

# NEWSLETTER

The American Astronomical Society • 2000 Florida Avenue, NW, Suite 400 • Washington, DC 20009-1231 • 202-328-2010 • [aas@aas.org](mailto:aas@aas.org)

## PASADENA SUMMER MEETING!

The Local Organizing Committee (LOC) welcomes the American Astronomical Society to its 198th meeting on **3-7 June 2001** in Pasadena, California.

The meeting is hosted by the **California Institute of Technology**, the **Jet Propulsion Laboratory**, and the **Observatories of the Carnegie Institution of Washington**.

This will be the fourth time the AAS has met in Pasadena. In addition to its varied astronomical activities, the Pasadena area has a rich and varied cultural scene, with fine arts and music available to suit all tastes. Tours are planned to visit Palomar Observatory, Mt. Wilson and the Getty Museum.

Many exciting invited talks and special sessions are scheduled as well as these topical sessions: ♦GRB's: A Mystery and a Tool; ♦Interacting Galaxies: A Multi-wavelength Look at their Role in Galactic and Cosmic Evolution; ♦Science Results from the Two Micron All Sky Survey; ♦Optical Interferometry; ♦The Cosmological Impact of Galactic Winds; ♦Intermediate-luminosity X-ray Objects and Intermediate Mass Black Holes; ♦Cluster Properties and Large Scale Structure; and ♦Measuring the History of Star Formation Using the Rest Ultraviolet. Rounding out the program is a public lecture by Ken Nealon on "Searching for Life in the Universe: Lessons from the Earth."

A fun evening is planned at the banquet where guests will have the opportunity to dance to the blues and boogie-woogie music of the Rob Rio Band.



**198th Meeting of the American Astronomical Society**  
June 3-7, 2001  
Pasadena, CA

Call for Papers  
Abstracts Due:  
28 March 2001

Hosted by California Institute of Technology, Observatories of the Carnegie Institution of Washington, and Jet Propulsion Laboratory

## AAS ELECTION 2001

<i>President-Elect</i>	<b>Catherine A. Pilachowski</b>
<i>Vice-President</i>	<b>Joseph A. Burns</b>
<i>Secretary</i>	<b>Arlo U. Landolt</b>
<i>Councilors</i>	<b>Thomas R. Ayres</b> <b>Dana E. Backman</b> <b>Susana Lizano</b>
<i>USNC-IAU</i>	<b>Ronald J. Allen</b>
<i>Nominating Committee</i>	<b>C. Megan Urry</b> <b>Hugh M. Van Horn</b>

The Society thanks all who agreed to stand for election for their commitment and service to the community. Congratulations to the winners. New Officers begin their terms after the Annual Business Meeting at the June 2001 Meeting in Pasadena.

### HIGHLIGHTS

Proposed Bylaws Amendment .....	3
San Diego Meeting Highlights .....	8
HAD Meets in San Diego.....	10
HEAD in Hawai'i, San Diego .....	14, 15
Ostriker Wins National Medal of Science .....	17
Hale's 100 Inch Moves to Washington .....	18
VLA Low Resolution Captures Galactic Center.....	19
Mould to Head NOAO.....	23

## COUNCIL ACTIONS

The following actions were among the most noteworthy taken by the AAS Council at its 197th Meeting in San Diego, CA, on 7 January 2001:

- Approved a capital budget augmentation of \$30,000 for 2001 to accomplish the purchase and installation of the client/server of the iMIS membership management system;
- Agreed to consider in June an amendment to the *Bylaws* regarding AAS Publications' reserve funds, and adopted a recommendation that the allocation of income from the reserves be made in proportion to the operating income (see article, page 3);
- Authorized the University of Chicago Press to distribute the AAS journal electronic Title and Author Lists by email to anyone in the world free of charge, after an email or written request for this service by an individual is received at the Press;
- Adopted rules for the Education Prize;
- Voted to provide the Committee on Astronomy and Public Policy (CAPP) up to \$5,000 of budgeted Special Project funds to produce a brochure for use in advocacy of astronomy;
- Adopted the Coalition for National Science Funding (CNSF) statement (see page 4);
- Endorsed the report entitled "Astronomy and Astrophysics in the New Millennium" (the newest "Decadal Report") by the Astronomy and Astrophysics Survey Committee, Board on Physics and Astronomy-Space Studies Board of the National Research Council (see page 7);
- Voted to extend Paul Hodge as Editor of the *Astronomical Journal* through 31 December 2004; and
- Adopted the document outlining the role and responsibilities of the Director of Educational Activities.

## LETTERS TO THE EDITOR

Letters to the Editor on current issues of importance to astronomers are welcomed. Letters must be signed and should not exceed 250 words. For inclusion in the June 2001 issue, letters must be received by Jeff Linsky, Associate Editor, Letters, by 6 April 2001. You may contact Jeff Linsky by email [jlinsky@jila.colorado.edu](mailto:jlinsky@jila.colorado.edu), phone 303-492-7838, or FAX 303-492-5235. The Associate Editor may edit letters, but will consult with authors before doing so. Letters will be published at the discretion of the Editors.

### Concerning the Status of Women in Astronomy

Dear Editor,

I read with interest Dr. Urry's article in the October *Newsletter*, "Surveying the Playing Field," on the status of women in astronomy. This item made for intriguing reading, and came across as one of the best-balanced pieces that I have read on the subject.

There was, however, one notable omission from the article. In the tables of prizes, no mention was made of Annie J. Cannon award. Since this prize is reserved for women, its exclusion has the obvious consequence of depressing the fraction of female prize winners. In fact, its inclusion in the table would have more than doubled the number of women winners in the last decade, making women marginally over-represented in the AAS prize stakes.

Obviously, these pro-rata calculations should not be taken too seriously, but they do highlight an important issue. Dr. Urry asks that we look at the many small factors that may contribute to the persistence of sex discrimination. One plausible contributor is the very existence of a prize exclusively for women. Since there are always more worthy recipients than prizes, there is a natural tendency to want to share the prizes around equitably. Thus, if someone has just won the Annie J. Cannon award, it would be quite natural to discriminate against her in the "open" competition for, say, the Warner Prize. Further, the existence of the gender-specific award helps perpetuate the attitude, either overt or subconscious, of "she only attained X because she is a woman."

The continued "ghetto-ization" of women in astronomy cannot be healthy, either for the women in the field or for the subject as a whole. I would therefore like to suggest that the time has come to address one of the many small areas in which discrimination persists by overhauling the AAS' prize categories for the 21<sup>st</sup> century.

Michael Merrifield

[Michael.Merrifield@nottingham.ac.uk](mailto:Michael.Merrifield@nottingham.ac.uk)

### *Author's Response to Michael Merrifield:*

Dear Editor:

You may want to note that the Annie J. Cannon (AJC) prize is no longer administered by the AAS but by the AAUW (American Association of University Women). I believe this has been the case since the mid-seventies. Furthermore, AJC recipients are not nominated, as for AAS prizes, but must actually apply for the award, including a budget for the prize money. The AAS prizes, in contrast, result from nominations by others and include a check that is clearly a prize, not a grant. This is one reason I excluded the AJC prize from the statistical summary. Another reason is that, since it goes only to women, including it would not have addressed the question of whether the prizes that are open to both genders go fairly to both men and women. I thank you for your interest and look forward to hearing further discussion of this issue.

Meg Urry

[cmu@stsci.edu](mailto:cmu@stsci.edu)

### Virtual Observatories or Rather Digital Research Facilities?

Dear Editor,

Virtuality is nothing new to astronomers. With the exception of experiments carried out *in situ* by solar-system spacecraft, our knowledge of the universe is totally derived from photons reaching us from the outer space. And because of the finite speed of light, we do not observe the objects the way they are, but the way they were when the photons we are collecting actually left them.

What we have thus in our data files is nothing other than a huge and complex virtuality of prior stages, differentiated as a function of the distance in space and time of the various sources. Thus the job of astronomers is to work on that space-time mosaicked virtual universe in order to figure out what is exactly the real universe and to understand the place and role of man in it. 'Virtual Observatory' is a new buzzword that appeared recently in the literature and as a label for a number of projects. While highly desirable and commendable, the structures proposed will be quite far from the classical function of an observatory (astronomical or other) devoted to the collection of new data. The label could thus be seriously misleading since additionally a fundamental feature of the actual universe will be disregarded: its omnipresent variability with time. For instance, the project known in the US as the "National Virtual Observatory (NVO)" is basically the aggregation of complementary multi-wavelength surveys (of course frozen in time).

There is no doubt that with efficient access and manipulation of immense volumes of data stored at distributed sites, with sophisticated search and cross-correlation methods, and with evolved data visualization tools, results can be obtained if investigations are driven by well-defined science initiatives. But still, we are not speaking of an observatory per se, but of an advanced digital research facility, well in line with the evolution from data files to information hubs that we have seen over the past decades.

Other projects currently in the air are putting more emphasis on the methodological ways of tackling the existing — and largely dormant — amount of data, not only in astronomy, but also in Earth and environmental sciences (for a European project, see <http://newb6.u-strasbg.fr/~ccma/vo>). A related project with a less questionable label (only the 'instrument' here is virtual) has been launched recently: AstroVirtel (<http://www.stecf.org/astrovirtel/>) aims at making accessible the ESO/ST-ECF archive that currently contains more than 7.0 Terabytes of scientific data obtained with the NASA/ESA Hubble Space Telescope (HST) and with several ESO large ground telescopes.

