

Electronic Newsletter 2014-2015, Part 1

December 15, 2014

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APS DAP Officers 2013-2014:

Chair: John Beacom

Chair-Elect: Paul Shapiro

Vice Chair: Julie McEnery

Past Chair: Angela Olinto

Secretary/Treasurer:

Grzegorz (Greg) Madejski

Deputy Sec./Treasurer:

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Member-at-Large:

Amy Barger

Member-at-Large:

Lloyd Knox

Member-at-Large:

Patricia Burchat

Member-at-Large:

Anna Frebel

Division Councilor:

Miriam Forman

Questions? Comments?

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Greg Madejski

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April 2015 APS Meeting



A centerpiece of DAP activities is the annual APS April Meeting. Our efforts on organizing the 2015 meeting are being led by Paul Shapiro; each year, the Chair-Elect works with the rest of the Executive Committee to prepare the program.

Plan now to attend the April 2015 meeting held this year in Baltimore, Maryland. A number of plenary and invited sessions will feature presentations by DAP members. Here are the key details:

What: April 2015 APS Meeting

When: April 11 through April 14, 2015

Where: Baltimore, Maryland (Hilton Baltimore Inner Harbor)

Abstract Deadline for April 2015 Meeting:

Friday, January 9, 2015, 5PM EST

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Friday, January 9, 2015, 5PM EST

The deadline for submitting your abstract for the April 2015 APS meeting in Baltimore 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 2015 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 <http://www.aps.org/membership/student.cfm> 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 2015 APS Meeting:

Astrophysics is always a significant part of the April meeting. This will be especially true this year as the meeting celebrates the 100th anniversary of Einstein's General Relativity and the 50th anniversary of the discovery of the Cosmic Microwave Background. The APS has joined the international physics community, UNESCO, and the United Nations General Assembly in proclaiming 2015 the International Year of Light, honoring these great milestones in the history of physics, as well as the 150th anniversary of Maxwell's Equations.

Plenary Sessions will be from 8:30 AM to 10:18 AM: Saturday, April 11; Monday, April 13; and Tuesday, April 14.

Each plenary session will consist of three 30+6 minute talks.

- **Saturday, 11 April 2015:**

General theme: Addressing the big scientific problems of the future

Ernest Moniz (DOE)

France Cordova* (NSF)

John Grunsfeld* (NASA)

- **Monday, 13 April 2015, Kavli Session**

John Mather (NASA): 50 years of Cosmic Microwave Background

Clifford Will (U Florida): Precision tests of the theory of General Relativity

Stuart Shapiro (UIUC): Sources and detection of gravitational waves

- **Tuesday, 14 April 2015**

Planck Collaboration: Cosmology from the microwave background (latest results from Planck)

James Hartle* (UCSB): Quantum gravity and cosmology

Haiyan Gao (Duke): The proton - a relativistic bound system - remains puzzling

An asterisk (*) indicates that final confirmation will be forthcoming.

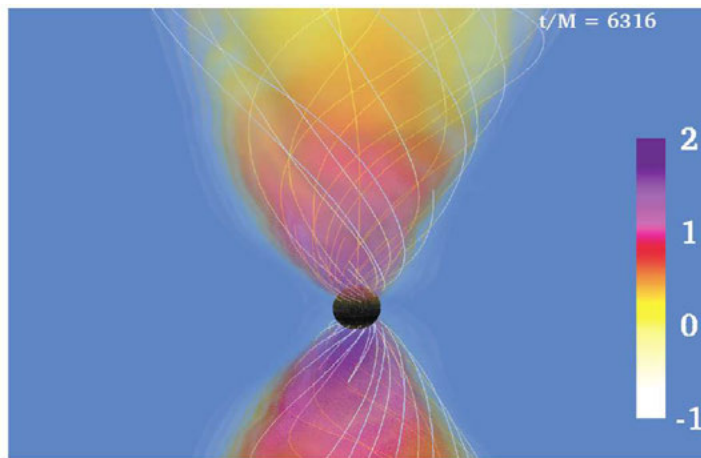
Special Invited Sessions for April 2015 sponsored by the DAP: “Hot Topics” and the “Thesis Prize” sessions

