

Electronic Newsletter 2015-2016, Part 1

December 15, 2015

In this issue

- April 2016 Meeting, Salt Lake City, Utah
• Abstract Deadline: Jan 8, 2016
• Plenary Sessions
• Special Invited Sessions
• Invited Session Schedule
• Our Mission
• Student Travel Grants
• 2015 APS Fellows
• 2016 Bethe Prize
• DAP Elections

APS DAP Officers 2015-2016:

Chair: Paul Shapiro
Chair-Elect: Julie McEnery
Vice Chair: Fiona Harrison
Past Chair: John Beacom
Secretary/Treasurer: Scott Dodelson
Deputy Sec./Treasurer: Keivan Stassun
Member-at-Large: Patricia Burchat
Member-at-Large: Brenna Flaughner
Member-at-Large: Anna Frebel
Member-at-Large: Marc Kamionkowski
Division Councilor: Miriam Forman

Questions? Comments?

Newsletter Editor: Scott Dodelson
dodelson@fnal.gov

April 2016 APS Meeting



A centerpiece of DAP activities is the annual APS April Meeting. Our efforts on organizing the 2016 meeting are being led by Julie McEnery; each year, the Chair-Elect works with the rest of the Executive Committee to prepare the program.

Plan now to attend the April 2016 meeting held this year in Salt Lake City, Utah. A number of plenary and invited sessions will feature presentations by DAP members. Here are the key details:

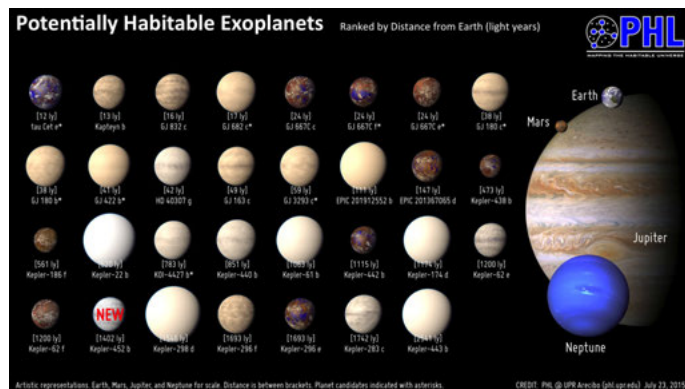
What: April 2016 APS Meeting

When: April 16 through April 19, 2016

Where: Salt Lake City, Utah (Salt Palace Convention Center)

Abstract Deadline for April 2016 Meeting:

Friday, January 8, 2016, 5PM EST



## **Abstract Deadline for April 2016 Meeting:**

*Friday, January 8, 2016, 5PM EST*

The deadline for submitting your abstract for the April 2016 APS meeting in Salt Lake City is just around the corner!

- All abstracts must be submitted online at <http://abs.aps.org/>
- All submission guidelines and details can be found online at: <http://aps.org/meetings/april/scientific/>
- Only APS members can submit abstracts
- Membership info is at <http://www.aps.org/membership/join.cfm>
- Be sure to proofread your abstract before submission
- Carefully selecting the **Sorting Category** will ensure your presentation is grouped and scheduled appropriately by the DAP sorting team

*The APS DAP Executive Committee strongly encourages Division members to submit abstracts and plan to attend the 2016 April meeting. Start now to make your plans to attend!*

## **Encourage your students to join the DAP and attend the April Meeting**

Because of the importance of helping the next generation of physicists to grow their careers, the APS has many programs to help students. Students can join the APS with the first year free membership, and the low rate of \$35/year thereafter; they can join up to two Divisions and Topical Groups for free. Please see [for](#) details.

Once they are members, students are eligible to give talks at APS meetings, apply for travel support and merit-based awards, and more. The April Meeting is an excellent opportunity for students to learn about new results in our field, give a talk, and meet leading researchers.

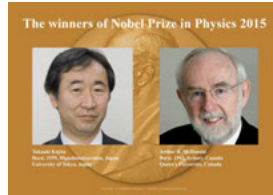
Advisors can play a crucial role in encouraging their students to join the APS and DAP. Please forward this to yours!

## Plenary Session Highlights at the April 2016 APS Meeting

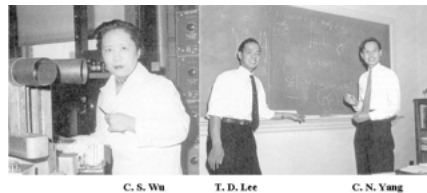
Astrophysics is always a significant part of the April meeting. Two major themes of this year's meeting are Neutrinos and Symmetries, both of which have strong connections to astrophysics.