Buzzwords are useful when well introduced and justified. They summarize ideas and projects in an imaginative way and can be excellent vectors to "sell" them to decision makers and takers, to the community, and to the society at large. Some of them might even make it into history. Their semantic substance must however be representative of what they are labeling and not to be sources of confusion.

A. Heck

[heck@astro.u-strasbg.fr](mailto:heck@astro.u-strasbg.fr)

### Member Deaths Noted

Since the December *Newsletter*, the Society is saddened to learn of the deaths of the following members and patron:

F. Shirley Jones  
Gladys Talmage Perkin (patron)  
Olof E. H. Rydbeck  
Joseph W. Siry

## Secretary's Corner

Arlo U. Landolt, [aassec@as.org](mailto:aassec@as.org)

### Committee Vacancies Need To Be Filled

Vacancies for several AAS committees will be filled by Council at its meeting in Pasadena in June 2001. Current committee members are listed under "Council/Committees" on the AAS homepage, <http://www.aas.org>. Committees which have vacancies, followed by the number of vacancies on each (in parenthesis, are:

- Astronomy Education Board (2)
- Committee on Employment (3)
- Investment Advisory Committee (1)
- Light Pollution, Radio Interference and Space Debris (4)
- Committee on Status of Minorities (3)
- Committee on Status of Women in Astronomy (3)

AAS Members may themselves volunteer, or suggest other Members for one of the vacancies. To assist members of the Committee on Appointments who may not know everyone, please include the date of the PhD, as well as a few sentences conveying the background and area of expertise of the named individual. Our goal is to have both quality and breadth across the AAS committee structure.

Input must be received in the Office of the Secretary no later than **27 April 2001**. Submit suggestions to Arlo U. Landolt, AAS Secretary, by email to [aassec@rouge.phys.lsu.edu](mailto:aassec@rouge.phys.lsu.edu) or at the Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA 70803-4001, Tel: 225-578-1160, Fax: 225-578-7001.

### Associates: Consider Upgrading

Only (Full) AAS Members have the right to hold office or to chair committees of the Society. Many Associate Members who are eligible to upgrade to Full Membership and whose expertise could benefit the Society, cannot serve. Associate Members, please consider upgrading (at no increase in dues) and becoming more involved with Society activities. (See a description of the different membership classes in the *Bylaws*, Article I. 1, or on the membership application form.) Both of these sources are in the *2001 Directory*. For questions, please contact me at [aassec@rouge.phys.lsu.edu](mailto:aassec@rouge.phys.lsu.edu).

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The \$105.00 annual membership dues for the American Astronomical Society include \$3.00 that is applied toward a subscription to the *AAS Newsletter*. Periodical postage paid at Washington, DC.

Items of general interest to be considered for publication in the *AAS Newsletter* should be sent to [lscholz@as.org](mailto:lscholz@as.org). Appropriate pictures are welcomed. Deadlines and further information is published at <http://www.aas.org/publications/newsletter.html>

Items submitted for the *AAS Newsletter* are not automatically included in the AAS Electronic Announcements or vice versa. Submit electronic announcement items to [ela@as.org](mailto:ela@as.org).

**AAS Publications Coordinator:** Judy Johnson  
**Editor:** Robert W. Milkey  
**Associate Editor:** Lynn Scholz  
**Associate Editor, Letters:** Jeffrey Linsky, U. Colorado

POSTMASTER: Send address changes to AAS, 2000 Florida Avenue, NW, Suite 400, Washington, DC 20009-1231.

## BYLAWS AMENDMENT

At its San Diego meeting, the Council of the AAS agreed to consider a *Bylaws* amendment to Article VIII, Section 3 recommended by the Investment Advisory Committee. The Committee proposed that the requirement in the AAS *Bylaws* for maintenance of a reserve fund be altered to require that the reserves required should total not less than ½ of the combined operating expenses for all the AAS journals. Presently each journal must separately satisfy this requirement. Since both the *Astrophysical Journal* and the *Astronomical Journal* are published by the University of Chicago Press, they are budgeted together and are subject to very similar financial changes and thus it is practical and desirable to manage the reserves as a unit.

The Council will take action on this proposal at its 3 June 2001 meeting in Pasadena, CA. Any comments regarding this proposal should be directed to the Secretary of the Society, Arlo Landolt by **15 May** of this year.

The current text and that of this section as proposed appear below:

### ARTICLE VIII. AMERICAN ASTRONOMICAL SOCIETY PUBLICATIONS

*Current Version:*

#### 3. Finances

A restricted fund shall be designated by the Council for the operation of each journal. Each such fund shall be maintained at a level of at least one-half (½) of the annual expenses of each journal.

The Treasurer shall annually review and report to the Council on the financial operation of each journal. The Council shall set the page charges and subscription rates for the coming budget year at a level which will maintain the required level in the journal fund or, in the case of a deficiency, which will restore the level within three years.

*Proposed Version (new words in italics):*

#### 3. Finances

A restricted fund shall be designated by the Council for the operation of *its journals*. *The reserve* fund shall be maintained at a level of at least one-half (½) of the annual *operating* expenses of *its journals*.

The Treasurer shall annually review and report to the Council on the financial operation of each journal. The Council shall set the page charges and subscription rates for the coming budget year at a level which will maintain the required level in the *journals* fund or, in the case of a deficiency, which will restore the level within three years.

## Special Session Proposals for Washington, DC Winter 2002 Meeting

The AAS will be meeting in Washington, DC for its 199th Meeting in January 2002. Proposals for Special Sessions at this meeting are due in the Executive Office **no later than 15 May** and must come from AAS members. Proposals received after that date may not be reviewed for inclusion in the program. Please send requests to Diana Alexander at [diana@as.org](mailto:diana@as.org). What's a Special Session? For details, see page 5.

## PUBLISHING/PUBLICATIONS

### UChicago Press Move Update

The University of Chicago Press (*ApJ*, *AJ*) has completed its move to 1427 East 60th Street, Chicago, IL 60637. Please note that all phone numbers remain the same, but email addresses are now @press.uchicago.edu. Servers were moved to a new subnet. If you have difficulty reaching the servers by host name, please try the new IP addresses:

jrnls-ftp.uchicago.edu 128.135.181.17  
mss.uchicago.edu 128.135.181.18

### APJ Web-based Peer Review

The *Astrophysical Journal* has implemented a fully web-based peer review system (WPR, for short). The system provides secure web-based submission of new and revised manuscripts, downloading of manuscripts by referees, submission of referee reports, and other communications with the editorial office. The system currently serves the *ApJ* Part 1 and the *ApJ Supplement*; implementation for the *ApJ Letters* is expected later this year. You can access WPR directly at <http://mss.uchicago.edu/ApJ/>.

Authors who submit new or revised manuscripts following the instructions at <http://www.journals.uchicago.edu/ApJ/information.html> can receive "fast track" processing of their submissions. (Click the link for "Instructions for Preparation and Submission of Electronic Manuscripts: Journal/Supplement.") A sample LaTeX file which illustrates these instructions can be found at <http://www.journals.uchicago.edu/AAS/AASTeX/sample.tex>. Any questions or comments on the system are welcome at [help@mss.uchicago.edu](mailto:help@mss.uchicago.edu).

### AJ and APJ Contents by Email

Any reader of the online *AJ* or *ApJ* can now receive the table of contents by email each time an issue is posted. To sign up for this free service, go to the following URLs:

**AJ** <http://www.journals.uchicago.edu/mailman/listinfo.cgi/aj-toc>  
**ApJ** <http://www.journals.uchicago.edu/mailman/listinfo.cgi/apj-toc>

If you were already receiving the tables of contents, you have been added to one of these new lists and should already have received a welcome message. Once you have subscribed, you can cancel this service at any time, or temporarily suspend it and restart it later.

### Manuscript Submissions using AAS<sub>TeX</sub>

The *AJ* and *ApJ* accept manuscripts electronically that are prepared using the AAS<sub>TeX</sub> manuscript package. Following are some important addresses for obtaining information about AAS<sub>TeX</sub> and electronic manuscript submission.

#### AAS<sub>TeX</sub> Homepage:

<http://www.journals.uchicago.edu/AAS/AASTeX/>

#### User Support:

[aastex-help@aas.org](mailto:aastex-help@aas.org)

#### Journal Homepages/Manuscript Submission:

*AJ*: <http://www.journals.uchicago.edu/AJ/>

*ApJ*: <http://www.journals.uchicago.edu/ApJ/>

*ApJL*: <http://cfa-www.harvard.edu/apjl/>

## AAS COUNCIL ENDORSES CNSF STATEMENT

On 7 January 2001, the AAS Council endorsed the following statement in support of increased funding for the National Science Foundation:

The Coalition for National Science Funding (CNSF), a group of eighty professional societies, universities, and corporations, commends Congress and the Administration for providing the National Science Foundation (NSF) with the largest dollar increase in the agency's history. The Coalition appreciates the efforts of Senators Christopher "Kit" Bond and Barbara Mikulski to double the NSF's budget, and the support of Representatives James Walsh and Alan Mollohan for the NSF. We applaud the goal of doubling the NSF budget and the FY 2001 appropriation clearly sets us on the right path.

*To maintain this momentum, CNSF strongly urges the Administration and Congress to provide no less than \$5.1 billion, a 15% increase, for the NSF in FY 2002. We believe this increase to be a necessary step toward doubling the NSF's budget by 2006.*

Our national knowledge base in the sciences, mathematics, and engineering is increasingly important to broad economic and social interests. Doubling the NSF budget by 2006 will fund the crucial investments that the agency makes in key components of this vital knowledge base. These funds will permit investments in the basic research needed to rejuvenate and stimulate core disciplines of science, mathematics, and engineering, which are the underpinnings of technological innovation.