- **2014 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: **Anne Archibald** (McGill PhD), working on pulsars (currently at ASTRON, the Netherlands); **Fabienne Bastien** (Vanderbilt PhD), working on variable stars (currently a Hubble Fellow at Penn State); and **Jim Fuller** (Cornell PhD), working on tidal interactions in binary stars (currently at Caltech). All three will speak at a special session on Saturday, April 11.

This new DAP Prize supersedes the “Young Stars In Astrophysics” award, which consisted of two talks given by young promising researchers in various sessions.

- **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 2015 meeting.



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

The Division of Astrophysics is sponsoring or co-sponsoring with other units a number of invited sessions and mini-symposia for the April 2015 Meeting. Those are:

- **Saturday, April 11:**

- New Developments in Understanding the r-process
- Division of Astrophysics Thesis Prize
- High-Energy Transients in the Universe
- Frontiers of Computational Cosmology
- Indirect Detection of Dark Matter
- Detecting Gravitational Waves from the Ground and in Space
- Exploration for Life in the Universe: Implications for Society

- **Sunday, April 12:**

- Astrophysical and Cosmological Neutrinos
- Astrophysical Black Holes on All Mass Scales
- Windows on the Epoch of Reionization
- Mini-Symposium on “Cosmology and Dark Energy from the BOSS/SDSS III Galaxy and Quasar Surveys”

- **Monday, April 13:**

- Exploring the Dark Side of the Universe: Progress and Open Questions
- Understanding Core-Collapse Supernovae from the Inside Out
- Cosmic Microwave Background B Modes and Inflation
- Cosmological Parameters and Tensions
- Mini-Symposium on “Future MeV Gamma-Ray Science and Missions”

- **Tuesday, April 14:**

- “Hot Topics” in Astrophysics and Cosmology
- New Results on Cosmic Rays
- Mini-Symposium on “Physics of the Cosmos”

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 2015.

Chair's Column

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 me or any member of the Executive Committee to share your ideas and get involved.