Among the plenary sessions are two that celebrate these themes:

1. The Kavli Session, Neutrinos theme: The 60th Anniversary of Cowan and Reines detection of the neutrino.



- “Neutrinos” Art MacDonald 2015 Nobel Laureate
  - “Neutrinos” Takaaki Kajita 2015 Nobel Laureate (to be confirmed)
  - “The solar neutrino problem - the work of John Bahcall” Neta Bahcall
2. Symmetries theme: The 60th Anniversary of Lee and Yang’s parity violation proposal and the experiment by Madame C.S. Wu confirming their proposal. This session is named for Lee, Yang and Wu.



- “Quantum Field Theory” Ed Witten, APS Medal for Exceptional Achievement in Research
- “Symmetries Review I” Gerry Gabrielse
- “Symmetries Review II” Xiaochao Zheng

---

## Special Invited Sessions for April 2016 sponsored by the DAP: “Hot Topics” and the “Thesis Prize” sessions

- **2016 Thesis Prize of the Division of Astrophysics:** – The thesis prize will be awarded to a recent recipient of a doctoral degree, selected by the Division of Astrophysics. The winner will be selected from the three finalists, who will present the results of their doctoral research at the APS meeting.

The three finalists are: **Blakesley Burkhart** (Wisconsin PhD), working on turbulence in the Interstellar Medium (currently Einstein Fellow at Harvard); **Liang Dai** (Johns Hopkins PhD), working on perturbations in the early universe (currently Einstein Fellow at the Institute for Advanced Study); and **Wen-fai Fong** (Harvard PhD), working on the progenitors of short Gamma-ray Bursts (currently Einstein Fellow at Arizona).

Congratulations to last year’s Thesis Prize winner: **Anne Archibald**, McGill University (currently at Netherlands Institute for Astronomy).

- **Hot Topics in Astrophysics:** – The DAP Executive Committee has reserved a slot in the program to allow for the presentation of particularly new and exciting results. We are still working on identifying the hot topics for the April 2016 meeting.

## DAP invited sessions and mini-symposia for April 2015 APS meeting

- The physics of Exoplanets
- Local Universe Cosmology
- New high energy views of the Galaxy
- DAP Thesis prize session
- DAP hot topics
- Cosmic-rays

Joint with the Division of Particles and Fields:

- Cosmic Neutrinos and New Physics
- WIMP Dark Matter
- Dark Matter Beyond WIMPS
- Cosmic-Microwave Background
- Cosmology with the Dark Energy Survey

Joint with the Division of Nuclear Physics:

- Neutron stars in the Multi-messenger era (including the Bethe prize talk)
- Supernovae: New Clues and Challenges

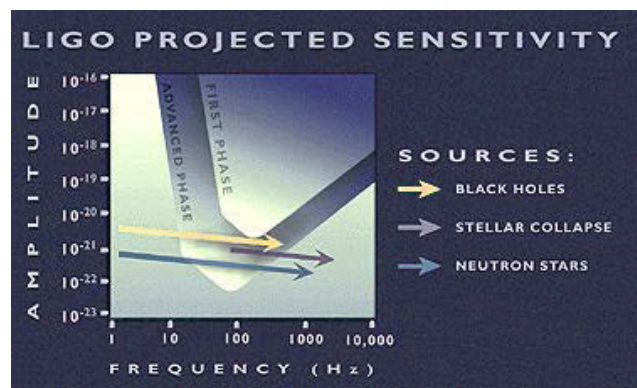
Joint with the Division of Gravitation and General Relativity:

- Space Based Gravitational Wave Astrophysics
- Pulsar Timing Array

Also of interest, sponsored by other divisions:

- First results from advanced LIGO (GGR)
- Recent discoveries in Planetary Science and their potential impacts on physics and society (FPS)
- The Gravitational wave sky (COM)
- Big International Telescopes (FIP)
- Baryon Resonances and the evolution of the early universe (DNP)

The detailed schedule for the invited sessions, along with the speakers and summary highlights for each session, will be included in Part 2 of this newsletter, which will be distributed in early February 2016.



## Our Mission

What is the DAP doing right and what could it do better? We, the members of the Executive Committee, elected to serve the membership, welcome your good ideas and help to maintain successful traditions and develop new initiatives. As part of the APS mission "to advance and diffuse the knowledge of physics," the DAP seeks to advance and diffuse the knowledge of astrophysics. This takes many forms, and the following highlights our strategic goals and ways we work to achieve them.