The primary source of federal support for non-medical basic research in colleges and universities, the NSF is the only federal agency whose mission consists of comprehensive support for the sciences and engineering. Equally important are investments in people who will apply new knowledge and expand the frontiers of science and engineering. Through its support of research and education programs, the agency plays a vital role in training the next generation of scientists, engineers, and mathematicians. Currently, the NSF must decline almost as many highly-rated grant proposals as it can fund. Increased funding for the NSF will not only enable the funding of more outstanding proposals that will help broaden the nation's knowledge base, it will also enable the agency to increase the size and duration of its grants.

Over the past half century the NSF has had monumental impact on our society. The NSF investment has paid dividends in building the infrastructure of the individual scientific disciplines, as well as laid the groundwork for innovative interdisciplinary research to meet modern day scientific and technical challenges. Many new methods and products arise from the NSF investment in research, such as geographic information systems, World Wide Web search engines, automatic heart defibrillators, product bar codes, computer aided modeling (CAD/CAM), retinal implants, optical fibers, magnetic resonance imaging technology, and composite materials used in aircraft. NSF-sponsored research has triggered huge advances in understanding our planet's natural processes, which lead to providing a sound scientific framework for better decision-making about earth's natural environment. These methods, products, and advances in understanding accrue from basic research performed over many years, not always pre-determined research efforts aimed toward a specific result. Furthermore, the NSF traditionally receives high marks for efficiency – less than four percent of the agency's budget is spent on administration and management.

For these reasons, CNSF highly recommends that Congress and the Administration continue to invest in NSF by providing, at a minimum, \$5.1 billion for FY 2002, and work to double the NSF's budget by 2006.

# SUBMITTING AN ABSTRACT

## Session 1: Abstract Science 101

### Refresher Session, March 2001

1.01

#### Sorting Abstracts: Many Are Called; Few Respond

G. Williger (NASA's GSFC)

Sorting abstracts for an AAS meeting is one of those jobs to which many are called, but few respond. As I have worked only a short distance from the AAS offices for the past four years, I usually had a brief pang of guilt before deleting the email which asked once again for volunteers. As I may well move by the end of the year, I decided that I ought to do it once, just for the experience. After spending a few hours learning how such a big task is organized, then actually going through a couple of hundred abstracts with a friendly group of selfless people, I learned several things:

1) AAS members do a lot of interesting research;

2) sorting abstracts is a great way to get a snapshot of that research; and

3) about a dozen AAS staff members and colleagues do a lot of work for the rest of us every six months.

So, I highly encourage all AAS members who might be near Washington at abstract-sorting time, especially younger members, to take a turn at sorting abstracts. A few veteran astronomers in the mix are important, too, to help with the "difficult" cases. It is both an eye-opening experience for research, and one of the few "professional duties" we can contribute at the cost of only a few hours of time. Someone volunteered to sort our abstracts, so the least that we can do is to return the favor. If enough members volunteer, once should be enough for each of us. The free lunch is not bad, either!

1.02

#### Pasadena Abstracts Due 28 March

I.M. Realbusy (U. of Overextension), A. Dilatory (Dept. of Dawdle, Dally Inst.)

Abstracts for the 198th Meeting of the American Astronomical Society, 3-7 June 2001 are due no later than 9:00pm Eastern Time on Wednesday, **28 March 2001**. This is a strict deadline.

Abstracts are accepted weeks prior to the deadline. Please, please get started. Our server becomes overloaded when 900 abstracts are submitted at 8:59pm! Send a draft of your abstract text and author list to your colleagues today. Convert the final version into plain ASCII text with LaTeX markup for pasting into the abstract form.

Complete abstract instructions are available online at : <http://www.aas.org/meetings/aas198/prelim/prelim.html> in the Pasadena Preliminary Announcement.

If contacted prior to the deadline (202-328-2010, or [abs-help@aas.org](mailto:abs-help@aas.org)) we happily help members with their abstract submission. We have typed in faxed abstracts when Departmental computers crashed. We have even taken dictation from hospital beds. *But we cannot squeeze your abstract in after the deadline!*

1.03

#### Initial Investment in Indexing

G. Bower (NOAO or UCB?), C. Cheung (GSFC or Brandies U.?), P. Feldman (JHU or DAO?), R. Fisher (U. Florida or GSFC?), J. Graham (DTM or UCB?), P. Hodge (U. Washington or STScI?), B. McNamara (NMSU or Ohio State U.?)

It is not just the Browns, Johnsons, Jones, and Smiths. There are many scientists with the same first initial and last name. We encourage you to include author's middle initials on the abstract form. Initials help with indexing in the AAS Meeting Program and the Astrophysics Data System.

1.04

#### The Importance of Running ID Numbers

W.E. Confirm (AAS)

Once an abstract is processed, a confirmation is sent to the presenting author's email address. It confirms acceptance and includes a running identification number. *Make sure the presenting author receives a RUNNING ID#.* If you do not have a running id, we do not have your abstract.

If the presenting author does not receive a running identification number within ~ one business day, the author should contact the Executive Office ([abs-help@aas.org](mailto:abs-help@aas.org), 202-328-2010).

Submitting an abstract does not register the author for the meeting; meeting registration is a separate process. The registration form is found at <https://www.aas.org/meetings/aas198/regform.html>.

## Special vs. Topical Sessions: What's the Difference?

### Special Sessions

*When:* Winter and Spring meetings

*Length:* One and one half hours; will be scheduled at the same time as other oral sessions

*Format:* Invited, contributed papers, or a combination of the two

*Proposal Content:*

Strong justification for topic, speakers

*Proposals Due to Executive Office:*

For winter meeting: **early May**;

For spring meeting: **early December**

### Topical Sessions:

*When:* Spring Meetings only; Tuesdays and Wednesdays

*Length:* Half day (3 ¼ hours) or Full day (6 ½ hours)

*Format:* Invited speakers, invited posters, invited debates, or other innovative structure; only three topical sessions will be scheduled at the same time

*Proposal Content:*

Strong justification for the general theme, description of format, list of speakers and sub-topics

*Proposal Due to Executive Office: 15 November.*

### Membership Staff Departing

After years of stability, the AAS Membership Department is changing.

**Sharon Savoy Thaxton**, our Membership Coordinator, hired in 1989, left in February to return to school.

**Deb Watkins**, who worked for the AAS since 1993, resigned her position this January.

Together they processed over 69,000 member renewal invoices, 17,000 changes of address, not to mention all the subscription lists and three major software conversions!

Thanks, Sharon and Deb, for your years of dedication to the Society.

## COMMITTEE NEWS

### Status of Women in Astronomy

Meg Urry, Chair, [cmu@stsci.edu](mailto:cmu@stsci.edu)



CSWA Chair Meg Urry (left, STScI) presided at a special Committee-sponsored session at the AAS San Diego meeting. Margaret Burbidge (right, UC San Diego) addressed the session that was held in her honor.

Photo by Richard Dreiser.  
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#### CSWA Activities in San Diego

Eminent astronomer and UCSD Professor **Margaret Burbidge** was the highlighted speaker at the CSWA session in San Diego. She spoke about recent scientific work and about her earlier career, including some of the obstacles she faced as a woman entering an almost exclusively male profession. One of the biggest barriers

to women being taken seriously, Prof. Burbidge suggested, is the high pitch of the female voice. These and other observations were met with sympathetic laughter and more than a few affirming nods from the large audience.

During the extensive discussion that followed the talk, several women described what Margaret Burbidge had meant to them personally — in some cases, before they had even had a chance to meet her. For many, just knowing that another woman was having an impact on astronomy was encouragement enough. The testimonials about Prof. Burbidge demonstrated just how important role models can be.

The CSWA session was followed by a special luncheon honoring Margaret Burbidge's outstanding scientific career and her unique contribution as a role model for other women. More than 100 people attended the luncheon, which was sponsored by the CSWA, AAS, AURA, AUI, NASA, CIW, and STScI. Remarks by **Anne Kinney, Don Osterbrock, Vera Rubin, Anneila Sargent, and Meg Urry**, as well as words from a number of prominent astronomers who could not be present, recalled some of the many ways in which Burbidge has had an impact. She was given several mementos of the occasion,



Vera Rubin (left) (CIW, Dept. of Terrestrial Magnetism) and Don Osterbrock (UCO/Lick Observatory) were among many who paid tribute to Burbidge (center) in remarks at the luncheon in her honor following the Special Session.

Photo by Richard Dreiser.  
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including a Tiffany interlocking-star pin, a signed, framed photo montage, and an album of letters and reminiscences from her colleagues.

Prof. Burbidge was touched and pleased by the event, and by the tremendous outpouring of gratitude and affection from everyone there.

A scientist to the core, she had to leave promptly at 1:25pm to attend one of the final oral sessions of the AAS meeting, in which she was presenting a paper. For many at the luncheon — most especially the students — this evidence of undiminished enthusiasm for and dedication to astronomy was probably the most important lesson Margaret Burbidge could offer: to follow one's dream and to keep one's eye on the ball.

#### Committee Publications

The AAS Committee on the Status of Women in Astronomy publishes two free newsletters: *STATUS*, published twice a year on paper and *AASWOMEN*, a weekly electronic newsletter. If you do not already subscribe, or if your students (especially women) have not yet subscribed, please consider doing so.

