



ASTROPHYSICS

newsletter

1997 EXECUTIVE COMMITTEE
DIVISION OF ASTROPHYSICS

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**The Division of
Astrophysics**

**The American
Physical Society**

November 1997

Preparations Underway for 1998 April Meeting

The next meeting of the Division of Astrophysics will be held at the joint APS/AAPT General Meeting, Saturday through Tuesday, April 18-21, 1998 in Columbus, Ohio. The deadline for invited and contributed abstracts for this meeting is January 16, 1998 (5:00 PM ET). For further logistical information, see the APS Meetings page on the World Wide Web (<http://www.aps.org/meet>), or contact the Meetings Department directly.

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Josh Grindlay is the 1998 Program Committee Chair for the DAP. A note from Josh, a form for nominating speakers to our invited session, and a preliminary program are included in this newsletter.

DAP Sessions Planned at Upcoming APS Meeting

This year's April APS Meeting will include a new idea: the addition of a number of special Plenary Sessions to the regular program. The Plenary Sessions, scheduled so that no other sessions interfere with them, will be given by noted and engaging speakers, on a topic of broad general interest.

Our Division has two Plenary topics approved: recent measurements of the Hubble Constant, and Gamma Ray Bursts. Due to the impact the Plenary Sessions have on the program, all divisions have slightly less invited sessions than in the past.

The DAP will have three full sessions, and share three sessions (one each with DPF, DPP and DNP) at the upcoming April Meeting.

The three full sessions are:

1. Cosmic Gamma Ray Bursts: New Discoveries (chaired by Chryssa Kouveliotou, MSFC)
2. Studies of Compact Objects with RXTE (chaired by Fred Lamb, UIC)
3. Special Session of Nominated Talks: Nominations needed NOW! Please see nomination form on page 5 of this Newsletter.

The three sessions to be shared include:

4. Cosmic Plasmas (with DPP)
5. High Energy Gamma Ray Probes of Cosmic Particles and Fields (with DPF)
6. New Results in Nuclear Astrophysics (with DNP)

Details of these sessions will be announced shortly.

Special Session at April 1998 Meeting: Nominated Talks

Last year, the DAP experimented with the idea of an invited session that was composed of talks by speakers nominated by DAP members. The experiment was a success: the topics and speakers nominated were interesting and topical, giving rise to an excellent invited session. We are including a similar session in this year's program. Nominating a peer to speak on a topic of current astrophysical interest is a nice way for DAP members to have a say in the meeting program, and to recognize colleagues. Please take a moment to fill out the invited speaker nomination form on page 5 and return to Josh Grindlay by November 28, 1997.

Centennial Planning Update

- By Josh Grindlay, DAP Vice Chair

As your current vice-chair and program chair, I attended a meeting of the APS Division Program Chairs at the AIP on September 21. The primary business was planning for the upcoming April APS meeting (April 18-21, 1998) in Columbus, Ohio.

The current plans for this meeting, as well as a call for Nominations for a Session of invited talks (four to five), are included elsewhere in this Newsletter. (See the invited speaker nomination form on page 5.)

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Results from the 1997 DAP election

Vice-Chair:
Trevor Weekes
Members-at-large:
Eli Dwek
Laurence Krauss
Division Councillor:
Steve Holt

A total of 254 ballots were received and counted. All races were very tight.

DAP Election 1998: Nominating Committee

The members of the 1997-98 DAP Nominating Committee are:

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Don Lamb
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and the third member will be named by the APS.

Duties of the nominating committee are to nominate at least one willing candidate for the offices of Vice Chair, and at least two candidates for each open position of the Members-at-large of the Executive Committee (two positions open this year). In addition, the Secretary/Treasurer position is also open this year. You may contact the nominating committee with suggestions of appropriate candidates. Alternatively, nominations for any of the positions are accepted from the general membership if submitted in the form of a petition signed by 2 percent of the membership of the DAP (currently at 1,531 members).

Each candidate must supply to the Secretary/Treasurer (i) a written statement that he or she will serve if elected and (ii) a paragraph or two providing their qualifications and thoughts about the job. These will be published in the Spring newsletter, with the election ballots.

The procedure is prescribed by the Bylaws, reproduced in the Feb 1993 DAP Newsletter (#78), and available through the DAP homepage. The schedule is tied to the annual April APS meeting, to be held April 18-21, 1998.

Schedule of DAP Elections

Deadlines are:

November 28, 1997: Secretary/Treasurer issues call for nominations (via this newsletter)

December 29, 1997: Names of candidates and their statements to Secretary/Treasurer

February 2, 1998: Secretary/Treasurer sends ballots to members of the Division

March 13, 1998: Closing Date for return of ballots to Secretary/Treasurer

April 18, 1998: annual business meeting; announce results

Please note that the above dates are deadlines. We hope to include the ballot in an late January newsletter mailing.