- **Make the exciting results and opportunities of our field widely known**

There's a lot going on in astrophysics, and there are excellent prospects for new discoveries. The sessions we organize at the April Meeting are the key means of communicating this, and these sessions continue to grow in number and popularity. In addition, we communicate with our members through the web page, the biannual newsletter, and occasional emails.

- **Grow the membership and the connections to other fields**

The fast growth of the DAP sends an important message about national priorities for hiring and funding; it also leads to increased support from the APS. New scientific opportunities are possible at the boundaries between astrophysics and other forefront research areas, and we need the input of experts from these areas to help start and nurture new directions.

- **Increase professional opportunities for younger scientists**

We encourage students and postdocs to attend the April Meeting and present contributed talks. We provide many student travel awards to subsidize costs. In 2015, we will select the first winner of the DAP Thesis Award. We select people with a range of seniority as invited speakers, so that new faces become better known.

- **Provide opportunities for career development and recognition**

By helping to make the April Meeting a destination, we give our members excellent opportunities for professional networking. In addition, members can meet each other over snacks and drinks at the annual Business Meeting held at the April Meeting. Leading researchers are recognized through being named APS Fellows, and the DAP and the DNP annually award the Hans A. Bethe Prize.

- **Broaden participation in astrophysics and more generally in science**

We place a special emphasis on increasing participation by members of under-represented groups. The fraction of women in the DAP is among the highest of all APS units, and we seek to grow this further. In 2014, for the first time, we provided travel awards to students from Mexico; these awards are open to DAP student members worldwide. Astrophysics is very attractive to students, and many whose interest starts there continue in this or other areas of science.

- **Reach the public with the excitement of what we do**

Astrophysics has a special appeal to the public, because of the grandeur of its questions, the profundity of its answers, the beauty of its visuals, as well as the adventure of carrying out its research around the world, underground and under-ice, and from the skies themselves. The DAP can be part of the vanguard of outreach for the APS as a whole because of this.

- **Advocate for our field and more broadly for science**

Following the above point, DAP members can play a special role in advocating for the importance of science funding. The APS has programs to make it easier to communicate with government officials, and DAP members are encouraged to participate in these. In addition, the DAP could do more to advocate for astrophysics specifically, and we welcome suggestions and help.

Please feel free to contact any member of the Executive Committee to share your ideas and get involved.

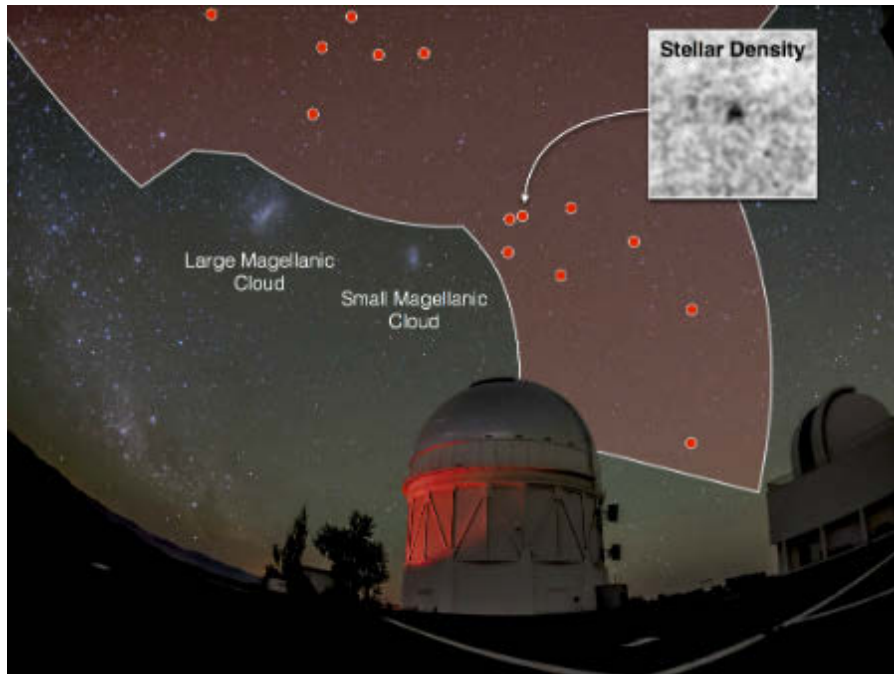


## Student Travel Grants For April 2016 Meeting:

Once again, the DAP will offer travel grants to support the attendance of graduate students (or advanced undergraduate students) at this meeting. The amount of each grant will be up to \$600 for travel-related expenses for those students who are members of the DAP and who are presenting talks or posters in DAP-sponsored sessions. DAP students presenting papers in related and/or co-sponsored sessions are eligible for grants up to \$300. If there are insufficient funds to support all applicants, preference will be given to applicants who have not received travel grant support from DAP to an APS meeting in the past.