Twice yearly, just before AAS meetings, a copy of the *STATUS* newsletter is mailed to subscribers and simultaneously posted on the Web at <http://www.aas.org/~cswa/pubs.html>. To subscribe to *STATUS*, send email to [aas@aas.org](mailto:aas@aas.org).

The shorter, more timely electronic newsletter, *AASWOMEN*, comes out approximately once a week. To subscribe, send email to [majordomo@stsci.edu](mailto:majordomo@stsci.edu), with the message "subscribe aaswlist yourusername@yourmode" in the body of the message (not the subject line). *AASWOMEN* welcomes items of interest to women in astronomy, such as topical news articles and discussions, workshop notices, and job ads. Contributions can be emailed to [aaswomen@stsci.edu](mailto:aaswomen@stsci.edu).

### Employment

#### Committee Meets in San Diego

Marc S. Allen, Andrea Schweitzer and Kevin B. Marvel

The employment committee met at the AAS meeting in San Diego to discuss future activities. Committee members Ted Gull, John Mather, Jack Burns and Andrea Schweitzer participated. Many topics were discussed, including the successful Industrial Astronomers Network web page at <http://www.aas.org/career/Industry.html>, and some action items were developed during the meeting.

First, at all future AAS meetings, members of the employment committee will wear a special ribbon so that AAS members can easily identify them and speak with them about any employment issues or concerns. The committee may also provide name badge stickers to those meeting registrants who identify themselves as working in a non-traditional career. This will highlight the large and increasing number of AAS members who work outside of academia and will facilitate efficient networking. Finally, the committee will prepare some proposals for activities at the Washington, DC meeting in January 2002 for submission to the meeting planners.

A number of other topics were discussed, including plans for future career workshops and ways to enhance the Job Center and the *Job Register*. Dominating the discussion was the recently unveiled National Academy report on ways of enhancing the postdoctoral experience. (See EDUCATION NEWS, opposite.) The committee accepted as one of its long-term goals the implementation of the report recommendations for professional societies that are appropriate for the AAS. Check the Career Services link on the AAS homepage to stay up-to-date on committee activities.

## EDUCATION

Bruce Partridge, Education Officer, bpartrid@haverford.edu

### Grad Students Round Table in San Diego

An evening gathering of graduate students took place at the San Diego meeting, with more than 20 people attending to listen to graduate student issues and concerns. The participants have since established an independent email discussion group, called "astrograds," which is meant to provide a forum for information exchange among astronomy graduate students.

### Interim Education Contact

While the AAS Education Office is being relocated to Washington, DC, **Gina Brissenden** will assist with the administration of our education programs. During this period, estimated to extend through the month of June, all inquiries and other correspondence may be directed to her by email to [aased@aas.org](mailto:aased@aas.org) or by phone at 608-231-1285. Her mailing address is 303-E Eagle Heights Dr., Madison, WI 53705. Any mail sent to the Executive Office in Washington will be forwarded as appropriate.

### Website for Astronomy Education in the US

Tom Arny from the University of Massachusetts at Amherst has compiled a webpage of links to the various graduate and undergraduate astronomy education programs in the United States. The site should be useful to advisors who wish to provide their students with up-to-date information about available education options. A link to the sites is available on the AAS education web pages or go directly to [http://www.astro.umass.edu/~arny/astro\\_ugprogs.html](http://www.astro.umass.edu/~arny/astro_ugprogs.html) (for undergraduate programs) or [/astro\\_gradprogs.html](http://www.astro.umass.edu/~arny/astro_gradprogs.html) (graduate programs). Keeping such a list up-to-date is a difficult job, so please help out by sending any updated links or information to Tom ([arny@nova.astro.umass.edu](mailto:arny@nova.astro.umass.edu)).

### New Guide for Postdocs

*Excerpted from FYI, the science policy newsletter of the AIP.*

"Providing excellent postdoctoral experiences for junior researchers is critical to the health and productivity of the US system of research," declared Maxine Singer upon the release this fall of a guide sponsored by the National Academy of Sciences, National Academy of Engineering, and Institute of Medicine entitled "Enhancing the Postdoctoral Experience for Scientists and Engineers, A Guide for Postdoctoral Scholars, Advisers, Institutions, Funding Organizations, and Disciplinary Societies." She then added, "today's postdoctoral experience has many marvelous aspects, and these must continue. But it also has elements that are not working well and these should be improved." There are now an estimated 52,000 postdocs in the United States, with the number of postdocs greater at some institutions than the number of graduate students.

This guide is of particular interest to physics post-docs, since, as the guide states, "In the physical sciences (chemistry and physics), most PhDs who plan research careers are advised to do postdoctoral work." Of the ten fields surveyed, "physics and astronomy" ranked third in the number of new doctorates planning postdoctoral appointments (considerably less than those in biological sciences). The number of physics doctorates planning postdoctoral study peaked around 1994, and was, according to one chart, starting to increase in the period from 1997 to 1998.

A brief chapter in this report is entitled, "The Postdoc and the Disciplinary Societies," which suggests web site career listings, "the development of norms regarding the postdoctoral experience," and the collection of statistics. The report concludes with a chapter with practical "principles, action points, and recommendations for enhancing the postdoctoral experience."

The 184-page guide is available for purchase at the National Academy Press web site at [www.nap.edu](http://www.nap.edu) or can be viewed at <http://national-academies.org/postdocs>.

## AAS Endorsement

### *Astronomy and Astrophysics in the New Millennium*

A report of the Astronomy and Astrophysics Survey Committee of the Board on Physics and Astronomy and the Space Studies Board.  
Commission on Physical Sciences, Mathematics and Applications of the National Research Council

*Whereas*, the National Research Council has recently completed and published the report *Astronomy and Astrophysics in the New Millennium*; and

*Whereas*, the report represents a consensus of the astronomy and astrophysics community as to the priorities for federal investment in astronomy and astrophysics research for the coming decade; and

*Whereas*, the process by which the report was produced was carried out in a fully open manner and included many opportunities for input from the astronomy and astrophysics community as well as open public sessions in several locations and at meetings of the American Astronomical Society; and

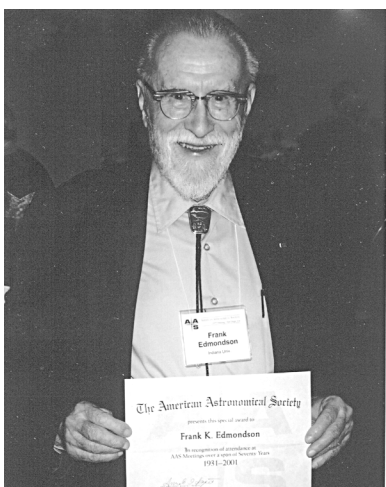
*Whereas*, the report will be presented to Congress as an important and useful document for establishing federal investment in astronomical and astrophysical research in the coming decade,

The American Astronomical Society hereby endorses the report as presenting a valid and balanced set of priorities for the coming decade for investment in astronomy and astrophysical research.

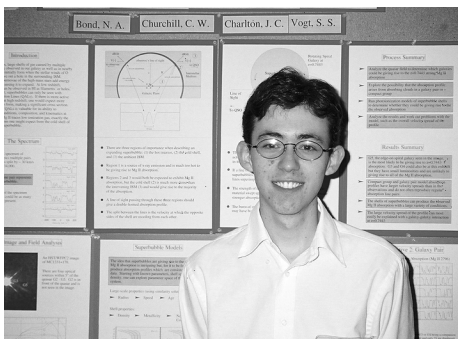
Further, the American Astronomical Society encourages its members, other astronomy, astrophysics and related researchers, astronomy and astrophysics enthusiasts, the public and especially members of Congress and the Administration to fully embrace the report and use it when making policy decisions regarding federal investment in astronomical and astrophysical research during the coming decade.



Xiaohui Fan (Inst. for Adv. Study) reported on high-redshift quasars in the Sloan Digital Sky Survey.



Frank Edmondson (Indiana U.) was recognized for attendance at AAS meetings over the seventy year span, 1931–2001!

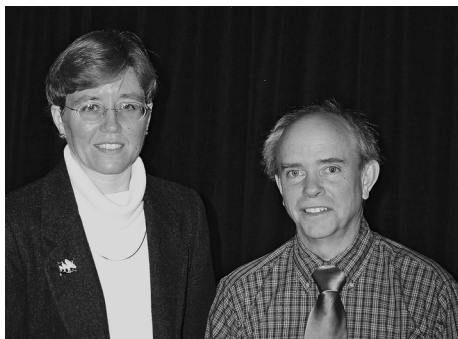


Nicholas Bond (Pennsylvania State U.) had a display paper on expanding superbubbles detected in a QSO spectrum.

## AAS and AAPT IN SAN DIEGO

The first joint meeting of the AAS and the American Association of Physics Teachers attracted 3300 registrants — 2100 for AAS and 1200 for AAPT. The 7–11 January 2001 weather in San Diego was not all we hoped for, but there were many fine sessions.

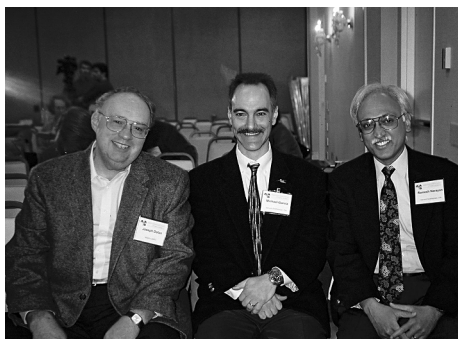
(Except where otherwise indicated, all pictures are AAS photos by Richard Dreiser, ©2001 American Astronomical Society.)