Are you receiving DAP and APS e-mail announcements?

Information of immediate importance to DAP members is often distributed through a DAP e-mail exploder that the APS has established. The APS will use whatever e-mail address is on file for you when compiling this list. You may check the e-mail address that the APS has for you by consulting the online Membership Directory on the APS homepage. If you suspect that you are not receiving DAP and/or APS email announcements, please take a moment to check that your e-mail address is current in the APS records. Contact membership@aps.org if you need to make corrections to your contact information.

Thanks given to Haxton

Dear DAP Member,

I wish to thank our past Chair Wick Haxton for all of the good work that he has accomplished for the DAP during the past year. He led the very successful effort to create the Bethe Prize which will be awarded starting next year.

Wick also launched the Division's web page which can be accessed directly at

<http://mocha.phys.washington.edu/dap/>

or through the APS site at

<http://iptsg.epfl.ch/aps/>

In addition, at Wick's and the Executive Committee's instigation, we opened one of the invited sessions at this year's annual Washington meeting to member nominated topics and speakers. We had a very enthusiastic response with many more excellent topics than we could include this year. Thus that we plan to make such a session a regular part of our annual meeting. I'm passing the nominations on to our Chair-Elect Josh Grindlay, who is organizing next year's program and we will also be posting on the web an updated nomination form for new topics and speakers.

Rich Lingenfelter, 1997-98 Chair, DAP

Future Newsletter

The next DAP Newsletter will be composed and sent in January 1998. If you have any items that would be of interest to our membership at that time, please send it on to me for inclusion. Regards,

Patricia Boyd Secretary/Treasurer
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Fellowship Nominations

Every year, our division nominates six or seven APS members for Fellowship. If you would like to recommend a member for Fellowship you may do so by filling out the nomination form which the APS provides online at [http://aps.org/fellowship/nomination_form.html]. Please send the completed form to TREVOR WEEKES by May 1 for consideration.

NOTE: if you nominated someone for the first time last year, it will still be considered an active nomination by the Fellowship Committee this year (though additional supporting letters would be still welcome).

Beyond one year, nominations must be re-submitted.

New APS Fellows

The following distinguished colleagues were made Fellows of the American Physical Society at the Business Meeting of the Division of Astrophysics on Thursday, April 17, 1997 at the APS meeting in Washington, D.C.:

★ **Walter H.G. Lewin**
MIT

For his outstanding observational work on the time variations and spectra of galactic x-ray sources, and in particular for his studies and interpretations of bursting and pulsating phenomena in binary x-ray sources.

★ **James M. Bardeen**
University of Washington, Astrophysics

For his seminal contributions to the theory of cosmological density perturbations, relativistic astrophysics, and galactic structure.

★ **Edmund Bertschinger**
MIT

For his outstanding contributions to theoretical cosmology, especially in the understanding of structure formation in the universe.

★ **Arthur F. Davidsen**
Johns Hopkins University

For fundamental advances in the ultraviolet astronomy of faint extragalactic objects, and especially for the impact of these observations on our understanding of the hot intergalactic medium.

★ **John C. Mather**
Goddard Space Flight Center

For his advancement of the science of cosmology through precise measurement of the spectrum of the cosmic microwave background radiation and discovery of the first evidence of primordial density inhomogeneities.

★ **Peter I. Meszaros**
Pennsylvania State University

For valuable and influential contributions to the theory of radiation processes near magnetized neutron stars, gamma-ray burst sources, black holes and galaxy formation.

★ **E. Sterl Phinney**
Caltech

For his contributions to our understanding of black-hole electrodynamics, AGNs and quasars, binary and millisecond pulsars, and globular cluster dynamics, and his method for measuring the intergalactic magnetic field.

★ **Gerald H. Share**
Naval Research Laboratory

For his important gamma-ray line observations of the products of nucleosynthesis, which have advanced our understanding of the production rates and distribution of galactic nucleosynthesis.

Centennial Planning Update

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A key agenda item was also the advance planning for the Centennial Meeting of the APS, which will be held in March 1999 in Atlanta.

All Divisions are invited to plan for this meeting and we have formed a committee chaired by Trevor Weekes (DAP chair-elect, who will be Chair during the Centennial meeting) and including the present Chair (Rich Lingenfelter) and vice-chair (myself) but for which two other DAP members are encouraged to join. So please volunteer!

The Divisions are also encouraged to prepare a special Exhibit to highlight the impact on physics their field has had over the past century. This is a tall order, but we in astrophysics have at least the advantage of a remarkable growth in our measurement capability (from the Mt. Wilson 100in, to Keck, HST and NGST; and the rise of astrophysical measurement across the entire EM spectrum, and the current and planned generation of space missions).