Students can apply for grants at any time after notification that their abstract has been accepted into a session for the April 2016 meeting. Students who wish to apply for a grant should plan to send a copy of their submitted abstract, the name and number of the APS session for their presentation, their institutional affiliation, and the name, position, and email address of their dissertation research advisor(s) by email to Scott Dodelson at [dodelson@fnal.gov](mailto:dodelson@fnal.gov). Please also indicate whether you have either applied for and/or received an APS travel grant in the past and if so, relay details. Students are encouraged to apply for grants as soon as possible once they have been notified that their abstract has been accepted into a session.

Please note: **The deadline for applications for travel grants to the April 2016 meeting is February 15, 2016.** Applicants will be informed of decisions for travel grants not later than March 1, 2016.



Dwarf Galaxies discovered in the Dark Energy Survey



## 2015 APS Fellows

Please join the DAP Executive Committee in congratulating the 2015 American Physical Society Fellows who are members of the Division of Astrophysics:

- Laura Baudis
- Roland Diehl
- Fiorenza Donato
- Douglas Finkbeiner
- Stefan Funk
- Bhuvnesh Jain
- Eiichiro Komatsu
- Abraham Loeb
- Grzegorz Madejski
- Feryal Ozel
- Scott Ransom
- Patrick Slane
- Rodger Thompson
- Benjamin Wandelt

DAP members who became nominated to the Fellowship by other divisions:

- Vasili Kharchenko
- Lee Allen Bernstein
- Emanuele Berti
- Laura Cadonati
- Dennis Coyne
- Mark Trodden
- Alan Weinstein
- Michael A Shay
- Dmitri Uzdensky

New Fellows will be presented with certificates and pins at the annual DAP Business Meeting, which will be held during the April 2016 APS meeting in Salt Lake City. Please plan to attend this meeting to honor and personally congratulate this year's Fellows. The citations are available at <https://www.aps.org/units/dap/fellowship/index.cfm?year=2015>

## 2016 Bethe Prize



Please join the DAP Executive Committee in congratulating **Vassiliki Kalogera**, the 2016 recipient of the **DAP-DNP Hans A. Bethe Prize**. Her citation reads:

"For key contributions to the study of the electromagnetic and gravitational wave radiation from binary compact objects, including the now-verified prediction that neutron star mergers produce short gamma-ray bursts that will be found in all galaxy types."



## Division of Astrophysics Executive Committee Elections:

Each year the Division of Astrophysics (DAP) of the APS elects new members for the open positions on the DAP Executive Committee. The members of the DAP Executive Committee serve to address the needs and interests of the Division within the APS. The Executive Committee has responsibility for the planning and organization of all Division activities and business including detailed program planning for each annual April APS meeting.

A nominating committee has been appointed by the current executive committee. DAP members are also invited to suggest candidates for consideration. Please relay the names of suggested candidates to the past Chair (John Beacom, beacom.7@osu.edu) by **December 31, 2015**.

The Division of Astrophysics (DAP) will be holding elections to fill vacancies for three open positions:

- Vice-Chair. Term of Office: one year, followed sequentially by one year of service as Chair-Elect, and then one year as Chair, and then finally one year as Past Chair. (four years total, serving as a member of the Executive Committee through April 2020). Duties: The Chair shall convene and preside at all meetings of the Executive Committee and Business Sessions of the Division. The Chair Elect has primary responsibility for organizing Division program sessions and activities for the annual April APS meeting.
- Members-At-Large (two positions). Term of Office: two years starting April 2016, term to end April 2018. Duties: The Members-At-Large will serve to enable all plans and activities of the Executive Committee, contributing to the planning and organization of Division program and serving on other DAP committees as needed.

As in years past, elections will be conducted *online*. Every DAP member will be notified of the elections and will have online access to the job descriptions and statements for each candidate. Elections are anticipated to begin in February 2016 and will be completed by March 2016. Watch your email.

***The APS DAP Executive Committee strongly encourages Division members to participate in the 2016 election. Please relay your suggestions for Executive Office Nominations to beacom.7@osu.edu by December 31, 2015.***