Debra Shepherd and Mark Claussen (both, NRAO, Socorro) reported an early finding from the VLA as recently enhanced by a link to the Pietown telescope: a small accretion disk around a massive protostar in a binary system.



Experts on adaptive optics presented a Seminar for Science Writers. Left-to-right, they are NSO Director Stephen Keil, Gemini Observatory Director Matt Mountain, Laird Close (U. Arizona), and Claire Max (LLNL).



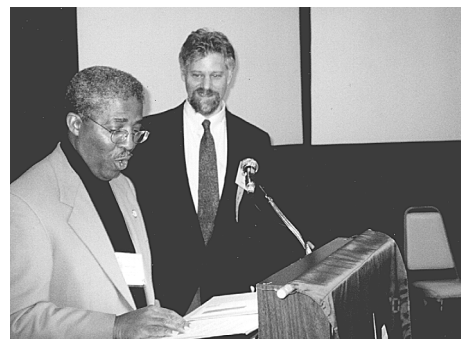
Reporting on black holes were (l.-to-r.) HST/HSP observer Joseph Dolan (GSFC) and Chandra investigators Michael Garcia and Ramesh Narayan (both, Center for Astrophysics).



Rolf-Peter Kudritzki (left, U. Hawai'i) and Warren Moos (Johns Hopkins U.) gave invited talks on extragalactic stellar astronomy and on the FUSE mission, respectively.



Andrew Drake and Cailin Nelson (both, LLNL), in studies related to the MACHO project, reported on numerous new high proper motion stars and on locating the MACHO lensing objects, respectively.



Ron Cowen (right, Science News) received the American Institute of Physics Award for Science Writing by a Journalist from James Stith (AIP).

Photo by Steve Maran



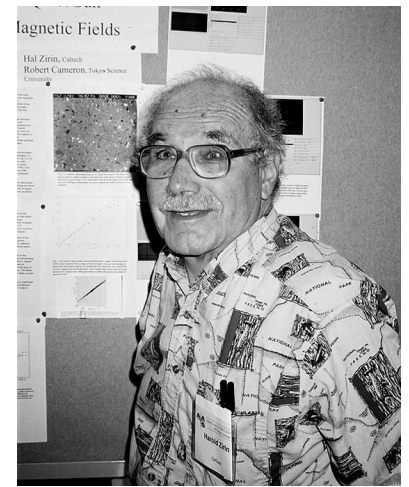


A "CONCAM" all-sky monitor was flanked by developers Bruce Rafert (left) and Robert Nemiroff (both, Michigan Technical U.).



Gerard Williger (NOAO/GSFC) described studies of perhaps the largest known structure.

Photo by Steve Maran

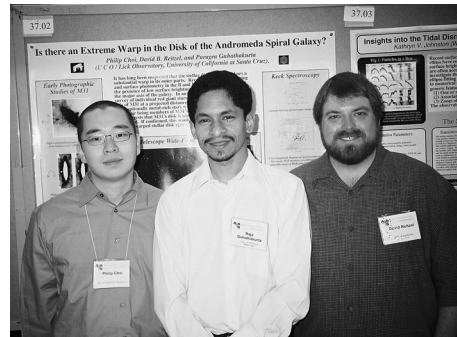


Harold Zirin (Caltech) presented new results on the "true strength" of magnetic fields in the quiet Sun.



Undergraduate Kara Krelove (right, Penn State U.) reported on intracluster planetaries in Fornax, then spent a day observing the work of mentor/science writer Alexandra Witze (left, Dallas Morning News).

Photo by Steve Maran



Philip Choi, Puragra Guhathakurta, and David Reitzel (l.-to-r., all U. California, Santa Cruz) found that the Andromeda galaxy may represent an extreme case of a warped disk in a spiral system.



Frank Shu (U. California, Berkeley) received the Heineman Prize.



AAS President Anneila Sargent presided over awards (starting at the left) of: the Warner Prize (left) to Wayne Hu (U. Chicago); the Russell Lectureship (center) to Donald Lynden-Bell (U. Cambridge); and the Pierce Prize to Kirpal Nandra (USRA/GSFC).



## DIVISION NEWS



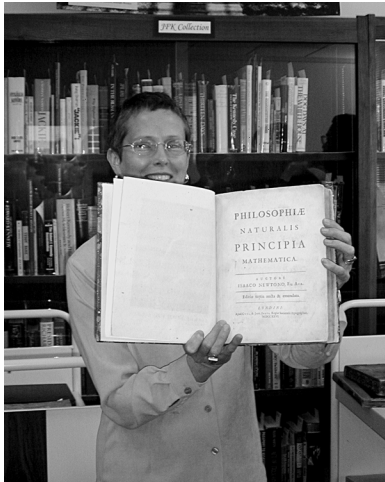
### Historical Astronomy

#### San Diego Meeting

Virginia Trimble, Past Chair;  
Photos by David DeVorkin except as  
otherwise noted.

The Historical Astronomy Division began the new century and millennium with an assortment of scientific and logistic activities in San Diego. Undoubted

scientific highlight was a visit to the Zinner collection of historic astronomical books and documents at San Diego State University, hosted by **Freddie Talbert** of the astronomy faculty and **Lyn Olsson** of SDSU's Special Collections department. As well as



At the Zinner Collection, Lyn Olsson of the Special Collections staff displays an edition of Newton's *Philosophiæ Naturalis Principia Mathematica*.

displaying classic works by Galileo, Copernicus, and many others, Olsson provided some guidance in how such volumes should be handled — not necessarily with gloves, which are likely to tear fragile pages, but with very clean, oil-free, delicate human fingers. None of us dared try, but we bent closely over, making remarks like “that lion must have been drawn by someone who had never seen a lion,” and “that’s not a scorpion, that’s a tick,” in response to John Flamsteed’s *Atlas Coelestis* of 1753 (no, it doesn’t show Cas A).

Another highlight was their latest, late December, acquisition, Johannes Kepler’s *Rudolphine Tables* of 1627, with a world map added after his death.

Next (logically if not temporally) came two sessions of oral presentations. The first, at SDSU, consisted of talks focused on astronomical errors and their place in the progress (?) of our subject. **A. T. Young** pointed out that Biot had approached



Among the more colorful of the Zinner’s treasures is the 1838 *Bilder des Sternenhimmels* (Picture Atlas of the World of Stars; an Astronomy Book for Everyman) edited by Dr. Edmund Weiss, Director of the Observatory and Professor of Astronomy at the Imperial and Royal University in Vienna.

atmospheric refraction from an incorrect theory of light, but nevertheless obtained more nearly correct results than many later practitioners, the results having been forgotten to our detriment.

**G. S. Wallerstein** followed the long, crooked path from Boss to HIPPARCOS in

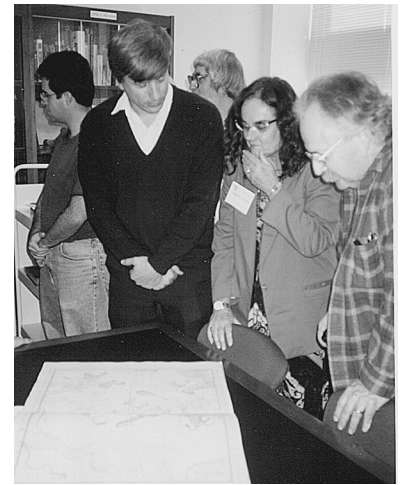
pinning down the part of the distance ladder tied to the Hyades, concluding that the HIPPARCOS value ( $m-M = 3.33$ ) will be definitive for a very long time, despite slight disagreement with his own earlier work.

**B. E. Schaefer** drew attention to the several wrong explanations of the black drop effect (when Venus — or Mercury — transits the sun) that are more often found in textbooks than is the correct, image-smearing and isophote-tracing, answer.

**D. H. DeVorkin** focused on Henry Norris Russell, his diagram and his theory of stellar evolution (“giant and dwarf”), finding that the latter had motivated the former about as much as the converse and that both had helped to focus astronomical research and move it forward, though the theory was, of course, eventually superseded. **T. H. Williams** looked at the careers of John Edward Mellish and Edwin Hubble at Yerkes Observatory, recounting how the former’s erroneous announcement of a comet in what was really a variable nebula led to Director Edwin Frost “directing” Hubble’s work from faint stars to diffuse objects, perhaps to the detriment of Mellish’s career but to the enormous betterment of Hubble’s and of nebular astronomy in general. **V. Trimble** discussed two different circumstances (trend lines in color-magnitude diagrams and moving groups in stellar dynamics) in which Olin Eggen had tried to draw a bunch of lines through scatter diagrams, neither enhancing nor retarding astronomy in the process, but probably affecting his own future interactions with the astronomical community.

The second set of talks at the conference hotel ranged from AD 29 to 1965. **K. D. Pang** and **K. K. Yau** began with the 202<sup>nd</sup> Olympiad and the solar eclipse of 29 AD, which may or may not have had theological significance, noting that eclipses were recorded in China the year of the first Olympiad (776 BC) and that there will be a total solar one (again passing over China) during the 19<sup>th</sup> modern Olympiad. **B. L. Welther** leaped forward to the Shapley era at Harvard, reflecting on the graduate and subsequent careers of early PhD recipients there, four of the first eight and 10 of the first 30 of whom were women, beginning, of course, with Cecilia Helena Payne.

