas Barclay¹
Institution(s): ¹ NASA Ames, ² Univ. of Notre Dame

344.05 3D Hydrodynamic Simulation of Classical Novae Explosions
Author(s): Coleman J. Kendrick¹
Institution(s): ¹ Los Alamos High School

344.06 What is the Origin of the Shell Around R Coronae Borealis?
Author(s): Geoffrey C. Clayton¹, Edward Montiel¹, Dominic Marcello¹, Felix J. Lockman²
Institution(s): ¹ Louisiana State Univ., ² NRAO

344.07 Searching for IR Excesses around Li-Rich and Rapidly Rotating K Giants Using WISE
Author(s): John Gibbs³, Luisa M. Rebull¹, David V Black³, Elin Deeb¹, Estefania Larsen⁴, Sarah Cashen⁴, Ashwin Datta³, Emily Hodgson³, Megan Lince³, Rosie Buhrely³, Julie Herring³, Kendall Jacoby³, Elena Mitchell⁵, Shailyn Altepeter¹, Ethan Bucksbee¹, Matthew Clarke⁴
Institution(s): ¹ Bear Creek High School, ² Caltech, ³ Glencoe High School, ⁴ Millard South High School, ⁵ Walden School of Liberal Arts

344.08 Mining the HST “Advanced Spectral Library (ASTRAL)”**: Winds of the Evolved M Stars Alpha Ori (M2 Iab) and Gamma Cru (M3.4 III)
Author(s): Kenneth G. Carpenter², Kriste E. Nielsen¹, Gladys V. Kober¹, Thomas R. Ayres¹
Institution(s): ¹ Catholic University of America, ² NASA’s GSFC, ³ University of Colorado
344.09 Mass Loss from Hypergiant Stars: Searching for Cool Dust in the Near-to-Mid IR
Author(s): Dinesh Shenoy1, Roberta M. Humphreys3, Terry Jay Jones2, Massimo Marengo3, Robert D. Gehrz2, L. Andrew Helton3
Institution(s): 1 Iowa State University, 2 University of Minnesota, 3 USRA/SOFIA

344.10 A Tale of Two Impostors
Author(s): Roberta M. Humphreys1, Kris Davidson1, Skyler Grammer1
Institution(s): 1 Univ. of Minnesota

344.11 Investigating Binary Wolf-Rayet Binary Stars as Potential Gamma-Ray Source
Author(s): Jacqueline Meadows1, Michael J Alexander1, M. Virginia McSwain1
Institution(s): 1 Lehigh University

344.12 A Chandra Observation of the Eclipsing Wolf-Rayet Binary CQ Cep
Author(s): Steve L. Skinner3, Svetozar Zhekov2, Manuel Guedel4, Werner Schmutz3
Institution(s): 1 PMOD/WRC, 2 Space Research and Tech. Institute, 3 Univ. Of Colorado, 4 Univ. of Vienna

344.13 Constraining the Dust Mass and Morphology of the Quintuplet Proper Members from SOFIA/FORCAST
Author(s): Matthew Hankins1, Ryan M. Lau1, Mark Morris3, Joseph D. Adams2, Terry L. Herter1
Institution(s): 1 Cornell University, 2 SOFIA/USRA, 3 UCLA

344.14 The Increased He II Emission and the Continuing Evolution of the Wind During Eta Carinae’s 2014.6 Spectroscopic Event
Author(s): John C. Martin3, Kris Davidson4, Andrea Mehner1, Roberta M. Humphreys4, Kazunori Ishibashi2
Institution(s): 1 ESO - Chile, 2 Nagoya University, 3 U of Illinois Springfield, 4 University of Minnesota

344.15 The X-ray Lightcurve of Eta Carinae, 1996-2014
Author(s): Michael F. Corcoran9, Kenji Hamaguchi9, Jamar Liburd8, Theodore R. Gull2, Thomas Madura4, Mairan Teodoro3, Anthony F. J. Moffat7, Noel Richardson7, Christopher Michael Post Russell4, A. Pollock3, Stanley P. Owocki6
Institution(s): 1 ESA, 2 NASA/GSFC, 3 NASA/GSFC & CNPq, 4 NASA/GSFC & ORAU, 5 NASA/GSFC & UMBC, 6 University of Delaware, 7 University of Montreal, 8 University of the Virgin Islands, 9 USRA

344.16 The interacting winds of Eta Carinae: Observed forbidden line changes and the Forbidden Blue-(Shifted) Crab
Author(s): Theodore R. Gull9, Thomas Madura3, Michael F. Corcoran3, Mairan Teodoro3, Noel Richardson3, Kenji Hamaguchi9, Jose H Groh5, Desmond John Hillier6, Augusto Damineli7, Gerd Weigelt2
Institution(s): 1 Geneva Observatory, 2 MPfIR, 3 NASA/GSFC, 4 UMBC, 5 Univ de Montreal, 6 Univ of Pittsburgh, 7 Univ of Sao Paulo
344.17 Extremely Hard X-ray Emission from Eta Carinae observed with XMM-Newton and NuSTAR around Periastron in 2014.5
Author(s): Kenji Hamaguchi, Michael F. Corcoran, Hiromitsu Takahashi, Tadayuki Yuasa, Jose H Groh, Christopher Michael Post Russell, Julian M Pittard, Thomas Madura, Stanley P. Owocki, Brian Grefenstette

344.18 Swift Observations of the Recent X-ray Activity of Eta Carinae
Author(s): Jamar Kalil Liburd, Michael F. Corcoran, David C Morris
Institution(s): 1. University of the Virgin Islands, 2. USRA
Contributing team(s): Theodore Gull, Kenji Hamaguchi, Thomas Madura, Mairan Teodoro, Nick Durofchalk, Caleb Gimar.

344.19 Ultraviolet analysis of Eta Carinae using observations from the International Ultraviolet Explorer
Author(s): Nicholas C Durofchalk, Caleb J Gimar, Theodore R. Gull
Institution(s): 1. Lebanon Valley College, 2. NASA Goddard Space Flight Center, 3. Wichita State University

344.20 3D Model of the Eta Carinae Little Homunculus Nebula
Author(s): Wolfgang Steffen, Mairan Teodoro, Thomas Madura, Jose H Groh, Theodore R. Gull, Michael F. Corcoran, Augusto Damineli, Kenji Hamaguchi
Institution(s): 1. Astrophysics Science Division, Code 667, NASA Goddard Space Flight Center, 2. CRESST and X-ray Astrophysics Laboratory, NASA Goddard Space Flight Center, 3. Department of Physics, University of Maryland, 4. Geneva Observatory, Geneva University, 5. Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo, 6. Universidad Nacional Autonoma de Mexico

344.21 On the changes in the physical properties of the ionized region around the Weigelt structures in η Carinae over the 5.54-yr spectroscopic cycle
Author(s): Mairan Teodoro, Theodore R. Gull, Manuel Bautista, Desmond John Hillier, Gerd Weigelt

344.22 3D Printing Meets Computational Astrophysics: Deciphering the Structure of Eta Carinae’s Colliding Winds Using 3D Prints of Smoothed Particle Hydrodynamics Simulations
Author(s): Thomas Madura, Theodore R. Gull, Nicola Clementel, Jan-Pieter Paardekooper, Chael Kruip, Michael F. Corcoran, Kenji Hamaguchi, Mairan Teodoro
345 Binary Stellar Systems & X-Ray Binaries Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

345.01 FIRST, a fibered aperture masking instrument: Results of the Lick observing campaign
Author(s): Baylee Bordwell7, Gaspard Duchene6, Elsa Huby6, Sean Goebel9, Franck Marchis4, Guy Perrin5, Sylvestre Lacour9, Takayuki Kotani2, Elinor L. Gates1, Elodie Choquet6

345.02 New data on separation and position angle of selected binaries
Author(s): Rafael J. Muller1, Andy J Lopez1, Brian S Torres1, Lizyan Mendoza1, Nelson Vergara1, Juan Cersosimo1, Luis Martinez1
Institution(s): 1. Univ. of Puerto Rico, Humacao

345.03 Multiplicity of the Galactic Senior Citizens: A high-resolution search for cool subdwarf companions
Author(s): Carl Ziegler1, Nicholas M. Law1
Institution(s): 1. University of North Carolina - Chapel Hill

345.04 Follow-up Observations and Analysis of V530 Andromedae: A Totally Eclipsing Shallow Contact Solar Type Binary
Author(s): Heather Chamberlain1, Ronald G. Samec1, Daniel B. Caton2, Danny R Faulkner4, Jeremy Clark3, Travis Shebs3

345.05 BVRI Photometric Analysis of the W UMa Binary, V428, in the field of NGC188
Author(s): Ronald G. Samec1, David Edward Maloney2, Jeremy Clark2, Daniel B. Caton1, Danny R. Faulkner4
Institution(s): 1. Appalachian State University, 2. Bob Jones University, 3. Pisgah Astronomical Research Institute, 4. University of South Carolina, Lancaster

345.06 Period Change in the Near-Contact Binary UU Lyncis
Author(s): Olivia Mulherin2, Eric G. Hintz1
Institution(s): 1. Brigham Young University, 2. St. Bonaventure University

345.07 Title: BVRI Photometric Study and Spectra of Algol type Pre-contact W UMa Binary, V500 Pegasi
Author(s): Daniel B. Caton1, Ronald G. Samec3, Walter V. Van Hamme1, Russell M. Robb3, Jeremy Clark2, Danny R Faulkner4
Institution(s): 1. Appalachian State University, 2. Bob Jones University, 3. SARA Observatory, 4. Univ. South Carolina - Lancaster, 5. University of Victoria

345.08 Another Component in the V523 Cassiopeiae Eclipsing Binary System
Author(s): Michael W. Castelaz1
Institution(s): 1. Brevard College
Heartbeat Stars: Spectroscopic Orbital Solutions for Six Highly Eccentric Binary Systems  
Author(s): Henry A. Kobulnicky¹, Rachel Smullen²  
Institution(s): ¹ Univ. of Wyoming, ² University of Arizona

Stellar Masses in the Mysterious Young Triple Star System AS 205  
Author(s): Frankie Encalada³, Viviana A. Rosero³, Lisa A. Prato¹, Sara Bruhns⁴  
Institution(s): ¹ Lowell Observatory, ² New Mexico Tech, ³ University of Florida, ⁴ University of Virginia

Modeling Gyrosynchrotron Coronae of Radio-Loud Stars  
Author(s): William M. Peterson¹  
Institution(s): ¹ Augustana College

Simulations of lightcurves of common envelope binary interactions  
Author(s): Orsola De Marco², Pablo Galaviz¹, Jan E. Staff¹, Jean-Claude Passy¹, Roberto Iaconi²  
Institution(s): ¹ Argelander Institutute, University of Bonn, ² Macquarie University

Hydrodynamic Simulations of the Interaction between Giant Stars and Planets  
Author(s): Jan E. Staff¹, Orsola De Marco¹, Jean-Claude Passy², Pablo Galaviz¹  
Institution(s): ¹ Macquarie University, ² University of Bonn

Optical and Infrared Photometry of Low-Mass Stars in Eclipsing Binaries  
Author(s): Zachary Hartman¹, Donald M. Terndrup¹  
Institution(s): ¹ Ohio State University

The Double Red Giant Binary With Odd Oscillations  
Author(s): Meredith L. Rawls², Patrick Gaulme², Jean McKeevers¹, Jerome A. Orosz², David W. Latham¹, Jason Jackiewicz²  
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² New Mexico State University, ³ San Diego State University

Monitoring Symbiotic Stars for Photometric Variability  
Author(s): Caitlin Doughty¹, Julie H. Lutz¹  
Institution(s): ¹ University of Washington

Kepler and the Eclipsing Symbiotic System CH Cyg  
Author(s): Kenneth H. Hinkle³, Francis C. Fekel³, Richard R. Joyce², Thomas Lebzelter⁴, Erich Hartig⁴, Jennifer L. Sokoloski³  
Institution(s): ¹ Columbia University, ² NOAO, ³ Tennessee State University, ⁴ University of Vienna

Compact Binaries Discovered and Characterized by the Palomar Transient Factory  
Author(s): Thomas Allen Prince¹  
Institution(s): ¹ Caltech  
Contributing team(s): PTF Collaboration, iPTF Collaboration

A Bayesian Estimation for Spica’s Apsidal Period from 111 years of Spectroscopic Observations  
Author(s): Jason P. Aufdenberg³, Timothy M Robinette¹  
Institution(s): ¹ Embry-Riddle Aeronautical Univ.
345.21 A Search for Microlensing Signals in the Kepler Field  
**Author(s): Kelsey L. Hoffman¹, Jason Rowe¹**  
*Institution(s): ¹ NASA-Ames Research Centre*

345.22 Prospect with ASTRO-H on New Sciences of Accreting Pulsars, Magnetars, & Related Sources  
**Author(s): Shunji Kitamoto⁴, Teruaki Enoto³, Samar Safi-Harb⁶, Masha Chernyakova¹, Carlo Ferrigno⁵, Katja Pottschmidt²**  
*Institution(s): ¹ Dublin Institute for Advanced Studies, ² NASA/GSFC, ³ Riken, ⁴ Rikkyo University, ⁵ University de Geneve, ⁶ University of Manitoba*  
Contributing team(s): ASTRO-H collaboration, High-mass binaries and magnetars

345.23 X-ray Sources Discovered in the Cores of Galactic Globular Clusters NGC6717 and NGC6287  
**Author(s): David C Morris¹, Ruel Mitchel¹**  
*Institution(s): ¹ University of the Virgin Islands*

345.24 A Survey of the Discrete X-ray Source Population of M51  
**Author(s): Catherine Ann Martlin³, Roy E. Kilgard⁴, Trevor Dorn-Wallenstein⁴, K. D. Kuntz², Greg Schulman¹**  
*Institution(s): ¹ Clark University, ² John Hopkins, ³ Swarthmore College, ⁴ Wesleyan University*  
Contributing team(s): The M51 Chandra VLP Collaboration

345.25 Properties of the Discrete X-ray Source Population of M51  
**Author(s): Trevor Z Dorn-Wallenstein⁴, Roy E. Kilgard⁴, Catherine Martlin³, K. D. Kuntz², Greg Schulman¹**  
*Institution(s): ¹ Clark University, ² Johns Hopkins University, ³ Swarthmore College, ⁴ Wesleyan University*  
Contributing team(s): The M51 Chandra VLP Collaboration

345.26 Hydrodynamic Simulations of Contact Binaries  
**Author(s): Kundan Kadam², Geoffrey C. Clayton², Juhan Frank², Dominic Marcello², Patrick M. Motl¹, Jan E. Staff³**  
*Institution(s): ¹ Indiana University Kokomo, ² Louisiana State University, ³ Macquarie University*

345.27 A Radio Emission Analysis of Nova Puppis 1991 (V351 Pup)  
**Author(s): Carolyn Wendeln¹, Laura Chomiuk¹**  
*Institution(s): ¹ Michigan State University*

345.28 Combining Fits of The Optical Photometry and X-ray Spectra of the Low Mass X-ray Binary V1408 Aquilae.  
**Author(s): Sebastian Gomez², Paul A. Mason², Edward L. Robinson¹**  
*Institution(s): ¹ University of Texas at Austin, ² University of Texas-El Paso*

345.29 Two tracks in Three Dimensions: Correlations between optical, soft X-ray and hard X-ray brightness variations of the Neutron Star X-ray Binary Aquila X-1  
**Author(s): John Scarpaci¹, Dipankar Maitra¹**  
*Institution(s): ¹ Wheaton College*
WEDNESDAY, 7 JANUARY 2015

345.30 Does the HMXB IGR J18214-1318 contain a black hole or neutron star?
Author(s): Francesca Fornasini, John Tom sick, Matteo Bachetti, Felix Fuerst, Lorenzo Natalucci, Katja Pottschmidt, David M. Smith, Joern Wilms

345.31 Study of the Correlations and the MAXI Hardness Ratio between the Anomalous and Normal Low States of LMC X-3
Author(s): Trevor Torpin, Patricia T. Boyd, Alan P. Smale
Institution(s): 1. Catholic University of America, 2. NASA’s GSFC

345.32 Global Simulations of the Interaction of Microquasar Jets with a Stellar wind in High-Mass X-ray Binaries
Author(s): Doosoo Yoon, Sebastian Heinz
Institution(s): 1. University of Wisconsin, Madison

345.33 The 0.3–30 keV spectra of Powerful Starburst Galaxies: NuSTAR and Chandra observations of NGC 3256 and NGC 3310
Author(s): Joshua Tyler, Bret Lehmer, Ann E. Hornschemeier, Mihoko Yukita, Daniel R. Wik, Andrew Ptak, Daniel Stern, Fiona Harrison, Tom Maccarone, Andreas Zezas, Vallia Antoniou
Contributing team(s): NuSTAR Starburst Team

346 Pulsars and Neutron Stars Posters
Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

346.01 A flexible real-time pulsar processing system for the VLA
Author(s): Paul Demorest, Bryan J. Butler, James M. Cordes, Shami Chatterjee, Adam Deller, Vivek Dhawan, Joseph Lazio, Walid A. Majid, Scott M. Ransom, Robert Wharton

346.02 The Arecibo Remote Command Center at Franklin and Marshall College
Author(s): Fronefield Crawford, Fredrick Jenet, Xavier Siemens, Andrea N. Lommen, Emma Handzo, Nicolas Mahany, Kristina Rolph, Sierra Blazer, Richard Camuccio, Abel Gebe yehu, Christopher Haylon, Mark Lederer, Kathleen Lefebvre, Yao Yue Liang, Daniel Mix, John McMahon, Christopher Morrow, Jonathan Munro, Ryan Nesselrod t, Caitlin Rose, Chase TenBrook, Matthew Tibbetts, Lam Tran, Rachel Umberger, Emily Wilson, Kristen Wymer
346.03 Pulsar Search Results from the Arecibo Remote Command Center


Contributing team(s): GBNCC Consortium, PALFA Consortium, GBTDRIFF Consortium, AO327 Consortium

346.04 Hybrid Imaging-Periodicity Search for Radio Pulsars: A Pilot VLA Survey

**Author(s):** Molly Finn, Robert Wharton, Shami Chatterjee, James M. Cordes, David L.A. Kaplan, Sarah Burke-Spolaor, Fronefield Crawford, Adam Deller, Joseph Lazio, Scott M. Ransom


346.05 Phased-Array Search for Pulsars within 0.3 pc of Sgr A* using the Jansky VLA

**Author(s):** Robert Wharton, Paul Demorest, Adam Deller, Joseph Lazio, Scott M. Ransom, Shami Chatterjee, James M. Cordes, Walid A. Majid

**Institution(s):** 1. ASTRON, 2. Cornell University, 3. JPL/Caltech, 4. NRAO, 5. NRAO

346.06 Searching for Pulsars Using the Low Frequency All Sky Monitor

**Author(s):** Emma Handzo, Fredrick Jenet, Teviet David Creighton, Louis Percy Dartez

**Institution(s):** 1. University of Texas at Brownsville

346.07 Discovery of a 1.69 ms radio pulsar associated with the X-ray binary XSS J12270-4859

**Author(s):** Paul S. Ray, Jayanta Roy, Bhaswati Bhattacharyya, Benjamin Stappers, Jayaram N. Chengalur, Julia S. Deneva, Fernando M. Camilo


346.08 A Low Frequency Survey of Giant Pulses from the Crab Pulsar

**Author(s):** Tarraneh Eftekhari, Gregory B. Taylor, Kevin Stovall

**Institution(s):** 1. University of New Mexico

346.09 LOFAR discovery of a quiet emission mode in PSR B0823+26

**Author(s):** Charlotte Sobey

**Institution(s):** 1. ASTRON

Contributing team(s): LOFAR collaboration
346.10 An improved algorithm for inferring neutron star masses and radii using NICER waveform data  
**Author(s):** Frederick K. Lamb¹, M. Coleman Miller²  
**Institution(s):** ¹ Univ. of Illinois, ² Univ. of Maryland

346.11 An Exploration of X-ray Based Distance Estimates to Pulsars  
**Author(s):** Kristof Bognar², Mallory Roberts², Shami Chatterjee¹  
**Institution(s):** ¹ Cornell University, ² New York University Abu Dhabi