John Beacom, Chair, on behalf of the DAP Executive Committee

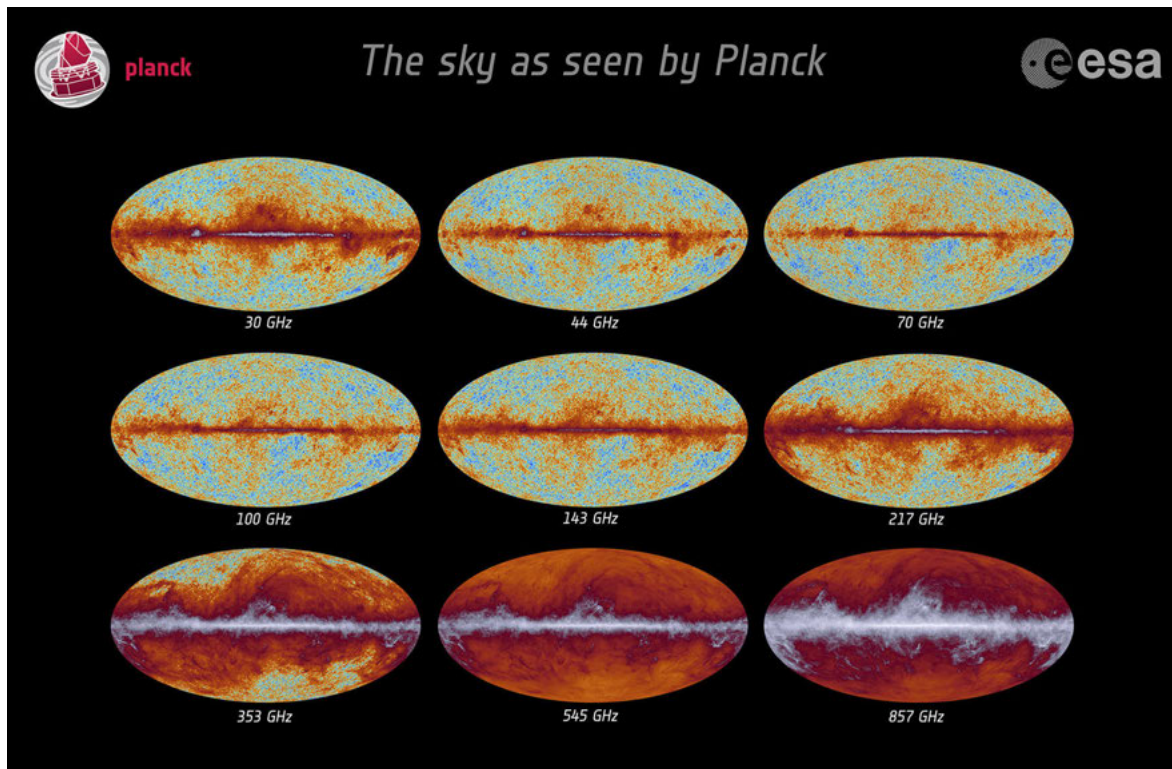


Student Travel Grants For April 2015 Meeting:

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 2015 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 Greg Madejski at madejski@slac.stanford.edu. 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 2015 meeting is February 15, 2015.** Applicants will be informed of decisions for travel grants not later than March 1, 2015.





2014 APS Fellows from the Division of Astrophysics; 2015 Bethe Prize

Please join the DAP Executive Committee in congratulating the 2014 American Physical Society Fellows who are members of the Division of Astrophysics:

- Lars Bildsten
- Steven Boggs
- Karen Byrum
- Elizabeth Hays
- Victoria Kaspi
- Arthur Kosowsky
- Sera Markoff
- Amber Miller
- Rosalba Perna
- So-Young Pi
- David Schlegel
- Suzanne Staggs
- Bing Zhang

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

- Duncan Brown
- Tiziana Di Matteo
- Larry Gladney
- Guido Mueller
- Alan Poon
- Farid Salama
- Maria Spiropulu

New Fellows will be presented with certificates and pins at the annual DAP Business Meeting, which will be held during the April 2015 APS meeting in Baltimore. Please plan to attend this meeting to honor and personally congratulate this year's Fellows. The citations are available at the APS Web site, under "Programs" then "Honors" then "Fellowships."

Please also join the DAP Executive Committee in congratulating the 2015 recipient of the **DAP-DNP Hans A. Bethe Prize**. This is **James Lattimer**, and his citation reads:

"For outstanding theoretical work connecting observations of supernovae and neutron stars with neutrino emission and the equation of state of matter beyond nuclear density."



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 DAP Secretary-Treasurer (Greg Madejski, madejski@slac.stanford.edu) by **December 31, 2014**.

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

- 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 2019). 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 2015, term to end April 2017. 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.
- Deputy Secretary/Treasurer: Term of Office: two years, starting April, 2015, thereafter followed by an additional two years serving as Secretary/Treasurer (four years total, serving as a member of the Executive Committee through April, 2019). Duties: The Deputy Secretary/Treasurer shall directly assist the Secretary/Treasurer and serves as the Secretary/Treasurer-elect. The Secretary-Treasurer sends out necessary notices, announcements, and newsletters to the members the Division, and serves as Executive Committee liaison to the APS business office on all matters pertaining to Division finances and disbursements.

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 2015 and will be completed by March 2015. Watch your email.

The APS DAP Executive Committee strongly encourages Division members to participate in the 2015 election. Please relay your suggestions for Executive Office Nominations to madejski@slac.stanford.edu by December 31, 2014.