**D. E. Osterbrock** highlighted Walter Baade’s work (1937-1958) at Mt. Wilson and Palomar Mountain Observatories,



Three past HAD officers Bradley Schaefer (left, Yale U.), Virginia Trimble (UC Irvine & U. Md.) and David DeVorkin (Smithsonian Air & Space Museum) inspect one of the rare atlases at the Zinner Collection.

Photo by Tom Hockey



HAD Chair Barbara Welther (CJA) discussed the Shapley era at Harvard that was distinguished for, among other things, the high percentage of women astronomy graduates.



*New HAD Chair-elect Tom Williams (Rice U.) gave his first talk as a PhD!  
Photo by Tom Hockey*

including his search for relatively transparent parts of the Milky Way (think “Baade’s window”), variable stars in M31, the polarization of the Crab Nebula, and (with Minkowski) early identifications of radio sources. **B. McNamara** brought us closest to the present, looking at the baker’s dozen American women initially selected for astronaut training (the Mercury 13), but whose participation was abruptly canceled, leaving the Russian cosmonaut, Valentina Tereshkova, to be

the first woman in space.

HAD has not traditionally been represented formally by invited, plenary, or prize talks for the society as a whole. This year, however, the final joint AAPT-AAS session speaker addressed a historical topic. **Dennis Danielson**, Professor of English at the University of British Columbia, spoke on “The Great Copernican Cliche.” His thesis was that most astronomers, and a good many historians, badly misunderstand the change from geocentric to heliocentric models as a fall in stature or dethronement from an exalted position, while, in fact, a central Earth was so located because of its dross, gross, and bilge-like character. Copernicanism, by granting it motion (and, with earth-shine, light) restored Earth to the dance of the planets. Danielson also pointed out that geocentrism and anthropocentrism are not at all the same thing (most of the early Copernicans were distinctly anthropocentrists), and described his own function as that of a janitor, passing out brooms for us all to sweep away the cobwebs of misunderstanding.

#### *Business Meeting*

Finally, the Division also HAD its usual, cheerful business meeting, with about 20 participants, most of whom have already served the Division in some capacity (and we’ll catch the rest of you next time!). Outgoing Secretary-Treasurer **Tom Hockey** informed us that there was a positive balance in the checking account (which he had not found any way to take with him) and a steady membership of about 300 (which you are urged to augment by adding to the checking account).

Election results were announced; the complete team is now (asterisks indicate the newly elected): **Barbara Welther** (chair), **Thomas R. Williams\*** (chair-elect), **Ronald Brashear\*** (secretary- treasurer and editor of Newsletter); committee Members **Brenda Corbin\*** and **Tom Hockey\***, and **Virginia Trimble** (past chair), and the team members returning to the dugout are **David DeVorkin** (retiring past chair) and committee members **Sara Schechner** and **Stephen McCluskey**.

Divisions were asked by the AAS Executive Committee to appoint liaisons to some of the more important society-wide committees and the following agreed to serve: Alan Fiala (Committee on Astronomy and Public Policy), David DeVorkin (Committee on the Status of Women), and Thomas Hockey (Committee on Education). Liaisons to a few other committees

are still needed; to volunteer, contact Chair Barbara Welther (bwelther@cfa.harvard.edu).

Eugene Milone has agreed to chair a revived Working Group on Archaeo- and Ethno-astronomy.

Suggestions for activities at the next annual meeting (January 2002 in Washington, DC) were bandied about, including visits to the National Air and Space Museum, the Smithsonian Institution, and other local sites of interest. Please send ideas and offers of assistance to Chair Welther.

Obituaries of deceased members and prize winners will continue to be a HAD responsibility, coordinated by chair-elect Williams. Please send offers of assistance to him at tw@rice.edu.

The meeting concluded with the informal hand-over of the insigne of office, consisting of an image of The Old Astronomer, captioned “Ich bin HAD” and a rubber mallet gavel, from DeVorkin to Trimble (because we forgot to do it in Chicago) and on to Welther, though, like wedding photographs, the pictures were taken beforehand.

#### **Nominate for Doggett Prize by 15 June**

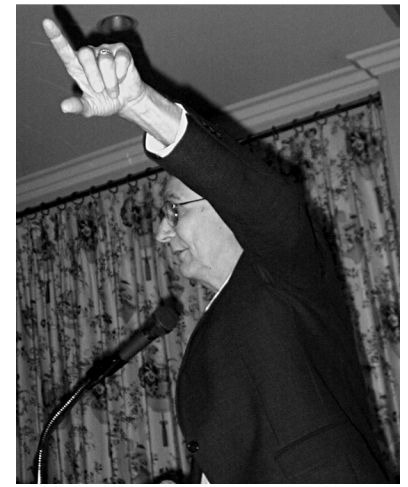
The Historical Astronomy Division will award its third, biennial Leroy Doggett Prize (named and funded in honor of our late colleague of the US Naval Observatory) in 2002. The prize recognizes achievement in the study of history of astronomy (broadly interpreted), either in the form of a single, major contribution or a long period of accomplishment. It consists of a modest cash award plus some travel support to attend the January 2002 AAS meeting in Washington, DC, where the winner is invited to deliver a prize address to the Division.

A nomination should include whatever information you, the nominator, think makes it clear

why you are putting the candidate forward. This would include a letter from you and might also include a CV or bio-bibliography, a letter or two of support from colleagues, or whatever else you think is appropriate.

By **15 June 2001**, nominations should reach the Prize Committee chair Virginia Trimble (Physics Dept, Univ. of California, Irvine, CA 92697). The current committee includes Barbara Welther, Tom

Hockey, Virginia Trimble and Ronald Brashear and the two previous prize winners, Curtis Wilson of St. Johns College and Owen Gingerich of Center for Astrophysics.



*Don Osterbrock (UCO/Lick) was pointed about the work of Walter Baade at Mt Wilson and Palomar Mountain Observatories.*



*At the end of the business meeting, at one fell swoop, the official insigne of HAD office were handed over from DeVorkin to Trimble then to Welther to set the record straight.*

## CALENDAR

Listed below are meetings that have come to our attention (new or revised listings noted with an asterisk). Due to space limitations, we publish notice of meetings 1) occurring in North, South and Central America; 2) meetings of the IAU; and 3) meetings as requested by AAS Members. Meeting publication may only be assured by emailing [lscholz@aas.org](mailto:lscholz@aas.org). Meetings that fall within 30 days of publication are not listed.

A comprehensive list of world-wide astronomy meetings is maintained by Liz Bryson, Librarian C-F-H Telescope in collaboration with the Canadian Astronomy Data Centre, Victoria, BC. The list may be accessed and meeting information entered at <http://cadcwww.hia.nrc.ca/meetings>.

### AAS and AAS Division Meetings

#### \*Division for Dynamical Astronomy

22–25 April 2001 — Houston, TX  
Contact: Joe Hahn ([hahn@pi.usra.edu](mailto:hahn@pi.usra.edu))  
<http://www.lpi.usra.edu/meetings/dda2001>

#### Solar Physics Division (with AGU)

29 May–2 June 2001 — Boston, MA  
Contact: John Leibacher ([leib@noao.edu](mailto:leib@noao.edu))

#### 198<sup>th</sup> Meeting of the AAS

3–7 June 2001 — Pasadena, CA  
Contact: AAS Executive Office ([aas@aas.org](mailto:aas@aas.org))

#### Division for Planetary Sciences

27 November–1 December 2001 — New Orleans, LA  
Contact: S. Alan Stern ([alan@everest.space.swri.edu](mailto:alan@everest.space.swri.edu))

#### 199<sup>th</sup> Meeting of the AAS

6–10 January 2002 — Washington, DC  
Contact: AAS Executive Office ([aas@aas.org](mailto:aas@aas.org))

#### High Energy Astrophysics Division (with APS Division of Astrophysics)

20–23 April 2002 — Albuquerque, NM  
Contact: Alice Harding ([harding@twinkie.gsfc.nasa.gov](mailto:harding@twinkie.gsfc.nasa.gov))

### Other Events

#### \*The Dark Universe: Matter, Energy, and Gravity

2–5 April 2001 — Baltimore MD  
Contact: Quindairian Gryce ([gryce@stsci.edu](mailto:gryce@stsci.edu))  
<http://ntweb.stsci.edu/sd/darkuniverse/index.html>

#### \*Joint UK Annual National Astronomy Meeting (NAM) and UK Annual Solar Physics Meeting (UKSP)

2–6 April 2001 — Cambridge, England, UK  
Contact: Gill Harrison ([nam2001@ast.cam.ac.uk](mailto:nam2001@ast.cam.ac.uk))  
<http://www.ast.cam.ac.uk/~nam2001>

#### Space: Beyond Solar-B

3–5 April 2001 — Huntsville, AL  
[http://science.nasa.gov/ssl/pad/solar/Beyond\\_Solar-B.htm](http://science.nasa.gov/ssl/pad/solar/Beyond_Solar-B.htm)

#### Extragalactic Gas at Low Redshift

4–6 April 2001 — Pasadena, CA  
Contact: John Mulchaey ([mulchaey@ociw.edu](mailto:mulchaey@ociw.edu))  
<http://www.ociw.edu/ociw/workshop/April2001>

#### 6<sup>th</sup> Compton Symposium, “Gamma-Ray Astrophysics 2001”

4–6 April 2001 — Baltimore, MD  
Contact: Sandra L. Barnes ([barnes@grossc.gsfc.nasa.gov](mailto:barnes@grossc.gsfc.nasa.gov))  
<http://cosscc.gsfc.nasa.gov/meetings/Gamma2001>