346.12 On the Sensitivity of Black Widow Pulsars to the Stochastic Gravitational Wave Background  
**Author(s):** Christopher Bochenek¹, Scott M. Ransom¹, Paul Demorest¹  
**Institution(s):** ¹ National Radio Astronomy Observatory

346.13 A Search for Gamma-ray Emission from Wind-Wind Interactions in Black Widow and Redback Millisecond Pulsars  
**Author(s):** Tyrel J. Johnson¹, Paul S. Ray⁴, Fernando M. Camilo¹, Mallory S. E. Roberts²  
**Institution(s):** ¹ Columbia University, ² Eureka Scientific, Inc., ³ George Mason University, ⁴ US Naval Research Laboratory  
**Contributing team(s):** Fermi Large Area Telescope Collaboration

346.14 PINT, a New Pulsar Timing Software  
**Author(s):** Jing Luo⁴, Fredrick A Jenet⁴, Scott M. Ransom³, Paul Demorest³, Rutger Van Haasteren², Anne Archibald¹  
**Institution(s):** ¹ ASTRON, ² JPL, ³ NRAO, ⁴ The University of Texas at Brownsville

346.15 Long-term Timing of the Pulsar Triple System in M4  
**Author(s):** Emmanuel Fonseca⁸, Ingrid H. Stairs⁵, Zaven Arzoumanian⁷, Steinn Sigurdsson⁸, Stephen E. Thorsett⁸, Michael Kramer⁸, Nicolas Caballero¹, Benjamin Stappers⁶, Andrew Lyne⁶, Anne Archibald³  
**Institution(s):** ¹ Max Planck Institute for Radio Astronomy, ² NASA Goddard Space Flight Center, ³ The Netherlands Institute for Radio Astronomy, ⁴ The Pennsylvania State University, ⁵ The University of British Columbia, ⁶ The University of Manchester, ⁷ West Virginia University

346.16 The Double Pulsar: Timing and Strong-Field Gravity  
**Author(s):** Ingrid H. Stairs⁵, Michael Kramer⁵, Marta Burgay¹, Robert D. Ferdman¹, Paulo Freire¹, Duncan Lorimer¹, Andrew Lyne⁶, Richard N. Manchester², Maura McLaughlin¹, Andrea Possenti¹, John Sarkissian², Norbert Wex⁴  
**Institution(s):** ¹ Osservatorio Astronomico di Cagliari, ² CSIRO Astronomy and Space Science, ³ McGill University, ⁴ MPIfR, ⁵ Univ. of BC, ⁶ University of Manchester, ⁷ West Virginia University

346.17 Flux Density Variations in the Parkes Pulsar Timing Array Millisecond Pulsars  
**Author(s):** Renée Spiewak², Ryan Shannon¹, George Hobbs¹, Matthew Kerr¹  
**Institution(s):** ¹ CSIRO Astronomy and Space Science, ² University of WI - Milwaukee

346.18 Precision Pulsar Timing at the DSN  
**Author(s):** Walid A. Majid¹  
**Institution(s):** ¹ JPL/Caltech
346.19 The Effect of Thermalization on Light Curves from Kilonova  
**Author(s):** Jennifer Barnes¹, Daniel Kasen¹  
**Institution(s):** ¹ University of California - Berkeley

347 Black Hole Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

347.01 The Black Hole Formation Probability  
**Author(s):** Drew R. Clausen¹, Anthony Piro², Christian D. Ott¹  
**Institution(s):** ¹ Caltech, ² Carnegie Observatories

347.02 A Second Look at the Accretion Disk Wind in GRS 1915+015 as Observed with Chandra and RXTE  
**Author(s):** Mason Keck¹, Joseph Neilsen¹  
**Institution(s):** ¹ Boston University

347.03 Temporal Variability in a Long, Global Accretion Disk Simulation  
**Author(s):** J. Drew Hogg¹, Christopher S. Reynolds¹  
**Institution(s):** ¹ University of Maryland

347.04 The impact of non-thermal electrons on resolved black hole accretion disk images  
**Author(s):** Shengkai Mao², Jason Dexter¹, Eliot Quataert²  
**Institution(s):** ¹ Max Planck Institute for Extraterrestrial Physics, ² UC Berkeley

347.05 Stellar Tidal Disruption by a Supermassive Black Hole Binary  
**Author(s):** Angelo Ricarte², Priyamvada Natarajan², Lixin J. Dai¹  
**Institution(s):** ¹ University of Maryland, ² Yale University

347.06 Recoiling Supermassive Black Holes: a search in the Nearby Universe  
**Author(s):** Davide Lena⁴, Andrew Robinson⁴, Alessandro Marconi¹, David Axon³, Alessandro Capetti³, David Merritt³, Daniel Batcheldor²  
**Institution(s):** ¹ Dipartimento di Fisica e Astronomia, Università degli Studi di Firenze, ² Florida Institute of Technology, ³ Osservatorio Astronomico di Torino, ⁴ Rochester Institute of Technology, ⁵ University of Sussex

347.07 Constraining the Orbits of the Supermassive Binary Blackhole Pair 0402+379  
**Author(s):** Ben Holland¹, Alison B. Peck³, Gregory B. Taylor⁵, Robert T. Zavala⁴, Roger W. Romani³  
**Institution(s):** ¹ Colorado School of Mines, ² NRAO, ³ Stanford University, ⁴ U.S. Naval Observatory Flagstaff Station, ⁵ University of New Mexico

347.08 Supermassive Black Hole Binary Mergers within Axisymmetric Galaxies: An Orbital Perspective.  
**Author(s):** Baile Li², Kelly Holley-Bockelmann², Fazeel Khan¹  
**Institution(s):** ¹ Institute of Space Technology, ² Vanderbilt University

347.09 Data formats for a library of Kerr metric transfer functions  
**Author(s):** Jonathan C. McDowell², Laura Brenneman², Christopher S. Reynolds³, Mason Keck³, Guido Risaliti¹  
**Institution(s):** ¹ Arcetri (INAF), ² Harvard-Smithsonian CfA, ³ University of Maryland
347.10 A systematic search for $z \geq 5$ active galactic nuclei in the Chandra Deep Field South
Author(s): Anna K. Weigel¹, Kevin Schawinski¹, Ezequiel Treister², Michael Koss¹, C. Megan Urry³, Benny Trakhtenbrot¹
Institution(s): ¹ ETH Zurich, ² Universidad de Concepción, ³ Yale University

347.11 The impact of Lyman-alpha trapping on the massive black hole seed formation
Author(s): Qi Ge¹
Institution(s): ¹ Georgia Institute of Technology

347.12 The Dynamics of Seed Black Holes in the First Galaxies
Author(s): Chao Shi¹, John Wise¹, Hao Xu³, Michael L. Norman³, Brian W. O’Shea²
Institution(s): ¹ Georgia Institute of Technology, ² Michigan State University, ³ University of California San Diego

348 Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects Posters

Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

348.01 Dissecting a Molecular Shock: Spatially Resolved H2 Line Ratios Across the HH7 Bow Shock
Author(s): Rosemary E. Pike⁵, Thomas R. Geballe¹, Michael G. Burton⁴, Antonio Chrysostomou³, Peter Brand²
Institution(s): ¹ Gemini Observatory, ² Royal University Edinburgh, ³ University of Hertfordshire, ⁴ University of New South Wales, ⁵ University of Victoria

348.02 Spectro-astrometric Study of HI emission lines from Herbig Ae/Be Stars
Author(s): Steven Cade Adams², Sean D. Brittain², Catherine Dougados³, Myriam Benisty⁴, Linda Podio¹, Emma Whelan⁴
Institution(s): ¹ Arcetri Astrophysical Observatory, ² Clemson University, ³ Universidad de Chile, ⁴ Universität Tübingen, ⁵ Université de Grenoble

348.03 Revisiting Forbidden Lines in T Tauri stars
Author(s): Wanda Feng², Suzan Edwards², Ilaria Pascucci³, Elisabetta Rigliaco¹
Institution(s): ¹ ETH Zurich, ² Smith College, ³ University of Arizona

348.04 Multi-Wavelength Spectroscopy of Two Classical T Tauri Stars
Author(s): Andrea K. Dupree¹, Nancy S. Brickhouse¹, Steven R. Cranmer¹
Institution(s): ¹ SAO

348.05 Measurement of 12CO, 13CO, and C18O Ratios in HL~Tau and GV~Tau
Author(s): Scott Davis¹, Thomas Teasley¹, Sean D. Brittain³, Greg Doppmann³, Joan R. Najita²
Institution(s): ¹ Clemson University, ² National Optical Astronomy Observatory, ³ W. M. Keck Observatory

348.06 No evidence of disk destruction by OB stars
Author(s): Alexander J.W. Richert¹, Eric Feigelson¹
Institution(s): ¹ The Pennsylvania State University
348.07 Mid-Infrared Variability Among YSOs in Rho Oph, IRAS 20050+2720 and GGD 12-15 Star Formation Regions
Author(s): Scott J. Wolk2, Katja Poppenhaeger2, Hans Moritz Günther2, Luisa M. Rebull1
Institution(s): 1 Caltech, 2 SAO
Contributing team(s): YSOVAR Team

348.08 Nature or Nurture: the peculiar HH 900 jet and outflow system in the Carina nebula
Author(s): Megan Reiter1, Nathan Smith1, Megan M. Kiminki1, John Bally2
Institution(s): 1 The University of Arizona, 2 University of Colorado, Boulder

348.09 Vertically Global, Horizontally Local Models for Astrophysical Disks
Author(s): Colin P. McNally1, Martin Pessah1
Institution(s): 1 NBIA, U. Copenhagen

348.10 EVLA Observation of Centimeter Continuum Emission from Protostars in Serpens South
Author(s): Nicholas S. Kern3, John J. Tobin1, Jared A. Keown4, Robert A. Gutermuth2
Institution(s): 1 University of Leiden, 2 University of Massachusetts, 3 University of Michigan, 4 University of Victoria

348.11 Time-series Photometry of the Pre-Main Sequence Binary V4046 Sgr: Testing the Accretion Stream Theory
Author(s): Benjamin M. Tofflemire3, Robert D. Mathieu3, David R. Ardila1, David R. Ciardi2
Institution(s): 1 Aerospace Corp, 2 Caltech, 3 University of Wisconsin - Madison

348.12 Stellar Radius Measurements of the Young Debris Disk Host AU Mic
Author(s): Russel J. White3, Gail Schaefer1, Theo Ten Brummelaar1, Christopher D. Farrington1, Harold A. McAlister1, Stephen T. Ridgway1, judit sturmann1, Laszlo Sturmann1, Nils H. Turner1
Institution(s): 1 Georgia State University

348.13 SLICC: Spectral LInear Combination for Coronagraphy
Author(s): Andrew W Cox2, Carol A Grady1
Institution(s): 1 Eureka Scientific, 2 University of Maryland, Baltimore County

348.14 Near-IR Variability of Young Stars in Orion OB1
Author(s): Alexander Contreras3, Cesar Briceno1
Institution(s): 1 Cerro Tololo Inter-American Observatory, 2 Universidad de Valparaíso

348.15 Infrared Photometry and Spectroscopy of V582 Mon (KH15D)
Author(s): Nicole Annemarie Arulanantham2, William Herbst2, Sandy K. Leggett1
Institution(s): 1 Gemini Observatory, 2 Wesleyan University

348.16 A survey of molecular hydrogen emission in the Rosette Molecular Cloud
Author(s): Jason E. Ybarra3, Carlos Román-Zuñiga1, Elizabeth A. Lada4, Scott W. Fleming3, Randy L. Phelps2
Institution(s): 1 Instituto de Astronomía, UNAM, 2 NSF-OIIA, 3 STScI, 4 University of Florida
WEDNESDAY, 7 JANUARY 2015

348.17 Proper motion measurements of HH 224
Author(s): Erika F. Perez Rivera\textsuperscript{1}, Jason E. Ybarra\textsuperscript{3}, Mary Barsony\textsuperscript{4}, Randy L. Phelps\textsuperscript{2}, Carlos Román-Zuñiga\textsuperscript{3}, Mauricio Tapia\textsuperscript{3}, Juan José Downes\textsuperscript{3}
Institution(s): \textsuperscript{1} Facultad de Ciencias, UNAM, \textsuperscript{2} IIA, NSF, \textsuperscript{3} Instituto de Astronomía, UNAM, \textsuperscript{4} SETI Institute

348.18 YSOVAR: Light Curve Classification Scheme
Author(s): Luisa M. Rebull\textsuperscript{1}
Institution(s): \textsuperscript{1} Caltech
Contributing team(s): YSOVAR team

349 Circumstellar Disk Posters
Wednesday, 9:00 am - 6:30 pm; Exhibit Hall 4AB

349.01 The shell spectrum of HD 94509
Author(s): Charles R. Cowley\textsuperscript{3}, Norbert Przybilla\textsuperscript{1}, Swetlana Hubrig\textsuperscript{2}
Institution(s): \textsuperscript{1} Institut fuer Astro- und Teilchen Physik, \textsuperscript{2} Leibnitz-Institut fuer Astrophysik, \textsuperscript{3} Univ. of Michigan

349.02 Transferring Mass between Circumstellar Disks during Stellar Flybys
Author(s): Michael Hammer\textsuperscript{1}, Lucie Jilková\textsuperscript{2}, Simon Portegies Zwart\textsuperscript{2}
Institution(s): \textsuperscript{1} Cornell University, \textsuperscript{2} Leiden University

349.03 Spitzer observations of epsilon Aurigae’s disk temperature
Author(s): Richard L. Pearson\textsuperscript{3}, Robert E. Stencel\textsuperscript{1}, Donald W. Hoard\textsuperscript{1}, Steve B. Howell\textsuperscript{2}
Institution(s): \textsuperscript{1} Eureka Scientific, Inc., \textsuperscript{2} NASA Ames Research Center, \textsuperscript{3} University of Denver

349.04 Disk Variability and Pulsation in the Be Star π Aquarii
Author(s): Geraldine J. Peters\textsuperscript{2}, Douglas R. Gies\textsuperscript{1}, Luqian Wang\textsuperscript{1}
Institution(s): \textsuperscript{1} Georgia State University, \textsuperscript{2} Univ. of Southern California

349.05 PDS 66 Resolved in Polarimetry with the Gemini Planet Imager
Author(s): Schuyler Wolff\textsuperscript{1}, Marshall D. Perrin\textsuperscript{2}, Jason Wang\textsuperscript{1}, James R. Graham\textsuperscript{3}, Laurent Pueyo\textsuperscript{2}, Max Millar-Blanchaer\textsuperscript{4}, Paul Kalas\textsuperscript{3}
Institution(s): \textsuperscript{1} Johns Hopkins University, \textsuperscript{2} Space Telescope Science Institute, \textsuperscript{3} UC Berkeley, \textsuperscript{4} University of Toronto
Contributing team(s): GPIES Team

349.06 Characterizing a Young Protoplanetary Disk in the Orion Nebula Cluster
Author(s): Samuel M. Factor\textsuperscript{2}, A. Meredith Hughes\textsuperscript{2}, Rita K. Mann\textsuperscript{1}
Institution(s): \textsuperscript{1} National Research Council Canada, \textsuperscript{2} Wesleyan University

349.07 Ionization Chemistry and Role of Grains on Non-ideal MHD Effects in Protoplanetary Disks
Author(s): Rui Xu\textsuperscript{2}, Xue-Ning Bai\textsuperscript{1}, Karin I. Oberg\textsuperscript{1}
Institution(s): \textsuperscript{1} Harvard-Smithsonian Center for Astrophysics, \textsuperscript{2} Yuanpei College, Peking University
349.08 Effects of dust feedback on vortices in protoplanetary disks
Author(s): Wen Fu², Stephen H. Lubow³, Shengtai Li¹, Edison P. Liang²
Institution(s): ¹ Los Alamos National Laboratory, ² Rice University, ³ Space Telescope Science Institute

349.09 Modeling Far-UV Fluorescent Emission Features of Warm Molecular Hydrogen in the Inner Regions of Protoplanetary Disks
Author(s): Keri Hoadley¹, Kevin France¹
Institution(s): ¹ University of Colorado - Boulder

349.10 Near-infrared Scattered Light Imaging of the Protoplanetary Disk Around V4046 Sgr with the Gemini Planet Imager
Author(s): Valerie Rapson³, Joel Kastner¹, Sean M. Andrews¹, Dean C. Hines⁴, Bruce Macintosh⁵, Max Millar-Blanchaer⁶, Motohide Tamura²
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² National Astronomical Observatory of Japan, ³ Rochester Institute of Technology, ⁴ Space Telescope Science Institute, ⁵ Stanford, ⁶ University of Toronto

349.11 Understanding Planetary Compositions Using Elemental Ratios in Protoplanetary Disks
Author(s): Christopher Merchantz¹, Lauren Ilsedore Cleeves³, Karin I. Oberg³
Institution(s): ¹ Harvard College, ² Harvard-Smithsonian Center for Astrophysics, ³ University of Michigan

349.12 Modeling Planet-Building Stellar Disks with Radiative Transfer Code
Author(s): Jeremy R Swearingen⁹, Michael L. Sitko⁹, Barbara Whitney¹², Carol A Grady¹, Kevin Robert Wagner⁹, Elizabeth H Champney⁹, Alexa N Johnson⁹, Chelsea C. Warren⁹, Ray W. Russell¹³, Heidi B. Hammel⁶, Casey M. Lisse¹, Michel Cure², Stefan Kraus¹⁰, Misato Fukagawa⁵, Nuria Calvet¹¹, Catherine Espaillat⁴, John D. Monnier¹¹, Rafael Millan-Gabet², David J. Wilner⁴
Institution(s): ¹ Applied Physics Lab, ² California Institute of Technology, ³ Eureka Scientific, ⁴ Harvard-Smithsonian Center for Astrophysics, ⁵ Osaka University, ⁶ Space Science Institute, ⁷ The Aerospace Corporation, ⁸ Universidad de Valparaiso, ⁹ University of Cincinnati, ¹⁰ University of Exeter, ¹¹ University of Michigan, ¹² University of Wisconsin

349.13 Exploring Structures and Variability in the Pre-transitional Disk in HD 169142
Author(s): Kevin Robert Wagner⁹, Michael L. Sitko⁹, Carol A Grady¹, Barbara Whitney¹⁴, Jeremy R Swearingen⁹, Elizabeth H Champney⁹, Alexa N Johnson⁹, Chelsea C. Warren⁹, Ray W. Russell¹³, Glenn Schneider⁶, Muntake Momose³, Takayuki Muto⁴, Akio K Inoue⁵, James Thomas Lauroesch¹⁵, Jeremy Hornbeck¹¹, Alexander Brown¹⁰, Misato Fukagawa⁵, Thayne M. Currie¹³, John P. Wisniewski¹², Bruce E. Woodgate²
Institution(s): ¹ Eureka Scientific, ² Goddard Space Flight Center, ³ Ibaraki University, ⁴ Kagakuin University, ⁵ Osaka Sangyo University, ⁶ Osaka University, ⁷ The Aerospace Corporation, ⁸ University of Arizona, ⁹ University of Cincinnati, ¹⁰ University of Colorado, ¹¹ University of Louisville, ¹² University of Oklahoma, ¹³ University of Toronto, ¹⁴ University of Wisconsin
349.14 A Spectro-Astrometric Study of Gas in Transition Disks around HAeBe stars: Evidence of a Forming Companions?
Author(s): Sean D. Brittain¹, Joan R. Najita², John S Carr³
Institution(s): ¹ Clemson Univ., ² NOAO, ³ NRL

349.15 Dust Depletion and Large Scale Asymmetries in Transitional Disks
Author(s): Laura M. Perez², Andrea Isella³, John M. Carpenter¹, Claire J. Chandler², Anneila I. Sargent¹
Institution(s): ¹ California Institute of Technology, ² NRAO, ³ Rice University