Again, we need input (to Trevor's committee) on how to put together such an exhibit. *



The 7 Percent Solution Today and Tomorrow

— By Michael S. Lubell, APS Director of Public Affairs

"At a time of scarce resources in Washington, it is tempting to see the scientific community as just one more hungry claimant. That's short sighted. Like public education, serious funding for science is a vital national investment. The men and women in our laboratories stand at the threshold of dazzling new breakthroughs, and the nation should be standing there with them, supporting their work and sharing their joy of discovery."

That's how David Gergen concluded his editorial in *U.S. News and World Report* last May 17, which he wrote in response to the call for a 7 percent increase in federal research budgets that the leaders of 48 professional societies had issued not long before.

But Gergen was not alone in expressing support for The 7 Percent Solution. By the time the congressional curtain rang down on the Fiscal Year 1998 budget in October, the predicted hard freeze on scientific research—the most optimistic of the earlier forecasts—had all but vanished. True, some research activities were held to their Fiscal Year 1997 levels, but for the most part, science budgets increased by 3.5 to 7 percent.

A coincidence? I think not. The 48 societies represent more than 1.5 million scientists, engineers and mathematicians. Most of them have families and most of them go to the polls regularly. That means about 5 million votes hanging in the balance in the next election. Only the most foolhardy politician wouldn't pause and take notice.

Getting a senator or a representative's attention is one thing. Getting action is quite another. But "The 7 Percent Solution" carried a compelling message. Science is the underpinning of our economic growth, our quality of life, our health and our national security.

Gergen summarized the economic argument this way. "Stanford's Michael Boskin estimates that half of all long-term economic growth since World War II in industrialized nations is due to technological progress—which, in turn, is rooted in basic research." Gergen also cited University of Pennsylvania

Professor Edwin Mansfield's study, which concludes that "academic research in science has a "social rate of return" in the form of lower prices, better products and higher productivity that exceeds 20 percent."

He could have gone further. Former Chairman of the President's Council of Economic Advisers Laura Tyson, for example, argues that the social rate of return could well exceed 50 percent. And CHI Research, an international consulting organization, reported last May that in recent years, almost 75 percent of the research papers cited in U.S. industrial patents have been based upon publicly supported science.

The conclusion is clear. As a nation, we should invest as much as we can afford in long-term research until all good ideas are exhausted. How much we can afford depends on how much we are willing to be taxed, what other demands we make on the federal budget and what rates of return other forms of investment, both public and private, are able to generate. "The 7 Percent Solution" established a target for Fiscal Year 1998 that attempted to balance the research

investment with the political and budgetary realities of the 1990s. Congress seemed to take the proposition seriously.

Now the Fiscal Year 1998 is essentially settled, what's in store for the next few years? The balanced budget agreement establishes constraints on federal spending that would seem to leave research in a precarious position. Yet, if economic growth continues to exceed expectations, tax revenues will soon produce a budget surplus. With that in mind, Sen. Phil Gramm, R-Texas, and Sen. Joseph Lieberman, D-Conn., co-sponsored a bi-partisan bill in October that urges a doubling of federal investments in long-term research over the next ten years—an annual rate of about 7 percent. And on the steps of the Capitol, the leaders of 100 professional societies joined together to make a similar call.

What the outcome will be is still uncertain. But 2.5 million scientists, engineers and mathematicians speaking in unison can pack a powerful wallop in Washington—if their argument is sound. *

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ASTROPHYSICS

invited speaker nomination form

1998 Joint APS/AAPT meeting
Columbus, Ohio • April 18-21, 1998

Last year, the DAP experimented with the idea of an invited session that was composed of talks by speakers nominated by DAP members. The experiment was a success: the topics and speakers nominated were interesting and topical, giving rise to an excellent invited session. We are including a similar session in this year's program. Nominating a peer to speak on a topic of current astrophysical interest is a nice way for DAP members to have a say in the meeting program, and to recognize colleagues. Please take a moment to fill out the invited speaker nomination form and return to Josh Grindlay by November 28, 1997.

Nominee Name _____

Institution _____

Mailing Address _____

City _____ **State** _____

Zip/Postal Code _____ **Country** _____

Telephone Number _____ **Fax Number** _____

E-mail Address _____

Title of Talk _____

Material to be discussed: In 200 words or less, explain why it is interesting and whether related material has been presented at a recent APS meeting. Use additional paper if needed.

Comments about the Speaker _____

Please return one form for each suggested speaker. Photocopies or reproductions of this form are acceptable. All forms must be received before November 28, 1997. Send forms to:

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