#### \*PASCOS 2001

10–15 April — Chapel Hill, NC  
Contact: Marie Englund ([PASCOS2001@physics.unc.edu](mailto:PASCOS2001@physics.unc.edu))  
<http://www.physics.unc.edu/PASCOS2001>

#### \*American Physical Society

28 April–1 May 2001 — Washington, DC  
Contact: Chuck Dermer ([dermer@gamma.nrl.navy.mil](mailto:dermer@gamma.nrl.navy.mil))  
<http://www.aps.org/meet/APR01/index.html>

#### AAS SECOND CENTURY LECTURE by Vera Rubin

“What’s the Matter in the Universe?”  
2 May 2001 — Los Altos Hills, CA  
<http://www.foothill.fhda.edu>

#### \*Middle Atlantic Planetarium Society Conference

9–12 May 2001 — Pittsburgh, PA  
Contact: James Hughes ([hughes@csc.clpgh.org](mailto:hughes@csc.clpgh.org))  
<http://www.buhlplanetarium.org/maps/>

#### \*The Menzel Centennial Symposium

11 May 2001 — Cambridge, MA  
<http://cfa-www.harvard.edu/menzel/>

#### \*AAS SECOND CENTURY LECTURE by Joseph Taylor

11 May 2001 — Chicago, IL  
<http://www.adlerplanetarium.org/>

#### \*2001: A Spacetime Odyssey

21–25 May 2001 — Ann Arbor, MI  
Contact: Angie Yerks ([ayerks@umich.edu](mailto:ayerks@umich.edu))  
<http://www.umich.edu/~mctp/sto2001/>

#### \*2001 Michelson Interferometry Summer School

21–25 May 2001 — Flagstaff, AZ  
Contact: Peter Lawson ([lawson@huey.jpl.nasa.gov](mailto:lawson@huey.jpl.nasa.gov))  
<http://sim.jpl.nasa.gov/michelson/>

#### Canadian Astronomical Society Annual Meeting

26–29 May 2001 — Hamilton, ONT, Canada  
Contact: William Harris ([harris@physics.mcmaster.ca](mailto:harris@physics.mcmaster.ca))  
<http://casca2001.mcmaster.ca>

#### \*The Shapes of Galaxies and Their Dark Matter Halos

28–30 May 2001 — New Haven, CT  
Contact: Priya Natarajan ([workshop@astro.yale.edu](mailto:workshop@astro.yale.edu))  
<http://www.astro.yale.edu/workshop>

#### American Geophysical Union Spring Meeting

29 May–2 June 2001 — Boston, MA  
Contact: [meetinginfo@agu.org](mailto:meetinginfo@agu.org)  
<http://www.agu.org/meetings>

#### \*NAIC/NRAO School on Single-Dish Radio Astronomy; Techniques & Applications

10–15 June 2001 — Arecibo, PR  
Contact: [school@naic.edu](mailto:school@naic.edu)  
<http://www.naic.edu/meeting.html>

#### \*Compact Objects in Dense Star Clusters

10 June–1 July 2001 — Aspen, CO  
<http://www.mit.edu/~rasio/Aspen.html>

#### \*8<sup>th</sup> Taipei Astrophysics Workshop: “High-z Clusters, Missing Baryons and CMB Polarization”

11–15 June 2001 — Taipei, Taiwan  
Contact: Lin-wen Chen ([clw@asiaa.sinica.edu.tw](mailto:clw@asiaa.sinica.edu.tw))  
<http://www.asiaa.sinica.edu.tw/amiba/taw8.html>

#### Solar Variability, Climate and Space Weather

13–16 June 2001 — Longmont, CO  
Contact: Judit M. Pap ([jpap@solar.stanford.edu](mailto:jpap@solar.stanford.edu))

#### IAU Colloquium No. 184, “AGN Surveys”

19–23 June 2001 — Byurkan, Armenia  
Contact: Areg M. Mickaelian ([iauc184@bao.sci.am](mailto:iauc184@bao.sci.am))  
<http://bao.sci.am/iauc184>

- Tenth UN/ESA Workshop on Basic Space Science  
25–29 June 2001 — Redit, Mauritius  
Contact: Hans Haubold (haubold@kph.tuwien.ac.at)  
<http://www.oosa.unvienna.org>
- \*Jupiter: Planet, Satellites & Magnetosphere  
25–30 June 2001 — Boulder, CO  
Contact: Fran Bagenal (bagenal@colorado.edu)  
<http://lasp.colorado.edu/jupiter/index.html>
- \*35<sup>th</sup> ESLAB Symposium: “Stellar Coronae in the Chandra and XMM-Newton Era”  
25–29 June 2001 — Noordwijk, The Netherlands  
Contact: coronae2001@astro.estec.esa.nl  
[http://astro.estec.esa.nl/Symposia/Coronae2001/prel\\_reg.html](http://astro.estec.esa.nl/Symposia/Coronae2001/prel_reg.html)
- Royal Astronomical Society of Canada General Assembly  
28 June–1 July 2001 — London, ONT, Canada  
Contact: Peter Jedicke (pjedicke@fanshawec.on.ca)  
<http://phobos.astro.uwo.ca/~rasc/home.html>
- Fifth Biennial History of Astronomy Workshop  
5–8 July 2001 — Notre Dame, IN  
Contact: Steve Dick (dick.steve@usno.navy.mil)  
<http://www.nd.edu/histast4>
- \*XXI International Congress of History of Science  
8–14 July 2001 — Mexico City, Mexico  
Contact: Juan Jose Saldana (xxiichs@servidor.unam.mx)
- \*The Square Kilometer Array (SKA): Defining the Future  
9–12 July 2001 — Berkeley, CA  
Contact: Elyse Pierson (epierson@seto.org)
- \*IAU Symp. 208: Astrophysical Supercomputing using Particle Simulations  
10–13 July 2001 — Tokyo, Japan  
Contact: iau208@grape.c.u-tokyo.ac.jp  
<http://grape.c.u-tokyo.ac.jp/iau208/>
- \*113<sup>th</sup> Annual Meeting of The Astronomical Soc. of the Pacific  
13–18 July 2001 — St. Paul, MN  
Contact: meeting@aspsky.org  
<http://www.aspsky.org/meetings/2001/home.html>
- ASP Symposium: “The High-Energy Universe at Sharp Focus: Chandra Science”  
16–18 July 2001 — St. Paul, MN  
Contact: James White (director@aspsky.org)  
<http://www.aspsky.org/meetings/science2001.html>
- \*Statistical Challenges in Modern Astronomy III  
18–21 July 2001 — University Park, PA  
Contact: Eric Feigelson (edf@astro.psu.edu)  
<http://www.astro.psu.edu/SCMA>
- \*9<sup>th</sup> Internat’l Workshop on Low Temperature Detectors  
23–27 July 2001 — Madison, WI  
Contact: ltd-9@wisp.physics.wisc.edu  
<http://wisp.physics.wisc.edu/ltd-9>
- IAU Colloquium No. 185: “Radial and Nonradial Pulsations as Probes of Stellar Physics”  
26–31 July 2001 — Leuven, Belgium  
Contact: Conny Aerts (iau185@ster.kuleuven.ac.be)  
<http://www.ster.kuleuven.ac.be/~iau185>
- \*SPIE International Symposium: “Astronomical Data Analysis”  
29 July–3 August 2001 — San Diego, CA  
Contact: F. Murtagh (F.Murtagh@Queens-Belfast.ac.uk)
- \*12<sup>th</sup> Cambridge Wrkshp.: “Cool Stars, Stellar Systems, and the Sun”  
30 July–3 August 2001 — Boulder, CO  
Contact: Thomas R. Ayres (cs12@casa.colorado.edu)  
<http://casa.colorado.edu/~cs12/>
- \*The Earliest Stages of Massive Star Birth  
6–8 August 2001 — Boulder, CO  
Contact: Kelsey Johnson (StarBirth@jila.colorado.edu)  
<http://jilawww.colorado.edu/StarBirth>
- \*Small Radio Telescopes in Modern Astronomy  
9–11 August 2001 — Brevard, NC  
Contact: Michael Castelaz (mcastelaz@pari.edu)  
<http://www.pari.edu/workshop>
- \*Neutron Stars in Supernova Remnants (II)  
14–17 August 2001 — Boston, MA  
Contact: Bryan Gaensler (psr\_snr@head-cfa.harvard.edu)  
[http://hea-www.harvard.edu/PSR\\_SNR](http://hea-www.harvard.edu/PSR_SNR)
- Two Years of Science with Chandra  
5–7 September 2001 — Washington, DC  
Contact: Harvey Tananbaum (ht@cfa.harvard.edu)  
[http://asc.harvard.edu/symposium\\_2001.html](http://asc.harvard.edu/symposium_2001.html)
- \*1<sup>st</sup> Sac Peak Wkshp: “Current theoretical models and future high resolution solar observations: preparing for ATST”  
17–21 September 2001 — Sunspot, NM  
Contact: Alexei Pevtsov (ws21@sunspot.noao.edu)  
<http://www.sunspot.noao.edu/INFO/MISC/WORKSHOPS/index.html>
- \*X<sup>th</sup> Latin-American Regional Meeting of Astronomy  
17–21 September 2001 — Cordoba, Argentina  
Contact: Carlos Donzelli (xrlla@oac.uncor.edu)  
<http://axp2.oac.uncor.edu/~xrlla/index.html>
- \*The Chemical Composition of Stars  
19–22 September 2001 — Seattle, WA  
Contact: George Wallerstein (wall@astro.washington.edu)
- International Meteor Conference  
20–23 September 2001 — Cerknò, Slovenia  
Contact: Ina Rendtel (treasurer@imo.net)  
<http://www.imo.net/news.imc.html>
- \*Seeing Through the Dust: The Detection of HI and the Exploration of the ISM in Galaxies  
20–26 October 2001 — Penticton, BC, Canada  
Contact: hi50@drao.nrc.ca  
<http://www.drao.nrc.ca/~kerton/hi50.html>
- \*IEEE 2001 Nuclear Science Symp. & Medical Imaging Conf.  
4–10 November 2001 — San Diego, CA  
Contact: Anthony Laviertes (laviertes1@llnl.gov)  
<http://www.nss-mic.org>
- Gamma Ray Burst and Afterglow Astronomy  
5–9 November 2001 — Woods Hole, MA  
Contact: George Ricker (grr@space.mit.edu)
- \*IAU Symposium No. 209: “Planetary Nebulae: Their Evolution and Role in the Universe”  
19–23 November 2001 — Canberra, Australia  
Contact: Maartje Sevenster (pn\_symp@mso.anu.edu.au)  
[http://www.mso.anu.edu.au/~pn\\_symp/](http://www.mso.anu.edu.au/~pn_symp/)
- 34<sup>th</sup> COSPAR Scientific Assembly  
1 October 2002 — Houston, TX  
Contact: cospar@paris7.jussieu.fr