349.16 AU Mic’s Debris Disk Chemistry Revealed Using Spatially Resolved Spectroscopy
Author(s): Jamie Renae Lomax⁵, Jessica Donaldson⁵, John H. Debes⁴, Eliot Malumuth¹, Aki Roberge³, Alycia J. Weinberger³, John P. Wisniewski⁵
Institution(s): ¹ ADNET Systems, ² Carnegie Institute of Washington, ³ NASA/GSFC, ⁴ Space Telescope Science Institute, ⁵ University of Oklahoma

349.17 Probing the AU Microscopii Debris Disk at Close Separations with the Gemini Planet Imager
Author(s): Jason Wang⁴, James R. Graham⁴, Laurent Pueyo⁵, Eric L. Nielsen³, Gaspard Duchene⁴, Max Millar-Blanchaer⁵, Paul Kalas⁴, Christine Chen², Brenda C. Matthews¹
Institution(s): ¹ NRC of Canada, ² Space Telescope Science Institute, ³ Stanford University, ⁴ UC Berkeley, ⁵ University or Toronto
Contributing team(s): Gemini Planet Imager team

349.18 Resolving the Dusty Debris Disk of 49 Ceti
Author(s): Jesse Lieman-Sifry¹, A. Meredith Hughes¹
Institution(s): ¹ Wesleyan University

349.19 Exocomets and variable circumstellar gas absorption in the debris disks of nearby A-type stars
Author(s): Sharon Lynn Montgomery¹, Barry Welsh¹, Benjamin Bukoski³, Sarah Strausbaugh¹
Institution(s): ¹ Clarion University, ² U.C. Berkeley

349.20 ALICE: Analysis of New Debris Disk Images
Author(s): Elodie Choquet³, Marshall D. Perrin⁵, Christine Chen³, David A. Golimowski⁵, John H. Debes⁴, Glenn Schneider⁶, Laurent Pueyo⁵, Dean C. Hines⁵, Schuyler Wolff³, Tushar Mittal³, Amaya Moro-Martin³, Dimitri Mawet³, Julien Milli³, J. Brendan Hagan⁵, Abhijith Rajan¹, Margaret Moerchen³, Mamadou N’Diaye⁴, Jonathan Aguilar⁴, Remi Soummer⁵
Institution(s): ¹ Arizona State University, ² Berkeley, ³ ESO, ⁴ John Hopkins University, ⁵ Space Telescope Science Institute, ⁶ University of Arizona

349.21 ALICE: Project Overview and High Level Science Products
Author(s): Remi Soummer⁴, Elodie Choquet³, Laurent Pueyo⁴, J. Brendan Hagan⁴, Elena Gofas-Salas⁴, Abhijith Rajan¹, Marshall D. Perrin⁵, Christine Chen³, John H. Debes⁴, David A. Golimowski⁵, Dean C. Hines³, Glenn Schneider⁶, Mamadou N’Diaye⁴, Dimitri Mawet¹, Christian Marois², Travis Barman³
Institution(s): ¹ ESO, ² HIA-NRC, ³ lpl, ⁴ Space Telescope Science Institute, ⁵ University of Arizona
349.22 New Data Reduction Techniques for Circumstellar Disk Imaging with the Hubble DICE Survey  
**Author(s):** Benjamin Wilson¹, Zachary Griggs¹, Clay Gardner¹, Joseph Carson¹, Glenn Schneider³, Christopher C. Stark²  
**Institution(s):** ¹ College of Charleston, ² NASA Goddard Space Flight Center, ³ University of Arizona  
Contribution team(s): HST/GO 12228 Team

349.23 Herschel Observations of Dusty Debris Disks  
**Author(s):** Laura Vican³, Geoff Bryden², Ben M. Zuckerman³, Joseph Rhee¹, Carl Melis⁴, Inseok Song⁵  
**Institution(s):** ¹ Cal Poly Pomona, ² JPL/Caltech, ³ UCLA, ⁴ UCSD, ⁵ University of Georgia

349.24 Stellar Multiplicity in the DEBRIS disk sample  
**Author(s):** David R Rodriguez³, Gaspard Duchene⁴, Henry Tom⁶, Grant Kennedy⁷, Brenda C. Matthews², Harold M. Butner¹  
**Institution(s):** ¹ James Madison University, ² National Research Council, ³ Universidad de Chile, ⁴ University of California, Berkeley, ⁵ University of Cambridge
400 Plenary Talk: Planetary Nebulae: Reviews and Previews of a Rapidly Evolving World

Thursday, 8:30 am - 9:20 am; 6E
Chair(s): Paula Szkody (Univ. of Washington)

400.01 Planetary Nebulae: Reviews and Previews of a Rapidly Evolving Field
Author(s): Bruce Balick
Institution(s): 1. Univ. of Washington

Hack Day

Thursday, 10:00 am - 7:00 pm; 4C-2

A day to work intensively on collaborative projects. A wide-variety of projects will be undertaken and will be everything from software development and coding to creative outreach projects. Projects that take advantage of the unique gathering of enthusiasm and expertise at the Winter AAS Meeting are particularly encouraged. Hack ideas and participants will be solicited before and during the meeting. Participants can either lead a project or join a project and should plan on focusing primarily on only one hack. In addition, we ask participants to commit to hacking for the majority of the day. Registration is encouraged to facilitate pre-meeting coordination, but not required.
Organizer(s): Kelle Cruz (Hunter College/CUNY and AMNH) & David Hogg (New York Univ.)

401 Galaxy Clusters III

Thursday, 10:00 am - 11:30 am; 6A
Chair(s): D. E. Harris (HEA-Center for Astrophysics)

401.01 On the Trail of the Most Massive Galaxy Clusters in the Universe
Author(s): John Patrick Hughes3, Felipe Menanteau1, Felipe Barrientos3, Leopoldo Infante2
Institution(s): 1. NCSA, 2. Pontificia Univ Catolica de Chile, 3. Rutgers Univ.

401.02D How well can we measure galaxy cluster masses using galaxies as tracers?
Author(s): Lyndsay Old13, Ramin A. Skibba10, Frazer Pearce13, Darren Croton6, Stuart Muldrew11, Juan Carlos Munoz-Cuartas9, Daniel Gifford12, Meghan Gray13, Anja Von Der Linden5, Gary Mamon1, Michael Merrifield13, Volker Mueller2, Richard Pearson9, Trevor Ponman9, Alex Saro4, Tiit Sepp7, Cristobal Sifon3, Elmo Tempel13, Elena Tundo13, Yang Wang13, Radek Wojtak5
401.03 Calibrating the Cluster Richness-Mass Relation for the Dark Energy Survey
Author(s): Devon Lawrence Hollowood¹, Tesla E. Jeltema², Eli S. Rykoff³, Eduardo Rozo¹
Institution(s): ¹ SLAC National Accelerator Laboratory, ² University of California, Santa Cruz
Contributing team(s): Dark Energy Survey Collaboration

401.04DDo Cluster Mass Reconstruction Techniques Really Paint The Same Picture?
Author(s): Austen Max Groener¹
Institution(s): ¹ Drexel University

401.05DGalaxy Cluster Studies with Weak Lensing Magnification and Shear
Author(s): Jes Ford¹
Institution(s): ¹ University of British Columbia

401.06 The Atacama Cosmology Telescope: Followup Imaging of SZE-Selected Clusters with ATCA, LABOCA, and Herschel
Author(s): Andrew J. Baker⁹, Robert R. Lindner¹⁵, Paula Aguirre⁷, John Richard Bond¹, Matt Hilton¹⁴, Adam D. Hincks¹², Kevin Huffenberger¹, John Patrick Hughes⁹, Leopoldo Infante⁷, Marcos Lima¹¹, Tobias A. Marriage⁴, Felipe Menanteau¹³, Michael D. Niemack², Lyman Alexander Page⁹, Neelima Sehgal¹⁰, Axel Weiss⁴, Edward Wollack⁶
Institution(s): ¹ Canadian Institute for Theoretical Astrophysics, ² Cornell University, ³ Florida State University, ⁴ Johns Hopkins University, ⁵ MPIfR, ⁶ NASA’ GSFC, ⁷ Pontificia Universidad Católica de Chile, ⁸ Princeton University, ⁹ Rutgers, the State University of NJ, ¹⁰ Stony Brook University, ¹¹ Universidade de São Paulo, ¹² University of British Columbia, ¹³ University of Illinois, ¹⁴ University of KwaZulu Natal, ¹⁵ University of Wisconsin
Contributing team(s): Atacama Cosmology Telescope team

402 Dark Matter & Dark Energy
Thursday, 10:00 am - 11:30 am; 6B
Chair(s): Robyn Sanderson (Columbia University)

402.01 The history of galaxy formation as a cosmological probe
Author(s): Christopher Conselice⁵, Asa Bluck⁴, Alice Mortlock³, David Peter Palamara², Andrew Benson¹
Institution(s): ¹ Carnegie Institute of Washington, ² Monash University, ³ Royal Observatory Edinburgh, ⁴ U. Victoria, ⁵ Univ. of Nottingham

402.02 Mapping the Small-Scale Structure of Dark Matter Halos with Strong Gravitational Lensing
Author(s): Yashar D. Hezaveh¹
Institution(s): ¹ Sanford University

402.03 Do Dark Matter Axions Form A Bose-Einstein Condensate?
Author(s): Chanda Prescod-Weinstein¹, Mark Hertzberg¹
Institution(s): ¹ MIT
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402.04 The Kinematics of Milky Way Satellites as a Test of Dark Matter Models
Author(s): Mei-Yu Wang¹, Louis Strigari¹, Till Sawala¹, Mark Lovell², Carlos S Frenk³
Institution(s): ¹ Texas A&M University, ² University of Amsterdam, ³ University of Durham

402.05D Self Interacting Dark Matter and Baryons
Author(s): Alexander B. Fry², Fabio Governato², Andrew Pontzen¹, Thomas R. Quinn¹
Institution(s): ¹ University College London, ² University of Washington

402.06 Dark matter or point sources? Utilizing the 1-pt PDF to understand the origin of the GeV excess seen by the Fermi LAT detector
Author(s): Natalie Harrison², Jennifer M. Siegal-Gaskins¹
Institution(s): ¹ Caltech, ² University of Chicago

402.07 Self-Scattering for Dark Matter with an Excited State
Author(s): Katelin Schutz², Tracy Slatyer¹
Institution(s): ¹ MIT, ² UC Berkeley

402.08 Testing a MOND Prediction in NGC3923
Author(s): Bryan W. Miller², Stacy S. McGaugh¹, Chris Mihos¹
Institution(s): ¹ Case Western Reserve University, ² Gemini Observatory

403 Cosmology III

Thursday, 10:00 am - 11:30 am; 6C

Chair(s): Joey Key (University of Texas at Brownsville)

403.01 Multi-redshift limits on the Epoch of Reionization 21cm power spectrum from PAPER
Author(s): Danny Jacobs¹, Jonathan Pober³, Aaron Parsons³
Institution(s): ¹ Arizona State University, ² UC Berkeley, ³ University of Washington
Contributing team(s): PAPER Team

403.02D Weak Lensing Tomography Using > 50 High Redshift, z > 0.4, Galaxy Clusters
Author(s): Rebecca Santana¹
Institution(s): ¹ Ohio University

403.03 Wide-field imaging of the polarized sky with PAPER
Author(s): Saul Aryeh Kohn², James E. Aguirre³, David Moore³, Jason Ling³, Gianni Bernardi¹
Institution(s): ¹ SKA SA, ² University of Pennsylvania
Contributing team(s): PAPER

403.04 Limits on the Polarized Power Spectrum at 126 and 164 MHz from PAPER South Africa 32-Element Data
Author(s): James E. Aguirre¹, David Moore¹
Institution(s): ¹ University of Pennsylvania
Contributing team(s): PAPER Collaboration
403.05D From Enormous 3D Maps of the Universe to Astrophysical and Cosmological Constraints: Statistical Tools for Realizing the Promise of 21 cm Cosmology  
**Author(s):** Joshua S. Dillon¹, Max Tegmark¹  
**Institution(s):** ¹ Massachusetts Institute of Technology

403.06 Combined Cosmological Constraints using the WiggleZ Multipole Power Spectrum  
**Author(s):** Jason Dossett¹, Chris Blake², David Parkinson³, Signe Riemer-Sørensen⁴, Jun Koda², Tamara Davis³  
**Institution(s):** ¹ INAF - Osservatorio Astronomico di Brera, ² Swinburne University of Technology, ³ The University of Queensland, ⁴ University of Oslo

403.07 Constraining the Thermal State of the IGM at z~20  
**Author(s):** Lincoln J. Greenhill¹  
**Institution(s):** ¹ Harvard-Smithsonian, CfA  
**Contributing team(s):** LEDA Collaboration

404 Planck 2014 Results

**Thursday, 10:00 am - 11:30 am; 6E**

The Planck 2014 data release includes the full mission data in both temperature and polarization. Scientific results cover a huge range of topics from cosmology to the zodiacal light. A plenary talk on Planck Wednesday afternoon will give an overview of the principle cosmological results. This Special Session covers: 1. The 2014 Planck mission products, and a general description of the microwave and submillimeter sky, including CMB statistics, global isotropy, and anomalies. 2. Planck measurements of polarization and their implications for both galactic astronomy and cosmology, including large-angular-scale polarization and its implications. 3. Separation and characterization of astrophysical components in the multi-frequency full sky observations by Planck, with all-sky maps of synchrotron, free-free, spinning dust, thermal dust, CO, and SZ emission. 4. Cluster cosmology analysis based on the full Planck data set, including a new cluster catalog and analysis techniques, recent results on cluster masses, and a new look at the tension between clusters and the primary CMB constraints.  
**Chair(s):** Charles Lawrence (JPL)

404.01 Planck Cluster Cosmology 2014  
**Author(s):** James G. Bartlett¹  
**Institution(s):** ¹ Jet Propulsion Laboratory and APC Univ. Paris 7  
**Contributing team(s):** Planck Collaboration

404.02 The microwave sky as seen by Planck  
**Author(s):** Ingunn Kathrine Wehus¹  
**Institution(s):** ¹ Caltech/JPL  
**Contributing team(s):** Planck Collaboration

404.03 Planck 2014 Cosmological Parameter Constraints  
**Author(s):** Marius Millea¹  
**Institution(s):** ¹ UC Davis  
**Contributing team(s):** Planck Collaboration
405.04  A Joint Analysis of Planck and BICEP2/Keck Array Data
Author(s): Brendan Crill
Institution(s): 1. JPL/Caltech

405.04A Joint Analysis of Planck and BICEP2/Keck Array Data
Author(s): Brendan Crill
Institution(s): 1. JPL/Caltech

405.05 Large Scale Structure, Cosmic Distance Scale I
Thursday, 10:00 am - 11:30 am; 610
Chair(s): J. Moody (Brigham Young Univ.)

405.01 Theoretical Predictions of Large Scale Clustering in the Lyman-alpha Forest
Author(s): Agnieszka M Cieplak, Anze Slosar, Nishikanta Khandai
Institution(s): 1. Brookhaven National Laboratory

405.02 Position-dependent power spectrum of the large-scale structure: a novel method to measure the squeezed-limit bispectrum
Author(s): Chi-Ting Chiang, Christian Wagner, Fabian Schmidt, Eiichiro Komatsu
Institution(s): 1. Max-Planck-Institute for Astrophysics

405.03 ΛCDM Halo Models of Galaxy Clustering and Evolution in the PRIMUS Survey at 0<z<1
Author(s): Ramin A. Skibba, Alison L. Coil, Alexander Mendez, Michael R. Blanton, Daniel Eisenstein
Contributing team(s): PRIMUS

405.04 Understanding Cosmological Perturbation Theory
Author(s): Matthew McQuinn
Institution(s): 1. University of Washington

405.05 The Cosmic Web Unravelled: A study of filamentary structure in the Galaxy and Mass Assembly survey
Author(s): Mehmet Alpaslan
Institution(s): 1. NASA Ames Research Centre
Contributing team(s): Galaxy And Mass Assembly (GAMA) survey team

405.06 CHP-II: The Carnegie Hubble Program to Measure Ho to 3% Using Population II
Author(s): Jeffrey Rich, Wendy L. Freedman, Barry F. Madore, Andy Monson, Victoria Scowcroft, Rachael Beaton, Juna A. Kollmeier, Mark Seibert, Giuseppe Bono, Gisella Clementini, Soung-Chul Yang, Myung Gyoong Lee, In Sung Jang

405.07 SDSS-IV: Exploring Large-Scale Structure at High Redshift using eBOSS LRGs
Author(s): Abhishek Prakash, Jeffrey Newman
Institution(s): 1. University of Pittsburgh
Contributing team(s): The SDSS-IV/eBOSS Collaboration
406 Extrasolar Planets: Habitable and/or Earthlike

Thursday, 10:00 am - 11:30 am; 616/617
Chair(s): Eric Agol (Univ. of Washington)

406.01D The Frequency of Habitable Planets Around Small Stars and the Characterization of Planets Orbiting Bright Kepler Targets
Author(s): Courtney D. Dressing1
Institution(s): 1 Harvard Univ.

406.02D Uncovering the Chemistry of Earth-like Planets
Author(s): Li Zeng1, Stein Jacobsen1, Dimitar D. Sasselov1
Institution(s): 1 Harvard University

406.03D The Prevalence of Earth-size Planets Orbiting Sun-like Stars
Author(s): Erik Petigura2, Geoffrey W. Marcy2, Andrew Howard1
Institution(s): 1 Institute for Astronomy, 2 University of California, Berkeley

406.04 Persistence of oceans on Earth-like planets
Author(s): Laura Schaefer1, Dimitar D. Sasselov1
Institution(s): 1 Harvard-Smithsonian Center for Astrophysics

406.05 Earth as an Exoplanet: Lessons in Recognizing Planetary Habitability
Author(s): Victoria Meadows4, Tyler Robinson3, Amit Misra6, Kimberly Ennico3, William B. Sparks4, Mark Clare5, David Crisp2, Edward Schwieterman6, D. Ben J. Bussey1, Jonathan Breiner6
Institution(s): 1 APL/Johns Hopkins University, 2 Jet Propulsion Laboratory/California Institute of Technology, 3 NASA Ames Research Center, 4 Space Telescope Science Institute, 5 University of St. Andrews, 6 University of Washington

406.06 The Venus Zone: Seeking the Twin of Earth’s Twin
Author(s): Stephen R. Kane3, Ravi Kumar Kopparapu4, Shawn Domagal-Goldman1
Institution(s): 1 NASA Goddard Space Flight Center, 2 Penn State University, 3 San Francisco State University

407 Laboratory Astrophysics and Astrobiology

Thursday, 10:00 am - 11:30 am; 618/619
Chair(s): Christina Richey (NASA HQ)

407.01 High-J Rotational Quenching of CO from Collisions with H
Author(s): Kyle M. Walker3, Lei Song2, Benhui H. Yang3, Gerrit C. Groenenboom2, Ad van der Avoird2, Balakrishnan Naduvalath4, Robert C. Forrey4, Phillip C. Stancil3
Institution(s): 1 Pennsylvania State University, Berks Campus, 2 Radboud University Nijmegen, 3 University of Georgia, 4 University of Nevada Las Vegas
407.02 Charge Exchange Induced X-Ray Emission of Fe XXVI and Fe XXV
Author(s): Patrick Dean Mullen¹, Renata Cumbee¹, David Lyons¹, Phillip C. Stancil¹
Institution(s): ¹ Department of Physics and Astronomy and Center for Simulational Physics, The University of Georgia
Contributing team(s): B. J. Wargelin

407.03 Time-Domain TeraHertz Spectroscopy and Observational Probes of Prebiotic Interstellar Gas and Ice Chemistry
Author(s): Brett A. McGuire¹
Institution(s): ¹ National Radio Astronomy Observatory

407.04 Extreme Water Loss and Abiotic O₂ Buildup On Planets Throughout the Habitable Zones of M Dwarfs
Author(s): Rodrigo Luger¹, Rory Barnes¹
Institution(s): ¹ University of Washington

407.05 Examining a link between SPEs and ground level radiation
Author(s): Andrew Overholt¹
Institution(s): ¹ MidAmerica Nazarene University

407.06 Terrestrial effects of a Solar proton event at AD 774-775
Author(s): Brian Thomas¹
Institution(s): ¹ Washburn Univ.

407.07 Mechanisms for Generating False Positives for Extrasolar Life
Author(s): Shawn Domagal-Goldman³, Victoria Meadows⁵, Edward Schwieterman³, Rodrigo Luger³, Robin Wordsworth¹, Rory Barnes⁵, Antigona Segura³, Mark Claire⁴
Institution(s): ¹ Harvard University, ² NASA Goddard Space Flight Center, ³ Universidad Nacional Autónoma de México, ⁴ University of St. Andrews, ⁵ University of Washington
Contributing team(s): Virtual Planetary Laboratory

407.08 Distinguishing True and False Positive Oxygen Signatures with Models and Observations
Author(s): Edward Schwieterman³, Shawn Domagal-Goldman¹, Victoria Meadows¹, Rodrigo Luger³, Rory Barnes³, Robin Wordsworth²
Institution(s): ¹ Goddard Space Flight Center, ² University of Chicago, ³ University of Washington
Contributing team(s): Virtual Planetary Laboratory
408 From Hot Jupiters to Scorched Earths: Understanding the Shortest-Period Exoplanets

Thursday, 10:00 am - 11:30 am; 606

From wispy gas giants on the verge of disruption to tiny rocky bodies already falling apart, short-period exoplanets pose a severe challenge to theories of planet formation and evolution, but they dominate observational constraints on planetary composition, internal structure, meteorology, and more. This special AAS session will gather together experts in detection, characterization, theory of short period planets, and star-planet interactions. The session will link the lessons learned from hot Jupiters to the characterization of the emergent population of small, short-period planets. https://sites.google.com/site/spexoplaas225th/

Chair(s): Brian Jackson (Boise State University)

408.01 Characterizing the shortest-period planets found by Kepler
Author(s): Roberto Sanchis Ojeda¹, Joshua N. Winn¹, Saul A. Rappaport¹
Institution(s): ¹ MIT

408.02 Short-period terrestrial planets and radial velocity stellar jitter.
Author(s): Xavier Dumusque¹
Institution(s): ¹ Harvard-smithsonian Center for Astrophysics

408.03 Thermal Emission from KELT-1b: Probing Brown Dwarf Atmospheres in Extreme Irradiation
Author(s): Thomas G. Beatty⁵, B. Scott Gaudi⁴, Richard W. Pogge⁴, Karen A Collins⁹, Jonathan J. Fortney⁷, Heather Knutson¹, Jacob M. Bruns⁸, Adam P. Showman⁶, Jason D Eastman², Joshua Pepper¹, Robert Siverd¹⁰, Keivan Stassun¹⁰, John F. Kielkopf⁹
Institution(s): ¹ California Institute of Technology, ² Harvard-Smithsonian Center for Astrophysics, ³ Lehigh University, ⁴ Ohio State University, ⁵ Pennsylvania State University, ⁶ University of Arizona, ⁷ University of California, Santa Cruz, ⁸ University of Colorado, Boulder, ⁹ University of Louisville, ¹⁰ Vanderbilt University

408.04 Precise Water Abundance Estimates for Hot Jupiters from HST/WFC3
Author(s): Laura Kreidberg¹
Institution(s): ¹ University of Chicago

408.05 The atmospheric circulation of ultra-short period exoplanets
Author(s): Tiffany Kataria⁵, Adam P. Showman³, Jonathan J. Fortney⁹, Kevin B. Stevenson⁴, Nikole K. Lewis¹
Institution(s): ¹ Massachusetts Institute of Technology, ² University of Arizona, ³ University of California, Santa Cruz, ⁴ University of Chicago, ⁵ University of Exeter

408.06 Warm Jupiters as failed hot Jupiters
Author(s): Rebekah Ilene Dawson¹, Eugene Chiang¹
Institution(s): ¹ UC Berkeley
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**408.07 Tidal Decay and Disruption of Gaseous Exoplanets**
*Author(s):* Brian K. Jackson\(^1\), Phil Arras\(^6\), Sarah Peacock\(^3\), Kaloyan Penev\(^2\)
*Institution(s):* \(^1\) Boise State University, Dept. of Physics, \(^2\) Princeton University, Dept. of Astrophysical Sciences, \(^3\) University of Arizona, Lunar and Planetary Laboratory, \(^4\) University of Virginia, Dept. of Astronomy

**408.08 Many Ultra-Short-Period Rocky Planets are Evaporated Sub-Neptunes**
*Author(s):* Eric David Lopez\(^1\)
*Institution(s):* \(^1\) Institute for Astronomy, University of Edinburgh

**408.09 The Transition Between Rocky and Gaseous Planets**
*Author(s):* Leslie Rogers\(^1\)
*Institution(s):* \(^1\) California Institute of Technology

**408.10 Disintegrating Mercuries**
*Author(s):* Eugene Chiang\(^1\)
*Institution(s):* \(^1\) UC Berkeley

**409 Extrasolar Planets: Radial Velocities**

*Thursday, 10:00 am - 11:30 am; 607*

**Chair(s):** Dmitry Savransky (Cornell University)

**409.01 Early Science Results from Dharma Planet Survey (DPS), a Robotic, High Cadence and High Doppler Precision Survey of Close-in Super-Earths**
*Author(s):* Bo Ma\(^2\), Jian Ge\(^2\), Matthew W. Muterspaugh\(^1\), Sirinrat Sithajan\(^2\), Neil B Thomas\(^2\), Nolan Senan Seieroe Grieves\(^2\), Rui Li\(^2\), Michael Singer\(^2\), Scott Powell\(^2\), Frank Varosi\(^2\), Bo Zhao\(^2\), Jian Liu\(^2\), Sidney Schofield\(^2\), Hali Jakeman\(^2\), William Yoder\(^2\), Michael W Williamson\(^2\), Ted Maxwell\(^2\), Louis Avner\(^2\), Jakob Gittelmacher\(^2\)
*Institution(s):* \(^1\) Tennessee State University, \(^2\) University of Florida

**409.02 Results from the HARPS-N 2014 Campaign to Estimate Accurately the Densities of Planets Smaller than 2.5 Earth Radii**
*Author(s):* David Charbonneau\(^1\)
*Institution(s):* \(^1\) Harvard Univ.

**Contributing team(s):** The HARPS-N Collaboration

**409.03 The SDSS-III DR12 MARVELS radial velocity data release: the first data release from the multiple object Doppler exoplanet survey**
*Author(s):* Jian Ge\(^5\), Neil B Thomas\(^5\), Rui Li\(^5\), Nolan Senan Seieroe Grieves\(^5\), Bo Ma\(^5\), Nathan M. De Lee\(^5\), Brian C. Lee\(^5\), Jian Liu\(^5\), Adam S Bolton\(^6\), Aniruddha R. Thakar\(^5\), Benjamin Weaver\(^2\)
*Institution(s):* \(^1\) Johns Hopkins University, \(^2\) New York University, \(^3\) Northern Kentucky University, \(^4\) Santa Fe College, \(^5\) Univ. of Florida, \(^6\) University of Utah

**Contributing team(s):** The SDSS-III MARVELS team
409.04  NRES: The Network of Robotic Echelle Spectrographs
Author(s): Robert Siverd¹, Jason D Eastman¹, Timothy M. Brown², John Hygelund², Todd Henderson², Joseph Tufts², Julian C. Van Eyken², Stuart Barnes³
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Las Cumbres Global Telescope Network, Inc., ³ Stuart Barnes Optical Design

409.05  Constraining the Masses of the Kepler-11 Planets through Radial Velocity Measurements
Author(s): Lauren M. Weiss¹, Geoffrey W. Marcy¹, Howard T. Isaacson¹
Institution(s): ¹ UC Berkeley

410  Formal and Informal Education I

Thursday, 10:00 am - 11:30 am; 608
Chair(s): Stacy Palen (Weber State Univ.)

410.01  Communicating the Science from NASA’s Astrophysics Missions
Author(s): Hashima Hasan¹, Denise A. Smith²
Institution(s): ¹ NASA Headquarters, ² Space Telescope Science Institute

410.02  Engaging Scientists in Meaningful E/PO: How the NASA SMD E/PO Community Addresses the Needs of the Higher Ed Community
Author(s): James Manning², Bonnie K. Meinke³, Gregory R. Schultz¹, Denise A. Smith³, Brandon L. Lawton³, Suzanne Gurton³
Institution(s): ¹ Astronomical Society of the Pacific, ² NASA Astrophysics SEPOF, ³ Space Telescope Science Institute

410.03  NASA Science Mission Directorate Education and Public Outreach: Engaging with Scientists and Educators through the Higher Education Working Group
Author(s): Gregory R. Schultz¹, Nicholas Gross², Sanlyn Buxner³, Russanne Low⁴, Mark Moldwin⁵, Andrew Fraknoi³, Jennifer A. Grier⁵
Institution(s): ¹ Astronomical Society of the Pacific, ² NASA Goddard Space Flight Center, ³ Foothill College, ⁴ Institute for Global Environmental Strategies, ⁵ Planetary Science Institute, ⁶ Univ. of Michigan

410.04  Engaging Scientists in Meaningful E/PO: How the NASA SMD E/PO Community Addresses the needs of Underrepresented Audiences through NASA Science4Girls and Their Families
Author(s): Bonnie K. Meinke³, Denise A. Smith³, Lora Bleacher², Karin Hauck⁴, Cassie Soeffing³
Institution(s): ¹ IGES, ² NASA Goddard Space Flight Center, ³ STScI, ⁴ UC Berkeley/SSL
Contributing team(s): NASA SMD E/PO Community

410.05  Engaging Scientists in Meaningful E/PO: How the NASA SMD E/PO Community Addresses Informal Educators’ Preferences for PD and Materials
Author(s): Lindsay Bartolone¹, Andi Nelson¹, Denise A. Smith²
Institution(s): ¹ NASA SMD Astrophysics Forum, ² Space Telescope Science Institute
Contributing team(s): NASA SMD Astrophysics E/PO Community
THURSDAY, 8 JANUARY 2015

410.06 NASA Astrophysics E/PO: The Impact of the Space Telescope Science Institute Office of Public Outreach
Author(s): Denise A. Smith1, Hussein Jirdeh1, Bonnie Eisenhamer1, Ray Villard1
Institution(s): 1. STScI

410.07 NASA Astrophysics E/PO Impact: The Astrophysics Educator Ambassador Program
Author(s): Lynn R. Cominsky1, Kevin M. McLin1
Institution(s): 1. Sonoma State Univ.
Contributing team(s): SSU E/PO team

410.08 NASA Astrophysics E/PO Impact: NASA SOFIA AAA Program Evaluation Results
Author(s): Pamela Harman1, Dana E. Backman1, Coral Clark1
Institution(s): 1. SETI Institute, 2. USRA
Contributing team(s): Inverness Research SOFIA AAA Evaluation Team, WestEd SOFIA AAA Evaluation Team

410.09 Frontier Fields: Engaging Educators, the Youth, and the Public in Exploring the Cosmic Frontier
Author(s): Brandon L. Lawton1, Bonnie Eisenhamer1, Denise A. Smith1, Frank Summers1, John A. Darnell1, Holly Ryer1
Institution(s): 1. STScI

411 Starburst Galaxies I

Thursday, 10:00 am - 11:30 am; 609
Chair(s): Philip Appleton (Caltech)

411.01 GOALS: HI Mapping of Local (U)LIRGs
Author(s): George C. Privon7, Aaron S. Evans6, John E. Hibbard4, Joshua E. Barnes2, Raffaella Morganti5, Tom Oosterloo5, Sabrina Stierwalt8, David T. Frayer4, Joseph M. Mazzarella1, Lee Armus6, Ezequiel Treister7
Contributing team(s): GOALS

411.02D Why is the Radio Continuum Spectral Index of a Star-Forming Galaxy Approximately -0.7?
Author(s): Joshua Marvil1, Jean Eilek2, Frazer N. Owen3
Institution(s): 1. CSIRO Astronomy & Space Science, 2. New Mexico Tech, 3. NRAO

411.03 ALMA (Band 7 & 9) Imaging of Arp 220 in HCN and Dust continuum
Author(s): Nicholas Scoville4
Institution(s): 1. Caltech
411.04D Molecular Gas in Starbursts ARP 220 & NGC 6240: Understanding Mergers using High Density Gas Tracers
Author(s): Swarnima Manohar¹, Nicholas Scoville¹, Kartik Sheth²
Institution(s): ¹California Institute of Technology, ²North America ALMA Science Center, NRAO

411.06 Extreme Starbursts at z >4
Author(s): Alexander J. Conley¹, Jason Glenn¹
Institution(s): ¹University of Colorado at Boulder
Contributing team(s): HerMES collaboration

411.07 Cosmic Ray Interactions, Gamma-Rays, and Neutrinos in Starbursting Galaxies
Author(s): Tova M Yoast-Hull¹, John S. Gallagher¹, Ellen Gould Zweibel¹
Institution(s): ¹University of Wisconsin-Madison

412 High Redshift (z>3) Galaxies

Thursday, 10:00 am - 11:30 am; 611
Chair(s): Viviana Acquaviva (CUNY NYC College of Technology)

412.01 On the intergalactic attenuation for high-z galaxies
Author(s): Akio K Inoue¹
Institution(s): ¹Osaka Sangyo University

412.02 Investigating the Physical Cause Behind a Constant Characteristic Magnitude at High Redshift
Author(s): Steven L. Finkelstein⁵, Russell E. Ryan³, Casey J. Papovich⁴, Mark Dickinson¹, Mimi Song³, Peter Behroozi³, Rachel S. Somerville², Henry Closson Ferguson³
Institution(s): ¹NOAO, ²Rutgers University, ³Space Telescope Science Institute, ⁴Texas A&M University, ⁵University of Texas at Austin
Contributing team(s): CANDELS Team, S-CANDELS Team

412.03D Probing stellar mass build-up in galaxies at z=4-7 with CANDELS and S-CANDELS
Author(s): Mimi Song³, Steven L. Finkelstein³, Matthew Ashby¹, Emiliano Merlin²
Institution(s): ¹Harvard-Smithsonian Center for Astrophysics, ²INAF, ³University of Texas at Austin

412.04 Origin of Lyman Alpha Photons in High-Redshift Galaxies
Author(s): Vivian U¹, Shoubaneh Hemmati¹, Bahram Mobasher¹, Behnam Darvish¹, Hooshang Nayyeri¹
Institution(s): ¹UC Riverside

412.05 High-Redshift Results from the First Half of the Frontier Fields Program
Author(s): Dan A. Coe², Larry D. Bradley², Adi Zitrin¹
Institution(s): ¹Caltech, ²STScI
412.06 Do Massive Galaxies at z~6 Present a Challenge for Hierarchical Merging?
Author(s): Charles L. Steinhardt1, Peter L. Capak1, Daniel Masters1, Josh S Speagle2
Institution(s): 1 Caltech, 2 Harvard
Contributing team(s): SPLASH

413 Instrumentation: Space Missions -Ground Based or Airborne III

Thursday, 10:00 am - 11:30 am; 612
Chair(s): Robin Stebbins (NASA GSFC)

413.01 Observing the Sun with ALMA: A New Window into Solar Physics
Author(s): Timothy S. Bastian2, Masumi Shimojo1, Sven Wedemeyer-Bohm3
Institution(s): 1 NAOJ, 2 NRAO, 3 University of Oslo
Contributing team(s): the ALMA North American Solar Development Team

413.02 Observation strategies with the Fermi Gamma-ray Space Telescope
Author(s): Julie E. McEnery1
Institution(s): 1 NASA’s GSFC
Contributing team(s): Fermi mission teams

413.03 The IMACS Occultation Survey for KBOs
Author(s): Matthew John Payne1, Matthew J. Holman1, Charles Alcock1, Hilke Schlichting1, David J. Osip1, Federica Bianco1, Ruth Murray-Clay1, Pavlos Protopapas1, Paul Nulsen1, Ian Thompson1
Institution(s): 1 Harvard-Smithsonian Center for Astrophysics

413.04 The Dark Energy Spectroscopic Instrument (DESI): Instrument Design
Author(s): Claire Poppett1
Institution(s): 1 Lawrence Berkeley National Lab
Contributing team(s): the DESI collaboration

413.05 SuperHERO: The Next Generation Hard X-Ray Focusing Telescope
Institution(s): 1 MIT Kavli Institute for Astrophysics, 2 NASA Goddard Space Flight Center, 3 NASA Marshall Space Flight Center, 4 NASA Wallops Flight Facility, 5 Rutherford Appleton Laboratory, 6 Universities Space Research Association

413.06D The Adaptive Optics Lucky Imager: Diffraction limited imaging at visible wavelengths with large ground-based telescopes
Author(s): Jonathan Crass5, Craig Mackay2, David King2, Rafael Rebolo-López3, Lucas Labadie1, Marta Puga3, Alejandro Oscoz3, Victor González Escalera3, Antonio Pérez Garrido4, Roberto López3, Jorge Pérez-Prieto4, Luis Rodríguez-Ramos3, Sergio Velasco3, Isidro Villó4
Institution(s): 1 I. Physikalisches Institut, Universität zu Köln, 2 Institute of Astronomy, University of Cambridge, 3 Instituto de Astrofisica de Canarias, 4 Universidad Politecnica de Cartagena, 5 University of Notre Dame
413.07D On-sky validation of an optimal LQG control with vibration mitigation: from the CANARY Multi-Object Adaptive Optics demonstrator to the Gemini Multi-Conjugated Adaptive Optics facility.

Author(s): Gaetano Sivo

Institution(s): 1. Gemini South Observatory


414 Young Stellar Objects, Very Young Stars, T-Tauri Stars, H-H Objects

Thursday, 10:00 am - 11:30 am; 615

Chair(s): Andrea Dupree (SAO)

414.01 The Serpens South Protocluster Core as Viewed by SOFIA/FORCAST

Author(s): Tracy L. Huard1, Marc W. Pound1, Lee G. Mundy1

Institution(s): 1. Univ. of Maryland

414.02D Using He I λ10830 to Diagnose Mass Flows Around Herbig Ae/Be Stars

Author(s): Paul W. Cauley2, Christopher M. Johns-Krull1

Institution(s): 1. Rice University, 2. Wesleyan University

414.03 Recollimation boundary layers as X-ray sources in young stellar jets

Author(s): Hans Moritz Guenther2, Zhi-Yun Li3, Peter C Schneider1

Institution(s): 1. Hamburger Sternwarte, 2. MIT, 3. University of Virginia

414.04D A Study of Galactic Ring-Shaped HII Regions: Searching For Possible Sites of Triggered Star Formation

Author(s): Sung-Ju Kang1, Charles R. Kerton1

Institution(s): 1. Iowa State University

414.05D New Exozodi and Asteroid Belt Analogs using WISE

Author(s): Rahul Patel1, Stanimir Metchev2, Aren Heinze1

Institution(s): 1. SUNY Stony Brook, 2. University of Western Ontario

415 Binaries - Stellar

Thursday, 10:00 am - 11:30 am; 620

Chair(s): Donald Hoard (Eureka Scientific, Inc.)

415.01 A Joint Approach to the Study of S-Type and P-Type Habitable Zones in Binary Systems: New Results in the View of 3-D Planetary Climate Models

Author(s): Manfred Cuntz1

Institution(s): 1. Univ. of Texas at Arlington
415.03D The Binary INformation from Open Clusters using SEDs (BINOCS) Project: Radial Migration of Binary Systems in Open Clusters
Author(s): Benjamin A. Thompson¹, Peter M. Frinchaboy²
Institution(s): ¹ Texas Christian University

415.04 Observations and Analysis of a Newly Discovered Binary Star in the Hercules Constellation
Author(s): W. Lee Powell¹
Institution(s): ¹ University of Nebraska Kearney

415.05 A prediction of a luminous red nova eruption
Author(s): Lawrence A. Molnar², Daniel M. Van Noord², Steven D. Steenwyk², Chris J. Spedden², Karen Kinemuchi³
Institution(s): ² Apache Point Observatory, ³ Calvin College

415.06 A triple eclipsing system as a test case for close binary formation through Kozai cycles
Author(s): Kyle E. Conroy¹, Andrej Prsa², Keivan Stassun¹
Institution(s): ¹ Vanderbilt University, ² Villanova University

415.07 Fundamental Parameters of Kepler Eclipsing Binary KIC 5738698
Author(s): Rachel A. Matson¹, Douglas R. Gies¹, Zhao Guo¹
Institution(s): ¹ GSU

415.08 Ages of Red Giants from Asteroseismology
Author(s): Jean McKeever¹, Patrick Gaulme¹, Meredith L. Rawls¹, Jason Jackiewicz¹
Institution(s): ¹ New Mexico State University

416 Plenary Talk: Alma Presents a Transformational View of the Universe
Thursday, 11:40 am - 12:30 pm; 6E
Chair(s): Paula Szkody (Univ. of Washington)

416.01 ALMA Presents a Transformational View of the Universe
Author(s): Al Wootten¹
Institution(s): ¹ NRAO
Career Hour 6: Negotiation Strategy and Tactics
Thursday, 12:30 pm - 1:30 pm; 618/619
Did you know that the salary of your very first job after graduation or your postdoc determines your salaries for the rest of your life? Learn how to create a win-win situation and negotiate right from start to finish in the job decision process. Clarifying your needs and wants, and those of the other party are key. The negotiation skills you learn are valuable in that they can be applied to any situation in your professional (and even personal) life.
Organizer(s): Alaina Levine (Quantum Success Solutions)

417 Hubble Space Telescope Town Hall
Thursday, 12:45 pm - 1:45 pm; 6E
The Hubble Space Telescope is nearing 25 years in space. With more than 12,000 papers based on Hubble data appearing in the refereed scientific literature, and nearly half a million citations to those papers, Hubble is arguably the most scientifically productive observatory of all time. Throughout its storied history, Hubble has profoundly transformed our understanding of the universe, inspired generations of students, rewritten textbooks, infiltrated popular culture, and become synonymous with NASA space science. The observatory is in excellent health and more powerful than ever. Planning for Hubble’s remaining years is underway, with a goal of at least one year of observational overlap with the James Webb Space Telescope, which will commence science operations in mid-2019. This town hall will feature a pair of short talks outlining a “Hubble 2020 vision” and key observing initiatives that are either underway or planned for the coming years. We will be seeking community input on this vision and these observing initiatives. There will be ample time available for audience questions and comments.
Chair(s): Kenneth Sembach (STScI)

418 Galaxy Clusters IV
Thursday, 2:00 pm - 3:30 pm; 6A
Chair(s): Eric Perlman (Florida Institute of Technology)

418.01 3C320: Second Cousin of Cygnus A
Author(s): D. E. Harris, Martin Hardcastle, C. C. Cheung, J. Croston, F. Massaro, Paul Nulsen, L. Stawarz

418.02D Radio Galaxies in Galaxy Clusters: Feedback, Merger Signatures, and Signposts
Author(s): Rachel Paterno-Mahler, Elizabeth L. Blanton, Scott W. Randall, Felipe Andrade-Santos, Matthew Ashby, Mark Brodwin, Esra Bulbul, Tracy E. Clarke, Emmet Golden-Marx, Ryan Johnson, Christine Jones, Stephen S. Murray, Joshua Wing
418.03 The Abundance of Large Arcs From CLASH
Author(s): Bingxiao Xu1, Marc Postman3, Massimo Meneghetti1, Dan A. Coe3
Institution(s): 1 Jet Propulsion Laboratory, California Institute of Technology, 2 Johns Hopkins University, 3 Space Telescope Science Institute
Contributing team(s): CLASH team

418.04D High Resolution Cluster Pressure Profile Measurements with MUSTANG and Bolocam
Author(s): Charles Romero5, Brian S. Mason2, Jack Sayers1, Alexander Young6, Simon Dicker1, Tony Mroczkowski3, Erik D. Reese4, Craig L. Sarazin5, Nicole G. Czekan1, Mark J. Devlin6, Phillip Korngut1
Institution(s): 1 California Institute of Technology, 2 National Radio Astronomy Observatory, 3 Naval Research Laboratory, 4 University of Pennsylvania, 5 University of Virginia

418.05 Star Formation Histories in CLASH Brightest Cluster Galaxies
Author(s): Kevin Fogarty1, Marc Postman4, Megan Donahue2, John Moustakas3, Thomas Connor4
Institution(s): 1 Johns Hopkins University, 2 Michigan State University, 3 Siena College, 4 Space Telescope Science Institute
Contributing team(s): CLASH Science Team

418.06D Environment and Star Formation Activity in Galaxies out to z~3
Author(s): Behnam Darvish1, Bahram Mobasher1
Institution(s): 1 University of California, Riverside
Contributing team(s): the COSMOS science team, the HiZELS science team

419 Large Scale Structure, Cosmic Distance Scale II

Thursday, 2:00 pm - 3:30 pm; 610
Chair(s): Ramin Skibba (University of California, San Diego)

419.01D The Very Small Scale Clustering of SDSS-II and SDSS-III Galaxies
Author(s): Jennifer Piscione3
Institution(s): 1 Vanderbilt University

419.02 A Geometric Distance to the Megamaser Galaxy NGC 5765b by the Megamaser Cosmology Project
Author(s): Feng Gao5, James A. Braatz5, Mark J. Reid2, Fred K.Y. Lo5, James J. Condon4, Christian Henkel5, Cheng-Yu Kuo1, Caterina Impellizzeri5, Dom Pesce6, Wei Zhao5
Institution(s): 1 Academia Sinica Institute of Astronomy and Astrophysics, 2 Harvard-Smithsonian Center for Astrophysics, 3 Max-Planck Institut fur Radioastronomie, 4 NRAO, 5 Shanghai Astronomical Observatory, 6 University of Virginia

419.03D Modeling Large Scale Structure from Photometric Galaxy Surveys
Author(s): Yiran Wang1, Robert Brunner1
Institution(s): 1 University of Illinois at Urbana-Champaign
419.04 Comparing the 2MTF and 6dFGS Peculiar Velocity Surveys to models from redshift surveys  
Author(s): Christopher M. Springob, Tao Hong, Christina Magoulas, Matthew Colless, Lister Staveley-Smith, Pirin Erdogdu, D. Heath Jones, John R. Lucey, Karen Masters, Jeremy R. Mould, Tom Jarrett, Baerbel Koribalski, Lucas M. Macri, Morag Scrimgeour  

419.05D The Evolution of Baryons in Cosmic Large Scale Structure  
Author(s): Ali Snedden, Lara Arielle Phillips, Grant James Mathews, Jared Coughlin, In-Saeng Suh, Aparna Bhattacharya  
Institution(s): 1. University of Notre Dame

419.06 Accurate Modeling of Galaxy Clustering on Small Scales: Testing the Standard $\Lambda$CDM + Halo Model  
Author(s): Manodeep Sinha, Andreas A. Berlind, Cameron McBride, Roman Scoccimarro  
Institution(s): 1. CfA, 2. NYU, 3. Vanderbilt University

420 Extrasolar Planets: Binarity, Multiplicity and Moons

Thursday, 2:00 pm - 3:30 pm; 616/617

Chair(s): Laura Schaefer (Washington Univ.)

420.01D Detailed Chemical Abundances of Planet-Hosting Wide Binary Systems  
Author(s): Claude E. Mack, Simon C. Schuler, Keivan Stassun, Joshua Pepper  
Institution(s): 1. Lehigh University, 2. University of Tampa, 3. Vanderbilt University

420.02 The Occurrence of Compact Multiple Exoplanetary Systems Orbiting Mid-M Dwarf Stars  
Author(s): Philip Steven Muirhead, Andrew W Mann, Andrew Vanderburg, Timothy D Morton, Adam L. Kraus, Michael J Ireland, Jonathan J Swift, Gregory A. Feiden, Eric Gaidos, J. Zachary Gazak  
Institution(s): 1. Australian National University, 2. Boston University, 3. California Institute of Technology, 4. Harvard University, 5. Princeton University, 6. The University of Texas at Austin, 7. University of Hawai‘i at Manoa, 8. Uppsala University

420.03 Multiplicity of Planets Among the Kepler M Dwarfs  
Author(s): Sarah Ballard, John Johnson  
Institution(s): 1. Harvard University, 2. University of Washington

420.04 Planet Formation in Binary Stars  
Author(s): Ji Wang  
Institution(s): 1. YALE UNIVERSITY
420.05 Friends of hot Jupiters II: No correspondence between hot Jupiter spin-orbit misalignment and the incidence of directly imaged stellar companions

Author(s): Henry Ngo, Heather A. Knutson, Sasha Hinkley, Justin R. Crepp, Eric B. Bechter, Konstantin Batygin, Andrew W. Howard, John A. Johnson, Timothy D. Morton, Philip Steven Muirhead


420.06 Constraints on planet formation from Kepler’s multiple planet systems

Author(s): Elisa V. Quintana

Institution(s): 1. NASA Ames Research Center

420.08 The Hunt for Exomoons with Kepler (HEK) Project: A Survey of 40 New Planetary Candidates for Moons

Author(s): David M. Kipping, Chelsea Huang, Guillermo Torres, Lars A Buchhave, David Nesvorny, Gaspar Bakos, Joel Hartman, Allan Schmitt


421 Optical and radio pulsars

Thursday, 2:00 pm - 3:30 pm; 618/619

Chair(s): Walid Majid (JPL/Caltech)

421.01 Discovery of Optical Circular Polarization of the Crab Pulsar

Author(s): Sloane Wiktorowicz, Enrico Ramirez-Ruiz, Rainer M. E. Illing, Larissa Nofi


421.02D One Does Not Simply Model Radio Polarization of Pulsars (and Connect It to Data)

Author(s): Helen Craig

Institution(s): 1. Stanford University

421.03 Pulsar Observations Using the First Station of the Long Wavelength Array

Author(s): Kevin Stovall, Paul Demorest, Paul S. Ray, Jayce Dowell, Frank Schinzel, Gregory B. Taylor

Institution(s): 1. NRAO, 2. NRL, 3. University of New Mexico

421.04D Emission and rotational variability in pulsars.

Author(s): Paul Brook

Institution(s): 1. University of Oxford

421.05 Low Frequency Study of Rotating Radio Transients

Author(s): Michael McCrackan, Rossina B. Miller, Kevin Stovall, Maura McLaughlin, Gregory B. Taylor

Institution(s): 1. University of New Mexico, 2. West Virginia University
421.06 Observing Rats, Giants, and Ghosts below 100 MHz with the LWA
Author(s): Gregory B. Taylor¹, Michael J. McCracken², Tarraneh Eftekharī¹, Kenneth Obenberger¹, Jayce Dowell¹, Kevin Stovall¹
Institution(s): ¹ Univ. of New Mexico

422 Catalogs/Surveys/Computation - High Energy, Large Data, and Classification
Thursday, 2:00 pm - 3:30 pm; 606
Chair(s): Stanislav G. Djorgovski (Caltech)

422.01 New constraints on the 2-10 keV X-ray luminosity function from the Chandra COSMOS Legacy Survey
Author(s): Stefano Marchesi³, Francesca M. Civano³, Martin Elvis², C. Megan Urry³, Andrea Comastri¹
Institution(s): ¹ INAF-OABO, ² SAO - Smithsonian Astrophysical Observatory, ³ Yale University
Contributing team(s): the Chandra COSMOS Legacy Team

422.02 The Fermi Large Area Telescope Third Gamma-ray Source Catalog
Author(s): Thomas E. Stephens², Jean Ballet³, Toby Burnett³, Elisabetta Cavazzuti¹, Seth William Digel⁴
Institution(s): ¹ Agenzia Spaziale Italiana Science Data Center, ² Brigham Young University, ³ Laboratoire AIM, Saclay, ⁴ SLAC National Accelerator Laboratory
Contributing team(s): Fermi LAT Collaboration

422.03 A Catalog of Fermi-LAT Sources Detected above 50 GeV
Author(s): Alberto Dominguez², Marco Ajello², Dario Gasparrini³, Sara Cutini³
Institution(s): ² ASI Science Data Center, ³ Clemson University
Contributing team(s): on behalf of the Fermi-LAT collaboration

422.04D Managing Astronomy Research Data: Case Studies of Big and Small Research Projects
Author(s): Ashley E. Sands¹
Institution(s): ¹ UCLA

422.05 Effects of the Earth’s atmosphere and human neural processing of light on the apparent colors of stars
Author(s): Michael Savino¹, Neil Francis Comins¹
Institution(s): ¹ University of Maine

422.06 Fast and accurate probability density estimation in large high dimensional astronomical datasets
Author(s): Pramod Gupta¹, Andrew J. Connolly¹, Jeffrey P. Gardner¹
Institution(s): ¹ Department of Astronomy, University of Washington

422.07 FERRE: A Code for Spectroscopic Analysis
Author(s): Carlos Allende-Prieto¹
Institution(s): ¹ Instituto de Astrofísica de Canarias
Contributing team(s): APOGEE Team
Bayesian Model Selection in ‘Big Data’ Spectral Analysis

Author(s): Travis C. Fischer, D. Michael Crenshaw, Fabien Baron, Brian K. Kloppenborg, Crystal L Pope

Institution(s): 1, Georgia State University

423 Extrasolar Planets: Imaging and Detection Strategies

Thursday, 2:00 pm - 3:30 pm; 607

Chair(s): Steve Bryson (NASA Ames Research Center)

Searching For Planets in “Holey Debris Disks”

Author(s): Tiffany Meshkat, Vanessa P. Bailey, Kate Y.L. Su, Matthew A. Kenworthy, Eric E. Mamajek, Philip Hinz, Paul S. Smith

Institution(s): 1, Leiden University, 2, University of Arizona, 3, University of Rochester

Exploring Planetary System Evolution Through High-Contrast Imaging

Author(s): Thomas Esposito, Michael P. FitzGerald, Paul Kalas, James R. Graham, Max Millar-Blanchaer

Institution(s): 1, U. Toronto, 2, UC, Berkeley, 3, UCLA

Contributing team(s): GPIES team

The Gemini Planet Imager


Institution(s): 1, AMNH, 2, Arizona State, 3, Cornell, 4, Gemini Observatory, 5, LLNL, 6, NASA/Ames, 7, NASA/JPL, 8, NRC, 9, Princeton, 10, SETI Institute, 11, Stanford, 12, STScI, 13, U. Montreal, 14, UC, Berkeley, 15, UCLA, 16, UCSC, 17, University of Arizona, 18, University of Georgia, 19, University of Toronto

Contributing team(s): GPI/GPIES team

Managing the wavefront for exoplanet imaging with a space coronagraph

Author(s): John T. Trauger, Dwight Moody, John Krist, Brian Gordon

Institution(s): 1, JPL
423.05 Data reduction and astrometric calibration of a starshade test using real starlight
Author(s): Ian J.E. Jordan2, Paul Henze4, Webster C. Cash3, Remi Soummer1,
Michael W. Regan1
Institution(s): 1 Association of Universities for Research in Astronomy,
2 Computer Sciences Corporation, 3 University of Colorado, 4 Westminster
Astronomical Society
Contributing team(s): Westminster Astronomical Society, New Worlds

423.06 Science Yield Modeling for the WFIRST-AFTA Coronagraph
Author(s): Dmitry Savransky1, Aastha Acharya1, Bruce Macintosh3, Neil Gehrels2
Institution(s): 1 Cornell University, 2 NASA GSFC, 3 Stanford University

423.07 Transiting Planets with LSST: Assessing the Potential for LSST Exoplanet
Detection
Author(s): Michael Lund2, Joshua Pepper1, Keivan Stassun2, Savannah Jacklin3
Institution(s): 1 Lehigh University, 2 Vanderbilt University, 3 Villanova University

424 Formal and Informal Education II
Thursday, 2:00 pm - 3:30 pm; 608
Chair(s): Jay Pasachoff (Williams College)

424.01 Partial Restoration of Public Education and Outreach at the Dominion
Astrophysical Observatory
Author(s): James E. Hesser1
Institution(s): 1 NRC Herzberg Astronomy and Astrophysics

424.02 The Air Force Academy’s Falcon Telescope Network: An Educational and
Research Network for K-12 and Higher Education
Author(s): Francis Chun2, Roger Tippets2, Devin J. Della-Rose2, Daniel
Polsgrove2, Kimberlee Gresham2, David A. Barnaby1
Institution(s): 1 Air Force Research Laboratory, 2 US Air Force Academy

424.03 World’s Most Advanced PlanetariumOpens; University Partners Sought
Author(s): Douglas K. Duncan1
Institution(s): 1 Univ. of Colorado

424.04 Einstein’s Symphony: A Gravitational Wave Voyage Through Space and Time
Author(s): Joey Shapiro Key2, Nico Yunes1, Irene Grimberg1
Institution(s): 1 Montana State University, 2 University of Texas at Brownsville

424.05 The National Astronomy Consortium (NAC) - Overview
Author(s): Kartik Sheth1, Elisabeth A.C. Mills1, Eric Hooper2
Institution(s): 1 NRAO, 2 University of Wisconsin
Contributing team(s): The National Astronomy Consortium

424.06 Mentoring Undergraduate Students through the Space Shuttle Hitchhiker
GoldHELOX Project
Author(s): J. Ward Moody1, Jonathan Barnes2, Peter Roming3, Dallin Durfee4,
Branton Campbell1, Steve Turley1, Paul Eastman3
Institution(s): 1 Brigham Young Univ., 2 Salt Lake Community College, 3 SwRI
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424.07 Mentoring Student Scientists
Author(s): James Armstrong¹, Mary Ann Kadooka¹, Michael A. Nassir¹
Institution(s): ¹ University of Hawaii

424.08 Teaching Astronomy with Technology
Author(s): Carmen Austin¹, Chris David Impey¹, Matthew Wenger¹
Institution(s): ¹ University of Arizona

424.09 A New Comprehensive Final Exam
Author(s): Suketu P. Bhavsar¹
Institution(s): ¹ Cal Poly Pomona

425 Starburst Galaxies II
Thursday, 2:00 pm - 3:30 pm; 609
Chair(s): Gerhardt Meurer (University of Western Australia)

425.01 A New Interpretation for the Variation in Starburst Galaxy Emission Line Spectra
Author(s): Chris T. Richardson², James T Allen⁵, Jack A. Baldwin³, Paul C Hewett¹, Gary J. Ferland⁴, Helen Meskhidze²
Institution(s): ¹ Cambridge University, ² Elon University, ³ Michigan State University, ⁴ University of Kentucky, ⁵ University of Sydney

425.02D Hot galactic winds constrained by the X-ray luminosities of galaxies and cool cloud acceleration and destruction in hot winds
Author(s): Dong Zhang², Todd A. Thompson², Norman W. Murray¹, Eliot Quataert³
Institution(s): ¹ CITA, ² The Ohio State University, ³ UCBerkeley

425.03 Broadband Spectral Modeling of NGC 253 from Hard X-rays to TeV Gamma Rays
Author(s): Tonia M. Venters⁷, Daniel R. Wik⁶, Bret Lehmer⁶, Ann E. Hornschemeier⁷, Mihoko Yukita⁶, Andrew Ptak¹, Andreas Zezas¹², Vallia Antoniou¹, Megan Argo¹, Keith Bechtol¹¹, Steven E. Boggs¹⁰, Finn Christensen⁸, William W. Craig¹⁰, Charles James Hailey³, Fiona Harrison², Roman Krivonos¹⁰, Thomas J. Maccarone⁹, Daniel Stern⁵, William Zhang⁷
Institution(s): ¹ ASTRON, ² Caltech, ³ Columbia University, ⁴ Harvard-Smithsonian Center for Astrophysics, ⁵ Jet Propulsion Laboratory, ⁶ Johns Hopkins University, ⁷ NASA Goddard Space Flight Center, ⁸ Technical University of Denmark, ⁹ Texas Tech University, ¹⁰ UC Berkeley, ¹¹ University of Chicago, ¹² University of Crete

425.05 X-raying metal-poor starburst galaxies: Evidence of an overabundance of luminous X-ray binaries
Author(s): Antara Basu-Zych², Bret Lehmer¹, Ann E. Hornschemeier², Andrew Ptak², Mihoko Yukita¹, Andreas Zezas³
Institution(s): ¹ Johns Hopkins University, ² NASA Goddard Space Flight Center, ³ Smithsonian Astrophysical Observatory
425.06 Extragalactic X-ray binaries from 0.5-30 keV with Chandra and NuSTAR  
Author(s): Ann E. Hornschemeier\textsuperscript{4}, Bret Lehmer\textsuperscript{4}, Mihoko Yukita\textsuperscript{4}, Daniel R. Wik\textsuperscript{4}, Andrew Ptak\textsuperscript{4}, Joshua Tyler\textsuperscript{4}, Andreas Zezas\textsuperscript{4}, Tom Maccarone\textsuperscript{4}, Tonia M. Venters\textsuperscript{4}, Keith Bechtol\textsuperscript{4}, Megan Argo\textsuperscript{1}, Fiona Harrison\textsuperscript{1}, Daniel Stern\textsuperscript{7}  
Institution(s): \textsuperscript{1} Caltech, \textsuperscript{2} CUA, \textsuperscript{3} JBCA, \textsuperscript{4} JHU, \textsuperscript{5} KICP, \textsuperscript{6} NASA GSFC, \textsuperscript{7} NASA JPL, \textsuperscript{8} SAO, \textsuperscript{9} Texas Tech  
Contributing team(s): NuSTAR team

426.01 Galaxy Zoo: Are Bars Responsible for the Feeding of Active Galactic Nuclei at 0.2 < z < 1.0?  
Author(s): Edmond Cheung\textsuperscript{5}, Jonathan Trump\textsuperscript{7}, Lia Athanassoula\textsuperscript{6}, Steven Bamford\textsuperscript{1}, Eric F. Bell\textsuperscript{1}, Albert Bosma\textsuperscript{6}, Caroline N. Cardamone\textsuperscript{1}, Kevin Casteels\textsuperscript{8}, Sandra M. Faber\textsuperscript{9}, Jerome J. Fang\textsuperscript{9}, Lucy Fortson\textsuperscript{11}, Dale Kocevski\textsuperscript{3}, David C. Koo\textsuperscript{9}, Seppo J. Laine\textsuperscript{5}, Chris Lintott\textsuperscript{13}, Karen Masters\textsuperscript{14}, Tom Melvin\textsuperscript{14}, Robert Nichol\textsuperscript{14}, Kevin Schawinski\textsuperscript{4}, Brooke D Simmons\textsuperscript{13}, Rebecca Smethurst\textsuperscript{5}, Edmond Cheung\textsuperscript{2}, Robert Nichol\textsuperscript{6}, Kevin Schawinski\textsuperscript{1}  
Institution(s): \textsuperscript{1} Brown University, \textsuperscript{2} Caltech, \textsuperscript{3} Colby University, \textsuperscript{4} ETH Zurich, \textsuperscript{5} Kavli Institute for the Physics and Mathematics of the Universe, \textsuperscript{6} Marseille University, \textsuperscript{7} Penn State, \textsuperscript{8} Universitat de Barcelona, \textsuperscript{9} University of California Santa Cruz, \textsuperscript{10} University of Michigan, \textsuperscript{11} University of Minnesota, \textsuperscript{12} University of Nottingham, \textsuperscript{13} University of Oxford, \textsuperscript{14} University of Portsmouth  
Contributing team(s): Galaxy Zoo, AEGIS, COSMOS, GOODS

426.02 First Results from Galaxy Zoo CANDELS: The Settling of Galactic Disks from 0.5 < z < 2  
Author(s): Brooke Simmons\textsuperscript{5}, Tom Melvin\textsuperscript{5}, Chris Lintott\textsuperscript{5}, Karen Masters\textsuperscript{6}, Kyle Willett\textsuperscript{4}, William C. Keel\textsuperscript{3}, Rebecca Smethurst\textsuperscript{5}, Edmond Cheung\textsuperscript{2}, Robert Nichol\textsuperscript{6}, Kevin Schawinski\textsuperscript{1}  
Institution(s): \textsuperscript{1} ETH Zurich, \textsuperscript{2} KIPMU, \textsuperscript{3} University of Alabama, \textsuperscript{4} University of Minnesota, \textsuperscript{5} University of Oxford, \textsuperscript{6} University of Portsmouth  
Contributing team(s): Galaxy Zoo, CANDELS

426.03 D Secular evolution in action: unravelling the nature of bars and bulges  
Author(s): Marja Kristin Seidel\textsuperscript{1}, Jesus Falcon Barroso\textsuperscript{1}  
Institution(s): \textsuperscript{1} Instituto de Astrofísica de Canarias

426.04 The rest-frame optical morphology of starburst galaxies at 1 < z < 3.5  
Author(s): Bomee Lee\textsuperscript{1}, Mauro Giavalisco\textsuperscript{1}  
Institution(s): \textsuperscript{1} University of Massachusetts at Amherst  
Contributing team(s): CANDELS, GOODS-Herschel
**THURSDAY, 8 JANUARY 2015**

426.06 The formation and evolution of clumpy galaxies from $z=3$ to $z=0.5$

*Author(s): Yicheng Guo*¹, Henry Closson Ferguson², Eric F. Bell³, Christopher Conselice⁴, David C. Koo⁵, Swara Ravindranath², Mauro Giavalisco⁶, Avishai Dekel¹, Sandra M. Faber³, Joel R. Primack⁴, Nir Mandelker¹

*Institution(s): ¹ Hebrew University of Jerusalem, ² STScI, ³ UCO/Lick Observatory, ⁴ UCSC, ⁵ Univ. of Nottingham, ⁶ University of Massachusetts, ⁷ University of Michigan*

**Contributing team(s): CANDELS**

426.07 Decoding the Astrophysical Properties of Galaxies: the SAMI Galaxy Survey at 1000 Galaxies

*Author(s): Iraklis Konstantopoulos¹, Scott Croom²*

*Institution(s): ¹ Australian Astronomical Observatory, ² Sydney Institute for Astrophysics*

**Contributing team(s): The SAMI Galaxy Survey Team**

**427 Gas Properties in & around Galaxies**

Thursday, 2:00 pm - 3:30 pm; 612

**Chair(s): Lincoln Greenhill (Harvard-Smithsonian, CfA)**

427.01 Connection Between the Circumgalactic Medium and the Atomic Hydrogen in Galaxies

*Author(s): Sanchayeeta Borthakur², Timothy Heckman², Jason Tumlinson³, Rongmon Bordoloi³, Barbara Catinella ⁴, David Schiminovich¹*

*Institution(s): ¹ Columbia University, ² Johns Hopkins University, ³ Space Telescope Science Institute, ⁴ Swinburne Institute of Technology*

427.02D Interpreting Sky-Averaged 21-cm Measurements

*Author(s): Jordan Mirocha¹*

*Institution(s): ¹ University of Colorado*

427.03D The COSMOS HI Large Extragalactic Survey (CHILES): Probing HI Across Cosmic Time

*Author(s): Ximena Fernandez¹, Jacqueline H. Van Gorkom¹, Emmanuel Momjian²*

*Institution(s): ¹ Columbia University, ² NRAO*

**Contributing team(s): CHILES Team**

427.04D The Influence of Local and Large-Scale Environment on Galaxy Gas Reservoirs in the RESOLVE Survey

*Author(s): David V Stark⁹, Sheila Kannappan⁶, Ashley Baker¹⁰, Andreas A. Berlind¹¹, Joseph Burchett⁶, Kathleen D. Eckert⁶, Jonathan Florez¹¹, Kirsten Hall¹, Martha P. Haynes², Ricardo Giovanelli², Roberto Gonzalez², David Guynn², Erik A.Hoversten², Adam K. Leroy⁶, Amanda J. Moffett⁶, Daniel J. Pisano¹², Linda C. Watson³, Lisa H. Wei¹*

*Institution(s): ¹ Atmospheric and Environmental Research, ² Cornell University, ³ Harvard-Smithsonian Center for Astrophysics, ⁴ ICRAR, ⁵ Johns Hopkins University, ⁶ NRAO, ⁷ University of Chicago, ⁸ University of Massachusetts, ⁹ University of North Carolina-Chapel Hill, ¹⁰ University of Pennsylvania, ¹¹ Vanderbilt University, ¹² West Virginia University*

**Contributing team(s): The RESOLVE Team**
427.05 COPSS: The Carbon Monoxide Power Spectrum Survey  
Author(s): Garrett K. Keating¹, Geoffrey C. Bower¹, Daniel P. Marrone³, Carl E. Heiles², David R. DeBoer²  
Institution(s): ¹ ASIAA, ² UC Berkeley, ³ University of Arizona

428 Binaries - White Dwarf, X-Ray, and Gamma-Ray

Thursday, 2:00 pm - 3:30 pm; 615

Chair(s): Daniel Wilkins (St. Mary’s University)

428.01D Constraining the Initial-Final Mass Relation with Wide Double White Dwarfs  
Author(s): Jeffrey Andrews¹, Marcel A. Agueros¹, Alex Gianninas³, Mukremin Kilic³, Saurav Dhital², Scott F. Anderson⁴  
Institution(s): ¹ Columbia University, ² Embry-Riddle Aeronautical University, ³ University of Oklahoma, ⁴ University of Washington

428.02D Accretion and Outflows in X-ray Binaries: What’s Really Going on During X-ray Quiescence  
Author(s): Rachel K.D. MacDonald¹, Charles D. Bailyn¹, Michelle Buxton¹  
Institution(s): ¹ Yale University

428.04 The Longterm Variability of 4u 1705-44---A Chaotic System?  
Author(s): Patricia T. Boyd², Rebecca Nichols¹, Alan Smale²  
Institution(s): ² Colorado State University, ³ NASA’s GSFC

428.05 Gemini Spectroscopy of Galactic Bulge Sources: A Population of Hidden Accreting Binaries Revealed?  
Author(s): Jianfeng Wu¹, Peter Jonker¹, Manuel Torres⁴, Christopher Britt⁵, Chris Johnson¹, Robert I. Hynes¹, Sandra Greiss⁷, Danny Steeghs⁷, Tom Maccarone¹, Craig O. Heinke⁶, Thomas Wevers³  
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² Louisiana State University, ³ Radboud University Nijmegen, ⁴ SRON Netherlands Institute for Space Research, ⁵ Texas Tech University, ⁶ University of Alberta, ⁷ University of Warwick

428.06 Gamma-Ray Activity from the Binary System PSR B1259-63/LS 2883 Near its 2014 Periastron Passage  
Author(s): Kent S. Wood⁴, Giuseppe Andrea Caliandro⁵, Chi C. Cheung⁴, Jian Li⁷, Jeffrey Scargle³, Diego F Torres⁵, Masha Chernyakova¹  
Institution(s): ¹ DCU, ² IEEC-CSIC, ³ NASA-Ames, ⁴ NRL, ⁵ SLAC
Contributing team(s): Fermi LAT Collaboration
429 The Andromeda Galaxy

Thursday, 2:00 pm - 3:30 pm; 620
Chair(s): Jeffrey Rich (University Of Hawaii)

429.01D Uncovering the Detailed Structure and Dynamics of Andromeda’s Complex Stellar Disk
Author(s): Claire Dorman\(^2\), Puragra Guhathakurta\(^2\), Anil Seth\(^3\), Juliane Dalcanton\(^4\), Larry Widrow\(^1\)
Institution(s): \(^1\) Queens University, \(^2\) UC Santa Cruz, \(^3\) University of Utah, \(^4\) University of Washington
Contributing team(s): SPLASH team, PHAT team

429.02 The spatially-resolved recent star formation history of M31
Author(s): Alexia Lewis\(^1\), Juliane Dalcanton\(^1\)
Institution(s): \(^1\) University of Washington
Contributing team(s): PHAT Collaboration

429.03D Andromeda Optical & Infrared Disk Survey: Stellar Populations and Mass Decomposition
Author(s): Jonathan Sick\(^5\), Stephane Courteau\(^5\), Jean-Charles Cuillandre\(^1\), Juliane Dalcanton\(^6\), Roelof S de Jong\(^3\), Michael McDonald\(^4\), R. Brent Tully\(^2\)
Institution(s): \(^1\) Canada-France-Hawaii Telescope, \(^2\) IfA, \(^3\) Leibniz Institute for Astrophysics Potsdam, \(^4\) MIT, \(^5\) Queen’s University, \(^6\) University of Washington

429.04 Constraints on the early history of formation of the Andromeda galaxy from chemical compositions of its globular clusters
Author(s): Ricardo P. Schiavon\(^2\), Nelson Caldwell\(^1\)
Institution(s): \(^1\) Harvard Center for Astrophysics, \(^2\) Liverpool John Moores University

429.05 The M31 nucleus in the mid-infrared
Author(s): Pauline Barmby\(^1\), Dimuthu Hemachandra\(^1\), Els Peeters\(^3\), Steven P. Willner\(^1\), Matthew Ashby\(^1\), Howard Alan Smith\(^1\), Karl D. Gordon\(^2\), Denise A. Smith\(^2\), Giovanni G. Fazio\(^1\)
Institution(s): \(^1\) Harvard-Smithsonian Center for Astrophysics, \(^2\) Space Telescope Science Institute, \(^3\) Univ. of Western Ontario

429.06 Three-Dimensional Self-Gravitating Schwarzschild Models of the Nucleus of M31
Author(s): Calum Brown\(^1\), John Magorrian\(^1\)
Institution(s): \(^1\) University of Oxford
430 Henry Norris Russell Lecture: A Historical and Scientific Perspective on Harvard College Observatory and CfA

Thursday, 3:40 pm - 4:30 pm; 6E

George Field (Harvard-Smithsonian CfA) - The Henry Norris Russell Lecture Award 2014

The Henry Norris Russell Lecture for 2014 is awarded to George Brooks Field “for a lifetime of contributions to our basic understanding of diffuse plasmas in the universe that continue to motivate current astronomers. As the founding director of the Harvard-Smithsonian Center for Astrophysics, he created a significant institution to advance astronomy. His visionary leadership of the 1980 decadal survey remains a landmark in science policy that brought powerful new instrumental capabilities to the astronomical community.”

Chair(s): C. Megan Urry (Yale University)

431 Lancelot M. Berkeley Prize: Cosmological Highlights from the Sloan Digital Sky Survey

Thursday, 4:30 pm - 5:20 pm; 6E

Chair(s): C. Megan Urry (Yale University)

Dr. David Weinberg (Ohio State University)

Dr. David Weinberg has been a leader in the Sloan Digital Sky Survey since its beginning, with involvement in survey strategy, as Publication Coordinator, Collaboration Spokesperson for SDSS-II and Project Scientist for SDSS-III, in addition to his primary research work on interpretation of galaxy formation and clustering. He is awarded the Berkeley Prize for his widely cited paper entitled “The Baryon Oscillation Spectroscopic Survey of SDSS-III”.

431.01 Cosmological Highlights from the Sloan Digital Sky Survey

Author(s): David H. Weinberg¹
Institution(s): ¹ Ohio State Univ.
Contributing team(s): SDSS Collaboration

Closing Reception

Thursday, 5:30 pm - 7:00 pm; Leonesa Ballroom, Grand Hyatt

Please join us as we close the 225th AAS Meeting, and say goodbye to old friends and new, with light refreshments provided.
432 AGN and Friends Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

432.01 Disk+Jet Quasars: Separating the Components with Optical/Infrared Variability
Author(s): Jennifer Kadowaki1, Matthew Arnold Malkan1
Institution(s): 1 University of California, Los Angeles (UCLA)

432.02 Can 3000 IR spectra unveil the connection between AGN and the interstellar medium of their host galaxies?
Author(s): Erini Lambrides1, Andreea Petric2, Thomas R. Geballe2, Rachel Mason2
Institution(s): 1 American Museum of Natural History, 2 Gemini Observatory

432.03 Variability in the Intrinsic UV Absorption in Mrk 279 based on HST/COS Spectra
Author(s): Benjamin R Schmachtenberger1, Jack Gabel2, D. Michael Crenshaw2, Steven B. Kraemer1
Institution(s): 1 Catholic University of America, 2 Creighton University, 3 Georgia State University

432.04 A spectral energy distribution analysis of AGN host galaxies in the Chandra-COSMOS Legacy Survey
Author(s): Hyewon Suh2, Francesca M. Civano3, Guenther Hasinger2, Martin Elvis1, Stefano Marchesi3
Institution(s): 1 Harvard-Smithsonian Center for Astrophysics, 2 Institute for Astronomy, University of Hawaii, 3 Yale University

432.05 The Remarkable Case of NGC 5252 Viewed by Chandra
Author(s): Junfeng Wang1
Institution(s): 1 Xiamen University

432.06 Optically Elusive AGN in the 3XMM Catalog and the Chandra-COSMOS field
Author(s): Estelle Pons1, Mike Watson2, Martin Elvis1, Francesca M. Civano1
Institution(s): 1 Harvard Smithsonian Center for Astrophysics, 2 University of Leicester, 3 Yale University

432.07 The Effects of Orientation on Proxies for the M-σ* Relation in Quasars
Author(s): Vikram Singh1, Michael S. Brotherton2, Jessie C. Runnoe1
Institution(s): 1 Penn State, 2 University of Wyoming

432.08 A New Method for Selecting Compton Thick AGN Above 10 keV with NuSTAR and Swift BAT
Author(s): Michael Koss1
Institution(s): 1 ETH Zurich
Contributing team(s): NuSTAR

432.09 Probing the Non-local MBH-σ Relation: Spectroscopy of Narrow-Line Seyfert 1s
Author(s): Kyle D Hiner2, Sabrina Cales4, Paula Calderon2, Ezequiel Treister2, Gabriela Canalizo3, C. Megan Urry4, Jong-Hak Woo1
Institution(s): 1 Seoul National University, 2 Universidad de Concepción, 3 University of California, Riverside, 4 Yale University

432.10 NuSTAR Detection of Multiple Reflections in NGC 1068
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Author(s): Franz E. Bauer11, Patricia Arevalo15, Poshak Gandhi12, Daniel Stern8, D. M Alexander4, Mislav Balokovic1, Steven E. Boggs13, W. Niel Brandt10, Murray Brightman1, Finn Christensen4, Andrea Comastri7, William W. Craig9, Agnese Del Moro5, Charles James Hailey8, Fiona Harrison1, Ryan C. Hickox3, Bin Luo10, Craig Markwardt6, Andrea Marinucci16, Giorgio Matt16, Jane R. Rigby6, Elizabeth Rivers1, Cristian Saez17, Ezequiel Treister14, C. Megan Urry18, William Zhang6


432.11 Characterizing the Jet Precession of Quasar 3C273 at 1.3mm with the Event Horizon Telescope

Author(s): Michael Calzadilla3, Vincent L. Fish1, Rusen Lu1, Kazunori Akiyama2, Sheperd Doeleman1

Institution(s): 1. MIT Haystack Observatory, 2. National Astronomical Observatory of Japan, 3. University of South Florida

433 Catalogs and Surveys Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

433.01 The U.S. Naval Observatory Robotic Astrometric Telescope 1st Catalog (URAT1)

Author(s): Norbert Zacharias1, Charlie T. Finch1, John P Subasavage1, Trudy Tilleman1, Mike DiVittorio1, Hugh C. Harris1, Ted Rafferty1, Gary Wieder1

Institution(s): 1. U.S. Naval Observatory

Contributing team(s): Eric Ferguson, Chris Kilian, Albert Rhodes, Mike Schultheis

433.02 The Time Domain Spectroscopic Survey: Spectroscopic Variability Investigations Within SDSS-IV/eBOSS

Author(s): Paul J. Green2, Scott F. Anderson8, Eric Morganson2, Michael Eracleous5, Yue Shen3, W. Niel Brandt6, John J. Ruan6, Sarah J. Schmidt3, Carles Badenes5, Andrew A. West1, Wenhua Ju6, Jenny E. Greene6


Contributing team(s): TDSS, PanSTARRS-1, SDSS-IV

433.03 Searching the All-WISE Data Release for Galactic Substructures

Author(s): Carl J. Grillmair1

Institution(s): 1. Caltech
THURSDAY, 8 JANUARY 2015

434 Computation, Data Handling and Other Matters Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

434.01 Spherical harmonic transit analysis with PAPER
Author(s): Jason Ling¹, Saul Aryeh Kohn¹, James E. Aguirre¹
Institution(s): ¹ University of Pennsylvania
Contributing team(s): The PAPER Collaboration

434.02 Time-domain Surveys and Data Shift: Case Study at the intermediate Palomar Transient Factory
Author(s): Umaa Rebbapragada¹, Brian Bue¹, Przemyslaw R. Wozniak²
Institution(s): ¹ Jet Propulsion Laboratory, ² Los Alamos National Laboratory

434.03 A new ultra-fast Moving Object Discovery Engine for iPTF, ZTF, and beyond
Author(s): Frank J. Masci², Adam Waszczak¹, Russ Laher², James M. Bauer²,
Thomas Allen Prince¹, George Helou², Shrinivas R. Kulkarni¹
Institution(s): ¹ Caltech, ² Caltech/IPAC

434.04 Comparing the Mass Functions of Simulated Galaxies
Author(s): Nicholas Miller², Ariyeh Maller³, M.K Ryan Joung¹, Julien Devriendt⁵,
James Bullock⁴
Institution(s): ¹ Columbia University, ² Marietta College, ³ New York City College of Technology, ⁴ University of California, Irvine, ⁵ University of Oxford

434.05 A New Laboratory for MM-/Sub-MM-Wave Characterization of Cosmic Dust Analogs
Author(s): Samuel Birsa¹, Huy Do¹, Frederick Williams¹, Lunjun Liu¹, Ryan
Schonert¹, Thushara Perera¹
Institution(s): ¹ Illinois Wesleyan University

434.06 IPAC Firefly package goes open source
Author(s): Xiuqin Wu¹, William Roby¹, Tatiana Goldina¹, Loi Ly¹
Institution(s): ¹ California Institute of Technology
Contributing team(s): IRSA IPAC

435 Dwarf and Irregular Galaxies Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

435.01 Turbulence and Star Formation in Dwarf Galaxies
Author(s): Gigja Hollyday², Deidre Ann Hunter¹
Institution(s): ¹ Lowell Observatory, ² University of Redlands
Contributing team(s): LITTLE THINGS team

435.02 The Fraction of Binaries in the Distant Dwarf Spheroidal Leo II
Author(s): Meghin E Spencer³, Mario L. Mateo⁴, Matthew G Walker¹, Edward W.
Olszewski²
Institution(s): ¹ Carnegie Mellon University, ² University of Arizona, ³ University of Michigan
436 Education and Public Outreach Thursday Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

436.01 Hubble’s 25th Anniversary: A Quarter-Century of Discovery and Inspiration
Author(s): Amber Straughn¹, Hussein Jirdeh²
Institution(s): ¹ NASA Headquarters, ² Space Telescope Science Institute

436.02 New Hubble Space Telescope Multi-Wavelength Imaging of the Eagle Nebula
Author(s): Zoltan G. Levay³, Carol A. Christian², Jennifer Mack², Lisa M. Frattare⁴, Mario Livio², Michele L. Meyett², Maximilian J. Mutchler², Keith S. Noll¹
Institution(s): ¹ NASA, ² STScI
Contributing team(s): Hubble Heritage

436.03 Development of an Interdisciplinary STEM Classroom Activity for Radio Receiver Technology
Author(s): Kristina Davis¹
Institution(s): ¹ Arizona State University

436.04 Launching Astronomy: Standards and STEM Integration (LASSI)
Author(s): Debbie French¹, Andrea C Burrows¹, Adam D. Myers¹
Institution(s): ¹ University of Wyoming

436.07 Authentic Mars Research in the High School
Author(s): Katie Kortekaas¹, Dani Leach¹
Institution(s): ¹ Lakewood High School

437 Evolution of Galaxies Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

437.01 Morphological Transformation and Star Formation Across Cosmic Time
Author(s): Tommy Wiklind¹
Institution(s): ¹ ESO
Contributing team(s): CANDELS Team

437.02 Evolution of ULIRGs Among a Mass-Complete Sample to z=1.1 with MAGES
Author(s): David Wesley Atlee¹, Buell Jannuzi², Mark Dickinson¹, Arjun Dey¹, Benjamin J. Weiner²
Institution(s): ¹ National Optical Astronomy Observatory, ² University of Arizona
Contributing team(s): The MAGES Team

437.03 Characterizing a Large-Scale Structure with a Forming Cluster at z=2.44
Author(s): Yi-Kuan Chiang², Roderik Overzier¹, Karl Gebhardt²
Institution(s): ¹ Observatorio Nacional, ² UT Austin
Contributing team(s): HETDEX collaboration

437.04 UV to FIR SED-fitting with CIGALE on Local Luminous and Ultraluminous Infrared Galaxies from the IRAS 2 Jy Redshift Survey
Author(s): Stephanie Fiorenza³, Tsutomu T Takeuchi³, Katarzyna E Malek³, Charles Liu³
Institution(s): ¹ CUNY College of Staten Island, ² CUNY Graduate Center, ³ Nagoya University
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437.05 The dwarf galaxy population of nearby galaxy clusters
Author(s): Thorsten Lisker⁶, Carolin Wittmann⁶, Mina Pak⁷, Joachim Janz⁴, Daniel Bialas⁶, Reynier Peletier², Eva Grebel⁶, Jesus Falcon Barroso¹, Elisa Toloba⁵
Institution(s): ¹ Instituto de Astrofísica de Canarias, ² Kapteyn Instituut, Rijksuniversiteit Groningen, ³ Korea University of Science & Technology (UST), ⁴ Swinburne University of Technology, ⁵ UCO/Lick Observatory, University of California, ⁶ Zentrum fuer Astronomie der Universitaet Heidelberg
Contributing team(s): SMAKCED collaboration, FOCUS collaboration

437.06 Sussing Merger Trees: The Impact of Halo Merger Trees on Galaxy Properties in a Semi-Analytic Model
Author(s): Jaehyun Lee¹, Sukyoung Yi¹
Institution(s): ¹ Yonsei University

437.07 NGC 5523: An Isolated Product of a Soft Galaxy Merger
Author(s): Leah Fulmer¹, John S. Gallagher², Zishan Xia¹
Institution(s): ¹ University of Wisconsin - Madison

437.08 The impact of feedback on merger-driven bulge growth
Author(s): Charlotte Christensen¹, Alyson Brooks²
Institution(s): ¹ Grinnell College, ² Rutgers University

437.09 Pixel-by-Pixel SED Fitting of Intermediate Redshift Galaxies
Author(s): Seth H. Cohen¹, Hwihyun Kim², Sara M. Petty³, Duncan Farrah³
Institution(s): ¹ Arizona State Univ., ² Univ. of Texas, ³ Virginia Tech

438 Extrasolar Planets Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

438.01 Determining the architecture of the Kepler-297 system using transit timing variations
Author(s): Hannah Diamond-Lowe³, Kevin B. Stevenson³, Daniel Fabrycky³, Sarah Ballard³, Eric Agol³, Jacob Bean³, Matthew J. Holman², Darin Ragozzine¹
Institution(s): ¹ Florida Institute for Technology, ² Harvard-Smithsonian Center for Astrophysics, ³ University of Chicago, ⁴ University of Washington

438.02 Validation of Twelve Small Kepler Transiting Planets in the Habitable Zone
Author(s): Douglas A. Caldwell¹⁰, Guillermo Torres⁴, David M. Kipping⁴, Sarah Ballard¹³, Natalie Batalha⁶, William J. Borucki⁶, Steve Bryson⁶, David R. Ciardi⁷, Justin R. Crepp¹², Mark Everett⁶, Francois Fressin⁴, Christopher Henze⁶, Elliott Horch¹¹, Andrew Howard⁵, Steve B. Howell⁴, Howard T. Isaacson¹, Jon Michael Jenkins⁶, Rea Kolbl¹, Geoffrey W. Marcy³, Sean D McCauliff⁹, Philip Steven Muirhead⁵, Elizabeth Newton⁴, Erik Petigura¹, Joseph D. Twicken¹⁰, Elisa V. Quintana⁶, Thomas Barclay²
Institution(s): ¹ Astronomy Department, UC Berkeley, ² Bay Area Environmental Research Corp., ³ Department of Astronomy, Boston University, ⁴ Harvard-Smithsonian Center for Astrophysics, ⁵ Institute for Astronomy, UH Manoa, ⁶ NASA Ames Research Center, ⁷ NASA Exoplanet Science Institute, ⁸ National
438.03 Multifractal structures in radial velocity measurements for exoplanets  
Author(s): Fabio Del Sordo$^1$  
Institution(s): $^1$ Yale University  
Contributing team(s): Sahil Agarwal, Debra A. Fischer, John S. Wettlaufer

438.04 Finding Circumbinary Planets via Microlensing  
Author(s): Jacob K. Luhn$^1$, Matthew Penny$^1$, B. Scott Gaudi$^1$  
Institution(s): $^1$ Ohio State University

438.05 Multiplexed Fiber Spectroscopy at Magellan: Searching for Exoplanets in Star Clusters  
Author(s): John Ira Bailey$^3$, Mario L. Mateo$^3$, Russel J. White$^2$, Jeffrey D. Crane$^1$  
Institution(s): $^1$ Carnegie Observatories, $^2$ Georgia State University, $^3$ University of Michigan

438.06 Next Generation Visible Nulling Coronagraph  
Author(s): Brian Hicks$^1$, Richard Lyon$^1$, Mark Clampin$^1$, Matthew R Bolcar$^1$, Udayan Mallik$^1$, Eric Mentzell$^1$, Peter Petrone$^2$  
Institution(s): $^1$ NASA/GSFC, $^2$ Sigma Space Corporation

438.07 First Semester Science Operations with the Gemini Planet Imager  
Author(s): Fredrik Tord Rantakyro$^1$, Pascale Hibon$^1$, Andrew Cardwell$^1$, Naru Sadakuni$^1$, Carlos Quiroz$^1$, Rene Rutten$^1$, Gaston Gausachs$^1$, Ramon Galvez$^1$  
Institution(s): $^1$ Gemini Observatory  
Contributing team(s): GPI Commissioning Team, GPIES team

438.08 Measuring the Mass of Kepler-78b Using a Gaussian Process Model  
Author(s): Samuel Kai Grunblatt$^1$, Andrew Howard$^1$, Raphaëlle Haywood$^2$  
Institution(s): $^1$ University of Hawaii-Manoa, $^2$ University of St. Andrews

438.09 Thermal Structure of WASP-43b from Phase-Resolved Emission Spectroscopy  
Author(s): Kevin B. Stevenson$^4$, Jean-Michel Desert$^4$, Michael R. Line$^1$, Jacob Bean$^3$, Jonathan J. Fortney$^1$, Adam P. Showman$^2$, Tiffany Kataria$^2$, Laura Kreidberg$^3$  
Institution(s): $^1$ UC Santa Cruz, $^2$ University of Arizona, $^3$ University of Chicago, $^4$ University of Colorado

438.10 Super earth interiors and validity of Birch’s Law for ultra-high pressure metals and ionic solids  
Author(s): Lucas Andrew Ware$^1$  
Institution(s): $^1$ Seattle University

438.11 Building massive, tightly packed planetary systems by in-situ accretion of pebbles  
Author(s): John Moriarty$^3$, Debra Fischer$^1$  
Institution(s): $^1$ Yale University
THURSDAY, 8 JANUARY 2015

439 Galaxy Clusters Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

439.02 Cooling, AGN Feedback and Star Formation in Cool-Core Galaxy Clusters
Author(s): Yuan Li², Greg Bryan¹, Mateusz Ruszkowski²
Institution(s): ¹ Columbia University, ² University of Michigan

439.03 Hot Halo Emission Detected at Outskirts of Two Poor Galaxy Groups Using Suzaku
Author(s): Jenna Nugent², Xinyu Dai², Ming Sun¹
Institution(s): ¹ University of Alabama, ² University of Oklahoma

439.04 New Limits on Gamma-Ray Emission from Galaxy Clusters
Author(s): Rhiannon Danae Griffin², Xinyu Dai², Christopher S. Kochanek¹
Institution(s): ¹ Ohio State University, ² University of Oklahoma

439.05 Examining the Center: Positions, Dominance, and Star Formation Rates of Most Massive Group Galaxies at Intermediate Redshift
Author(s): Jennifer L. Connelly⁴, Laura C. Parker³, Sean McGee⁵, John S. Mulchaey¹, Alexis Finoguenov⁶, Michael Balogh⁷, David Wilman³
Institution(s): ¹ Carnegie Institution of Washington, ² Max Planck Institute for Extraterrestrial Physics, ³ McMaster University, ⁴ Rochester Institute of Technology, ⁵ University of Birmingham, ⁶ University of Helsinki, ⁷ University of Waterloo
Contributing team(s): Group Environment Evolution Collaboration

440 Gravitational Waves Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

440.01 Computing the Influence of a Gravitational Wave on an Electromagnetic Field
Author(s): Varadarajan Srinivasan¹
Institution(s): ¹ Columbia University

440.02 Assessing the Detectability of Gravitational Waves from Coalescing Binary Black Holes with Precessing Spin
Author(s): Sara Frederick³, Stephen Privitera², Alan J. Weinstein¹
Institution(s): ¹ California Institute of Technology, ² Max Planck Institute for Gravitational Physics (Albert Einstein Institute), ³ University of Rochester
Contributing team(s): LIGO Scientific Collaboration

441 GRBs Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

441.01 Exploring biases in the measurement of Isotropic Equivalent Energies of Gamma-ray Bursts with the Fermi Telescope
Author(s): Kimberly Zoldak², Judith L. Racusin¹, Julia D. Kennefick²
Institution(s): ¹ NASA/GSFC, ² University of Arkansas
441.02 Relativistic Shear Flows and Applications to Gamma-ray Burst and Blazar Jets
Author(s): Edison P. Liang2, Markus Boettcher1, Wen Fu2, Parisa Roustazadeh1
Institution(s): 1. northwest university, 2. Rice Univ.

442 Instrumentation: Space and Ground Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

442.01 Performing Fowler Sampling and Removing Cosmic Ray Hits to Reduce Noise Numerically from Long-Infrared Detector Images
Author(s): Chelsea Lynn Jean1
Institution(s): 1 University of Rochester
Contributing team(s): Craig McMurtry, Meghan Dorn, Judy Pipher, University of Rochester

442.02 NASA Astrophysics Cosmic Origins (COR) and Physics of the Cosmos (PCOS) Strategic Technology Development Program
Author(s): Thai Pham1, Bernard D. Seery1
Institution(s): 1 NASA Astrophysics PCOS and COR

442.03 The SAPHIRA Near-Infrared Avalanche Photodiode Array: Telescope Deployments and Future Developments
Author(s): Dani Eleanor Atkinson1, Donald Hall1, Christoph Baranec1
Institution(s): 1 University of Hawai‘i

442.04 Dome Flat Stability of the Gemini South Adaptive Optics Imager (GSAOI)
Author(s): Joanna E. Thomas-Osip1, Eleazar Rodrigo Carrasco Damele1
Institution(s): 1 Gemini Observatory

442.05 Update on the Gemini High-Resolution Optical SpecTrograph (GHOST)
Author(s): Steven J. Margheim1
Institution(s): 1 Gemini Obs.
Contributing team(s): GHOST Instrument Team

442.06 Northop Grumman/Xinetics Deformable Mirrors: Enabling Reliable Advanced Imaging for 20 Years and Beyond
Author(s): Russ Matijevich1
Institution(s): 1 Northrop Grumman
Contributing team(s): Jeff Cavaco, Northrop Grumman Xinetics

443 Large Scale Structure and Cosmological Topics Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

443.01 Quantifying the statistical and systematic uncertainties in galaxy group catalogues
Author(s): Victor Calderon1, Andreas A. Berlind1, Manodeep Sinha1
Institution(s): 1 Vanderbilt University
443.02 A search for ultra-light axions using precision cosmological data
Author(s): Daniel Grin4, Renee Hlozek3, David Marsh3, Pedro Ferreira3
Institution(s): 1. Oxford University, 2. Perimeter Institute, 3. Princeton University, 4. University of Chicago

443.03 Effects of massive neutrinos on the properties of cluster scale halos
Author(s): Rahul Biswas3, Katrin Heitmann1, Salman Habib3, Adrian Pope3, Hal Finkel3, Amol Upadhye3, Nicholas Frontier4

443.04 Weak Lensing Mass Calibration of the RBC X-ray Galaxy Cluster Catalog
Author(s): Melanie Simet1, Nicholas Battaglia3, Rachel Mandelbaum3, Uros Seljak3

443.05 Radio and Gamma-Ray Monitoring of Strongly Lensed Quasars and Blazars
Author(s): Nick Rumbaugh4, Chris Fassnacht5, John McKean2, Leon Koopmans3, Matthew Auger6, Sherry Suyu1, Philip J. Marshall4

443.06 Current state of the final cosmology analysis of the Supernova Legacy Survey (SNLS)
Author(s): Patrick El-Hage1
Institution(s): 1. CNRS/IN2P3
Contributing team(s): SNLS Collaboration

443.07 Inferring the Intrinsic Ellipticity Distribution of Galaxies
Author(s): Michael Schneider2, William Dawson2, David W. Hogg3, Philip J. Marshall3, Joshua Meyers1, Deborah J. Bard3, Dustin Lang1
Institution(s): 1. CMU, 2. Lawrence Livermore Natl Lab, 3. NYU, 4. SLAC

443.08 Sensitivity of a Dark Matter Search with the Micro-X and XQC Rocket Payloads
Author(s): David Goldfinger1, Enectali Figueroa-Feliciano1, Enrico Quigro-Feliciano1, Daniel Castro1, Adam Anderson1
Institution(s): 1. Massachusetts Institute of Technology

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444 Not Quite and Brand New Stars Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

444.01 A Catalog of Low-Mass Star-Forming Cores Observed with SHARC-II at 350 μm
Author(s): Akshaya Suresh1, Hector G. Arce1, Michael Dunham1
Institution(s): 1. Yale University

444.02 A M2FS Spectroscopic Study of Low-mass Young Stars in Orion OB1
Author(s): Catherine C. Kaleida2, Cesar Briceno2, Nuria Calvet3, Mario L. Mateo4, Jesus Hernandez1
Institution(s): 1. Centro de Investigaciones de Astronomia (CIDA), 2. Cerro Tololo Inter-American Observatory, 3. University of Michigan
444.03 ClassLess: A Comprehensive Database of Young Stellar Objects
Author(s): Lynne Hillenbrand¹, Nairn Baliber¹
Institution(s): ¹ California Institute of Technology

445 Pulsars, Black Holes and Their Environments Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

445.01 Characterization of the Inner Knot of the Crab: The Site of the Gamma-ray Flares?
Author(s): Martin C. Weisskopf²
Institution(s): ² NASA/MSFC
Contributing team(s): On behalf of the Chandra/HST/Keck gamma-ray flare team

445.02 The Binary Companion of Young, Relativistic Pulsar J1906+0746
Author(s): Joeri van Leeuwen¹, Laura Kasian², Ingrid H. Stairs²
Institution(s): ¹ ASTRON, the Netherlands Institute for Radio Astronomy, ² UBC
Contributing team(s): PALFA Team

445.03 EXPLORING THE TIME EVOLUTION OF LUMINOSITY AND PULSE PROFILE IN X-RAY PULSARS.
Author(s): Silas Laycock¹, Dimitris Christodoulou⁴, Rigel Cappallo⁴, Wynn Ho⁵, Malcolm Coe⁵, Robin Corbet³, Helen Klus⁵, Demosthenes Kazanas¹, Jose Luis Galache², Samuel Fingerman⁴, Jun Yang¹, Scott Norton⁴
Institution(s): ¹ NASA/GSFC, ² Smithsonian Astrophysical Observatory, ³ UMBC, ⁴ University of Massachusetts, ⁵ University of Southampton

445.04 Calculating a Lensing Rate for the Supermassive Black Hole at the Galactic Center
Author(s): Isabel A Lipartito¹
Institution(s): ¹ University of California, Los Angeles
Contributing team(s): UCLA Galactic Center Group

445.05 SMBH Measurements and Host-Galaxy Correlations: Ellipticals, Bulges, Pseudobulges, and Composite Bulges
Author(s): Peter Erwin¹, Roberto Saglia¹, Jens Thomas¹, Michael Opitsch¹, Maximilian Fabricius¹, Nina Nowak², Ralf Bender¹, Michael John Williams¹, Ximena Mazzalay¹
Institution(s): ¹ MPE, ² Stockholm University, Dept. of Astronomy

445.06 A Highly Ordered Magnetic Field in a Crushed Pulsar Wind Nebula in G327.1-1.1
Author(s): Yik Ki Ma⁵, Chi-Yung Ng⁶, Niccolò Bucciantini², Bryan M. Gaensler⁴, Patrick O. Slane¹, Tea Temim³
Institution(s): ¹ Harvard-Smithsonian, CfA, ² INAF Osservatorio di Arcetri, ³ NASA GSFC, ⁴ The University of Sydney, ⁵ University of Hong Kong
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446 Spiral Galaxies Thursday Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

446.02 Constraints on the Efficiency of Radial Migration in Spiral Galaxies
Author(s): Kathryne J Daniel¹, Rosemary F. G. Wyse¹
Institution(s): ¹ Johns Hopkins University

446.03 Extending the Surface Brightness Profile of the Andromeda Galaxy Using Spitzer-IRAC Observations
Author(s): Masoud Rafiei Ravandi⁴, Pauline Barmby⁴, Matthew Ashby², Tim Davidge¹, Seppo J. Laine³, Jenna Zhang²
Institution(s): ¹ Dominion Astrophysical Observatory, National Research Council of Canada, ² Harvard-Smithsonian Center for Astrophysics, ³ Spitzer Science Center, California Institute of Technology, ⁴ University of Western Ontario

446.04 Evidence of Interactions or Minor Merger from Neutral Gas Observations of NGC 3521
Author(s): Christopher L. Taylor¹
Institution(s): ¹ California State Univ. Sacramento

446.05 Effects of Spiral Arms on Gaseous Structures and Mass Drift in Spiral Galaxies
Author(s): Yonghwi Kim¹, Woong-Tae Kim¹
Institution(s): ¹ Seoul National University

446.06 Nature of the Wiggle Instability of Galactic Spiral Shocks
Author(s): Woong-Tae Kim¹, Yonghwi Kim¹, Jeong-Gyu Kim¹
Institution(s): ¹ Seoul National Univ.

446.07 Can Spiral Arms Affect Star Formation in Nuclear Rings of Barred-spiral Galaxies?
Author(s): Woo-Young Seo¹, Woong-Tae Kim¹
Institution(s): ¹ Seoul National University

446.08 Short GMC lifetimes: an observational estimate with the PdBI Arcsecond Whirlpool Survey (PAWS)
Author(s): Sharon Meidt¹, Annie Hughes², Clare L. Dobbs⁵, Jerome Pety¹, Todd A. Thompson⁴, Santiago Garcia-Burillo⁶, Adam K. Leroy¹, Eva Schinnerer¹, Dario Colombo⁷, Miguel Querejeta³, Carsten Kramer¹, Karl Schuster¹, Gaelle Dumas¹
Institution(s): ¹ IRAM, ² IRAP, ³ Max Planck Institute for Astronomy, ⁴ NRAO, ⁵ OAN, ⁶ OSU, ⁷ University of Alberta, ⁸ University of Exeter

446.09 Environmental dependence of GMCs in M83
Author(s): Yusuke Fujimoto¹
Institution(s): ¹ Hokkaido University
447 Star Clusters and Associations Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

447.01 The Open Cluster NGC 6811: An Eclipsing Binary, the Turnoff, and Age
Author(s): Eric L. Sandquist^1, Jens Jessen-Hansen^1, Matthew D. Shetrone^4, Karsten Brogaard^1, Soren Melbom^2, Marika Leitner^3, Dennis Stello^6, Jerome A. Orosz^5, Frank Grundahl^1, Soren Frandsen^1
Institution(s): ^1 Aarhus University, ^2 Harvard-Smithsonian Center for Astrophysics, ^3 Humboldt State University, ^4 McDonald Observatory/University of Texas, ^5 San Diego State University, ^6 University of Sydney

447.02 The Structure and Stellar Populations of Nuclear Star Clusters in Late-type Spiral Galaxies From HST/WFC3 Imaging
Author(s): Daniel Carson^4, Aaron J. Barth^4, Anil Seth^6, Mark den Brok^6, Michele Cappelari^5, Jenny E. Greene^3, Luis C. Ho^1, Nadine Neumayer^2
Institution(s): ^1 Kavli Institute for Astronomy and Astrophysics, ^2 Max Planck Institute for Astronomy, ^3 Princeton University, ^4 University of California Irvine, ^5 University of Oxford, ^6 University of Utah

447.03 Distinguishing radio properties of the galactic and extragalactic sources towards the Orion Molecular Clouds
Author(s): Marina Kounkel^2, Lee W. Hartmann^2, Laurent Loinard^1, Gisela Ortiz-Leon^1
Institution(s): ^1 CRyA, ^2 Univ. of Michigan
Contributing team(s): Gould’s Belt Distances Survey Group

448 Starburst Galaxies Thursday Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

448.01 Probing the ISM of High-Redshift Gravitationally Lensed Dusty Star Forming Galaxies
Author(s): Gregory Walth^1
Institution(s): ^1 University of Arizona
Contributing team(s): Herschel Lensing Survey

448.02 Variations of the ISM conditions accross the Main Sequence of star forming galaxies: observations and simulations.
Author(s): Juan R. Martinez Galarza^3, Howard Alan Smith^3, Lauranne Lanz^1, Christopher C. Hayward^1, Andreas Zezas^3, Chao-Ling Hung^3, Lee Rosenthal^2, Aaron Weiner^3
Institution(s): ^1 California Institute of Technology, ^2 Haverford College, ^3 Smithsonian Astrophysical Observatory

448.03 Age dating Star Clusters in Starburst Galaxy Merger NGC3256
Author(s): Tamar Lambert-Brown^1
Institution(s): ^1 University of Maryland College Park
448.04 Probing Star Formation in the Early Universe with Far-IR Spectroscopy using ZEUS-2

Author(s): Amit Vishwas2, Carl Ferkinhoff3, Thomas Nikola2, Stephen Parshley2, Justin Paul Schoenwald4, Gordon J. Stacey2, James L. Higdon4, Sarah Higdon6, Drew Brisbin2, Aprajita Verma5, Dominik A. Riechers2, Steve Hailey-Dunsheath1, Karl Menten9, Rolf Güsten9, Axel Weiss9, Kent Irwin7, Hsiao-Mei Cho10, Michael D. Niemack2, Mark Halpern5, Mandana Amiri5, Matthew Hasselfield9, Donald V. Wiebe9, Peter A. R. Ade4, Carole E Tucker4

Institution(s): 1. California Institute of Technology, 2. Department of Astronomy, Cornell University, 3. Department of Astrophysical Sciences, Princeton University, 4. Department of Physics and Astronomy, Cardiff University, 5. Department of Physics and Astronomy, University of British Columbia, 6. Department of Physics, Georgia Southern University, 7. Department of Physics, Stanford University, 8. Department of Physics, University of Oxford, 9. Max-Planck-Institut für Radioastronomie, 10. NIST Boulder

449 Stars and Friends Posters

Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

449.01 A Detailed Spectroscopic Analysis of The EQ Pegasi System

Author(s): Joshua E. Schlieder3, Simon Murphy1, Adric R. Riedel2

Institution(s): 1. ARI/Heidelberg University, 2. CUNY/Hunter College, 3. NASA Ames Research Center

449.02 The Ages of Early-Type Stars: Strömgren Photometric Methods Calibrated, Validated, Tested, and Applied to Hosts and Prospective Hosts of Directly Imaged Exoplanets

Author(s): Trevor J. David1, Lynne Hillenbrand1

Institution(s): 1. California Institute of Technology

449.03 Time-Resolved Near-Ultraviolet Flare Spectra with the Hubble Space Telescope / Cosmic Origins Spectrograph


449.04 M-Dwarf Metallicity through Analysis of Binary Partner

Author(s): Daniel Nagasawa1, Jennifer L. Marshall1, Ting Li1

Institution(s): 1. Texas A&M University
449.05 Using PSF fitting to Identify Possible Unresolved Binary Systems in the HST Archives
Author(s): Elora N. Salway¹, Denise C. Stephens¹, Douglas B. Gardner¹
Institution(s): ¹ Brigham Young University

449.06 Identifying New Fe I Levels from Stellar Spectra
Author(s): Ruth Peterson², Robert L. Kurucz¹
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² SETI Institute

449.07 Very low-luminosity Class I/Flat outflow sources in sigma Orionis: Clues to alternative formation mechanisms for very low-mass stars
Author(s): Basmah Riaz⁴, E. Whelan², M. Thompson³, E. Vorobyov⁵, N. Lodieu¹
Institution(s): ¹ IAC, ² Uni of Tuebingen, ³ Uni. of Hertfordshire, ⁴ Uni. of Maryland, ⁵ Uni. of Vienna

449.08 The Dearth of Lithium-Rich Red Giants in Globular Clusters
Author(s): Andrew J Zhang², Evan N Kirby¹, Puragra Guhathakurta³
Institution(s): ¹ California Institute of Technology, ² The Harker School, ³ University of California, Santa Cruz

449.09 The Kepler Cluster Study: rotation period measurements for cool stars in the 2.5 billion year open cluster NGC 6819
Author(s): Soren Meibom¹, Sydney A. Barnes³, Imants Platais³, Ronald L. Gilliland⁴, David W. Latham¹, Robert D. Mathieu⁵
Institution(s): ¹ Harvard-Smithsonian, CfA, ² Johns Hopkins University, ³ Leibniz-Institute for Astrophysics, ⁴ The Pennsylvania State University, ⁵ University of Wisconsin - Madison
Contributing team(s): Kepler Science Team, Kepler Science Operations Center

449.10 Herschel Observations of Protoplanetary Disks in Lynds 1641: Far IR Constraints on the Dust Distribution
Author(s): Sierra Grant⁷, Nuria Calvet⁷, S. Thomas Megeath⁹, William J. Fischer⁸, Kyoung Hee Kim⁹, Babar Ali⁴, Laura Ingleby¹, Melissa McClure³, Wen-hsin Hsu⁷, Cesar Briceno²
Institution(s): ¹ Boston University, ² Cerro Tololo Inter-American Observatory, ³ European Southern Observatory, ⁴ NASA Herschel Science Center, ⁵ Oberlin College, ⁶ The Korea Astronomy and Space Science Institute, ⁷ University of Michigan, ⁸ University of Toledo

449.11 Ultraviolet Spectra of Star-Grazing Comets in the 49 Ceti Disk System
Author(s): Brittany E. Miles³, Aki Roberge², Barry Welsh¹
Institution(s): ¹ Eureka Scientific, ² GSFC, ³ UCLA

449.12 Investigating Star-disk Interactions During Late-stage Circumstellar Disk Evolution in the Nearby Pre-MS Stars T Cha and TWA 30
Author(s): David Principe⁷, Joel Kastner⁶, Juan Alcala³, Michael S Bessell², David Huenemoerder⁴, Giuseppe Sacco², Beate Stelzer⁴
Institution(s): ¹ Australia National University, ² INAF-Osservatorio Astrofisico di Arcetri, ³ INAF-Osservatorio Astronomico di Capodimonte, ⁴ INAF-Osservatorio Astronomico di Palermo, ⁵ MIT, ⁶ Rochester Institute of Technology, ⁷ Universidad Diego Portales
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449.13 Characterizing the Long-Term Variability of X-ray Binary 4U1705-44 Evidence for an Underlying Double-Welled Nonlinear Oscillator
Author(s): Rebecca A Phillipson-Nichols1, Patricia T. Boyd2, Alan P. Smale2
Institution(s): 1. Colorado State University, 2. NASA's Goddard Space Flight Center

449.14 A Hyper Luminous X-ray Source Catalog Based on Chandra ACIS Data
Author(s): Hang Gong1, Jifeng Liu1
Institution(s): 1. NAOC
Contributing team(s): CXC

449.15 A Multi-band Extension of the Analysis of Variance Period Finding Algorithm
Author(s): Nicholas Mondrik1, Jennifer L. Marshall1, James Long1
Institution(s): 1. Texas A&M University

449.16 High-Cadence, Long-Baseline Light Curves of Red Giant Variable Stars
Author(s): Robert Alexander Arnold2, Joshua Pepper1, Joseph E. Rodriguez3
Institution(s): 1. Lehigh University, 2. University of Central Arkansas, 3. Vanderbilt
Contributing team(s): KELT Collaboration

449.17 Deriving Precise Ages for Field White Dwarfs using Bayesian Techniques
Author(s): Aaron Webster1, Ted von Hippel1
Institution(s): 1. Embry Riddle Aeronautical University
Contributing team(s): Bayesian Analysis of Stellar Evolution (BASE)

449.18 A Comprehensive Search for Cataclysmic Variables in 47 Tucanae
Author(s): Matthew Wilde1, Michael Shara1
Institution(s): 1. American Museum of Natural History

449.19 The Spatial Distribution of Novae in M31: Bulge vs Disk Decomposition
Author(s): A. Kaur1, Dieter Hartmann1
Institution(s): 1. Clemson University

450 Supernovae Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

450.01 SN Hunt 248: a super-Eddington outburst from a massive cool hypergiant
Author(s): Jon Mauerhan4, Schuyler D. Van Dyk1, Melissa Lynn Graham4, WeiKang Zheng4, Kelsey I. Clubb4, Alexei V. Filippenko4, Stefano Valenti2, Peter Brown1, Nathan Smith5, Dale Andrew Howell5, Iair Arcavi2
Institution(s): 1. IPAC, 2. LCOGT, 3. Texas A&M, 4. UC Berkeley, 5. University of Arizona

450.02 High-resolution Studies of Charge Exchange in Supernova Remnants with Magellan, XMM-Newton, and Micro-X
Author(s): Sarah N. Heine1, Enectali Figueroa-Feliciano1, Daniel Castro1
Institution(s): 1. Massachusetts Institute of Technology

450.03 High velocity features in Type Ia supernovae via interaction with circumstellar shell
Author(s): Brian W. Mulligan1, J. Craig Wheeler1
Institution(s): 1. University of Texas at Austin
450.04 Polarized Light of SN 2014J
Author(s): Amber L. Porter¹, Mark D. Leising², Peter Milne², Grant Williams², Paul S. Smith², Nathan Smith²
Institution(s): ¹ Clemson University, ² University of Arizona

451 The ISM and Its Denizens Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

451.01 A Search for Short-Term Variability in Diffuse Interstellar Bands
Author(s): Alex Storrs¹, Stephanie McCubbin¹
Institution(s): ¹ Towson Univ.

451.02 Hydrogen Fluoride in the Local Universe
Author(s): Raquel R. Monje¹, Dariusz C. Lis¹, Thomas G. Phillips¹
Institution(s): ¹ California Institute of Technology

451.03 What the Kinematics of Molecular Clouds Signify About Their Formation
Author(s): Nia Imara¹, Leo Blitz²
Institution(s): ¹ Harvard-Smithsonian Center for Astrophysics, ² UC Berkeley

451.04 Carbon phases versus hydrogen phases: neutral gas in nearby galaxies
Author(s): Alison Faye Crocker¹, Eric Pellegrini², John-David T. Smith²
Institution(s): ¹ Reed College, ² University of Toledo
Contributing team(s): Beyond the Peak Team

451.05 The environmental dependence of far-infrared dust emissivity variations in M31
Author(s): Heddy Arab¹, Karl D. Gordon¹
Institution(s): ¹ Space Telescope Science Institute
Contributing team(s): PHAT team

451.06 TWILIGHT: A Cellular Framework for Three-Dimensional Radiative Transfer
Author(s): David Khatami², Barry Madore¹
Institution(s): ¹ Carnegie Observatories, ² Pomona College

451.07 Probing the Role of Carbon in the Interstellar Ultraviolet Extinction
Author(s): Ajay Mishra¹, Aigen Li³
Institution(s): ¹ University of Missouri-Columbia

451.08 Directly detecting exozodiacal dust and disk variability
Author(s): Nicholas J. Scott¹
Institution(s): ¹ Georgia State University/ The CHARA Array

451.09 Herschel Galactic plane survey of ionized gas traced by [NII]
Author(s): Umut Yildiz¹, Paul Goldsmith¹, Jorge Pineda¹, William Langer¹
Institution(s): ¹ Jet Propulsion Laboratory
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451.10 Herschel/PACS photometry of transiting-planet host stars with candidate warm debris disks
Author(s): David R. Ardila5, Bruno Merin2, Alvaro Ribas1, Herve Bouy1, Geoffrey Bryden3, Karl R. Stapelfeldt4, Deborah Padgett4
Institution(s): ^1 Centro de Astrobiologia, ^2 Herschel Science Centre / European Space Agency, ^3 Jet Propulsion Laboratory, ^4 NASA/Goddard Space Flight Center, ^5 The Aerospace Corporation

452 The Milky Way Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

452.01 A Green Bank Telescope 21cm survey of HI clouds in the Milky Way’s nuclear wind
Author(s): Sara Denbo1, Ryan Endsley3, Felix J. Lockman2, Alyson Ford2
Institution(s): ^1 Michigan State University, ^2 National Radio Astronomy Observatory, ^3 Washington University in St. Louis

452.02 A Python Pipeline for the Mercury N-body Code With First-Order GR Effects
Author(s): Christopher AM Wieland1, Ann-Marie Madigan1
Institution(s): ^1 University of California at Berkeley

453 The Sun and Solar System Thursday Posters
Thursday, 9:00 am - 2:00 pm; Exhibit Hall 4AB

453.01 Study of Photospheric Magnetic and Coronal Data in Solar Active Regions
Author(s): Jordan A Guerra2, Antti A Pulkkinen1, Vadim Uritsky2
Institution(s): ^1 NASA GSFC, ^2 The Catholic University of America

453.02 To the origin problem of the Moon
Author(s): Evgeny Naimi1
Institution(s): ^1 National University of Science and Technology “MISIS”

453.03 Observation of new trans-Neptunian Objects in the Dark Energy Survey Supernova Fields
Author(s): Ross Jennings1, Zhilu Zhang1, David W. Gerdes2
Institution(s): ^1 Carleton College, ^2 University of Michigan
Contributing team(s): Dark Energy Survey Collaboration

453.04 Comparative Imaging and Analysis of the Auroral Morphology of Ganymede
Author(s): Lucia A Perez1
Institution(s): ^1 Wellesley College

453.05 A Diversity of Dust Properties in Oort Cloud Comets
Author(s): Michael S. Kelley8, Charles E. Woodward5, David Emerson Harker5, Diane H. Wooden1, Michael L. Sitko2, Ray W. Russell³, Daryl L. Kim³
Institution(s): ^1 NASA Ames Research Center, ^2 Space Science Institute, ^3 The Aerospace Corporation, ^4 UC, San Diego, ^5 Univ. of Maryland, ^6 Univ. of Minnesota
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<tr>
<td>Zucker, Daniel B.</td>
<td>102.06</td>
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<td>Zuckerman, Ben M.</td>
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<td>ZuHone, John A.</td>
<td>252.05, 338.34</td>
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<td>Zuluaga, Carlos A.</td>
<td>137.15</td>
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<td>Zuluaga, Jorge I.</td>
<td>260.04</td>
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<td>Zweibel, Ellen Gould.</td>
<td>143.38, 250.23, 411.07</td>
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Apogee has been manufacturing and supplying cooled CCD cameras to astronomers around the world since it was founded in 1993.

Apogee’s Alta camera series is designed to offer a broad range of sensor options attractive to the Astronomy community. The new Aspen and Ascent cameras further extends the Apogee portfolio providing higher performance and better affordability.

In 2013 Apogee was acquired by Andor Technology, adding further expertise in camera development, manufacturing and customer support.

The Horsehead Nebula in Orion (IC 434) courtesy of R. Jay GaBany (www.cosmotography.com)
This image was produced with a RCOS half meter telescope, an Apogee Alta U16M camera and Astrodon E-Series filters. Exposure times: 720 minutes Luminance, 270 minutes Red, 270 minutes Green, 270 minutes Blue and 420 minutes h-alpha (all 1X1).

Visit Apogee today at booth #301