## DIVISION NEWS

Continued from page 11

# High Energy Astrophysics

Alice Harding, Chair, [harding@twinkie.gsfc.nasa.gov](mailto:harding@twinkie.gsfc.nasa.gov) and Lynn Cominsky, Press Officer, [lynnc@charmian.sonoma.edu](mailto:lynnc@charmian.sonoma.edu). Unless otherwise noted, photos by Tim Graves, Sonoma State U.

## November in Hawai'i

The High Energy Astrophysics Division 2000 Meeting took place 6–10 November 2000 in Honolulu, Hawai'i. A wealth of new data from Chandra and XMM-Newton missions combined with a beautiful location made this the largest Division meeting in history, with attendance of nearly 500. New results from Chandra and XMM-Newton demonstrated that their instruments are attaining unprecedented spatial and spectral resolution.

### Science Highlights

Among the results on Active Galaxies was a presentation by **Jane Turner** (NASA's GSFC) of the first Chandra grating observations of Seyfert galaxies, providing new insight into physical conditions in circumstellar material in AGN. Talks by **Dan Schwartz** (CfA), **Andrew Wilson** (U. Maryland) and others showed Chandra arcsec images of X-ray jets emerging from the central black holes of AGN and terminating at the previously detected X-ray and radio hot spots.

**Jamie Kennea** (UC Santa Barbara) presented XMM-Newton high resolution spectral and spatial views of the inner 30' N of M87. **Andy Fabian** (Cambridge U.) discussed how Chandra may be finding evidence for his idea that many AGN are obscured by their own wind outflows. **Richard Mushotsky** (NASA's GSFC) presented Chandra results on elliptical galaxies, showing no evidence of X-ray emission from a central source and placing strong upper limits on accretion onto massive black holes. **Bill Forman** (CfA) talked about Chandra observations of hot gas in galaxies. **Mark Bautz** (MIT) discussed Chandra imaging and spectroscopy of lensing clusters of galaxies and **Maxim Markovitch** (CfA) presented evidence from Chandra observations of galaxy cluster shocks for surprisingly high magnetic fields (~ 10 microGauss) in clusters. **Riccardo Giacconi** (Associated Universities) presented results on over 200 sources in Chandra/ACIS Deep Field South and a comparison to models of the X-ray background.

**Patrick Slane** (CA) and **Kathy Flanagan** (MIT) presented stunning Chandra images of supernova remnants, demonstrating how the fine spectral and spatial resolution allows imaging of the individual emission lines to study the distribution of



Luigi Piro (Istituto Astrofisica Spaziale, CNR, Rome, Italy)(left), Lynn Cominsky, HEAD Press Officer and commentator, Jay Norris (far right) (NASA's GSFC). Piro and Norris both described new results on gamma-ray bursts.

different ejecta layers, as well as find the sites of cosmic-ray acceleration.

**George Pavlov** (Penn State U.), **David Helfand** (Columbia U.) and **Martin Weisskopf** (NASA's MSFC) presented Chandra observations of the Crab and Vela nebulae, showing amazing detail in the structure of the wind outflow very near the



(l-to-r) Herman Marshall (MIT), Andrew Wilson (U. Md.), Nancy Levenson (JHU), Commentator Andy Fabian (Institute of Astronomy, Cambridge UK), and George Chartas (PSU) had a press conference on new Chandra findings about active galaxies.

central pulsars and the first evidence that the pulsar space velocity and rotation axes are aligned. **Martin Turner** (Leicester U.) presented XMM-Newton observations of pulsar wind nebulae and discussed the EPIC camera's ability to detect the outer parts of synchrotron nebulae having very low surface brightness. **Luigi Piro** (CNR) presented Chandra grating spectrometer observations of gamma-ray burst afterflows, including detection of the first achromatic spectral break in GB000926 and detection of iron lines in GB991216, providing evidence that a supernova associated with the gamma-ray burst preceded the burst by about 10 years.

A variety of results on X-ray binaries were presented, including XMM-Newton observations of sources in nearby galaxies M31 and NGC 253, source populations in globular clusters and BepposAX and RXTE observations of cyclotron lines. Particularly interesting results were detection by RXTE of five cyclotron harmonics in 4U0115+63, reported by **William Heindl** (UC San Diego) and the first detection of cyclotron lines in XPer with RXTE and LMC X-4 with BepposAX. **Kent Wood** (NRL) presented the first USA observations of galactic black hole transient sources, including detection of a drifting, low frequency QPO during an outburst of XTE J1118+480.

Evening workshops on New Missions, GLAST Science, The Future of X-Ray Timing, Analysis of Grating Data and Poisson Data Analysis were also well attended.

### Press Conferences and Teacher Workshops

The first David N. Schramm Award for excellence in science journalism was presented at the meeting to **Kathy Sawyer** of the *Washington Post* and **Robert Zimmerman**, a freelance writer, for their articles on gamma-ray bursts.

A record number of reporters attended the meeting. Four press conferences were held and several written releases were issued. Despite the dominance of the national election news, HEAD news reports appeared in the *Washington Post*, *Science Magazine*, *Science News* and many web sites.

Monday's press conference featured new results on active galaxies presented by **Herman Marshall** (MIT),



With Press Officer Lynn Cominsky (left) looking on, Chair Alice Harding presents the first David N. Schramm Award for High Energy Astrophysics Science Journalism to Kathy Sawyer (second from left) (Washington Post) and to Robert Zimmerman.

**Andrew Wilson** (U. Maryland), **Nancy Levenson** (JHU), and **George Chartas** (PSU). Marshall showed new Chandra images of the X-ray jet in 3C273, Wilson showed Chandra images and explained a football-shaped cavity in the X-ray heated gas around the radio source Cyg A. Levenson showed

ROSAT and ASCA data which indicated a strong connection between starburst regions and the accretion flow onto black holes in the center of Seyfert galaxies. Chartas spoke about an X-ray flare detected with Chandra in one of four lensed images of a distant quasar, and showed how future observations of additional flares could provide direct distant measurements to the quasars.

Tuesday's press briefing featured results on gamma-ray bursts presented by **Luigi Piro** (Istituto Astrofisica Spaziale, CNR, Rome, Italy) and **Jay Norris** (NASA/GSFC). Piro spoke about new iron lines found in data from two gamma-ray bursts which indicate a connection between gamma-ray bursts and supernovae, and also translated questions for his colleague **Filippo Frontera** who joined the conference by phone from Italy. Norris spoke about new evidence for two distinct classes of gamma-ray bursts.

**Harald Ebeling** (Institute for Astronomy) spoke on Wednesday about 101 new galaxy clusters at intermediate redshifts and high luminosities that were discovered in the ROSAT All-sky survey data and then imaged and studied using ground-based telescopes in Hawai'i. **William Forman** (CfA) explained the cosmological significance of finding this unexpectedly large number of clusters in this region of parameter space.

Thursday's briefing featured new results on young stars presented by **Yohko Tsuboi** (PSU) and **Norbert Schulz** (MIT) with comments by AAS Past-President **Andrea Dupree** (CfA). Schulz spoke about extremely hot young stars discovered in the Orion cluster, while Tsuboi presented her discovery of flaring X-ray emission from the youngest protostars (Class 0, only 10,000 years old), as well as evidence for ubiquitous X-ray emission from slightly older (Class 1) protostars.

Written releases on a 3-hour thermonuclear flare from a X-ray burster by **Tod Strohmayer** (NASA's GSFC) and a naked neutron star streaking through the



Harald Ebeling (Institute for Astronomy) spoke at a press conference about new galaxy clusters at intermediate redshifts and high luminosities.

galaxy by **Fred Walter** (SUNY), also attracted considerable press attention.

A teacher's workshop in Honolulu was sponsored by the Rossi X-ray Timing Explorer Learning Center and the Swift Education and Public Outreach

Program. **Jim Lochner** (l-to-r) Presenters **Yohko Tsuboi** (PSU) & **Norbert Schulz** (MIT), and Commentator **Andrea Dupree** (CfA) spoke on new results on young stars.



**Laura Whitlock** (Sonoma State U.) led the workshops, which were attended by over 40 local middle and high school teachers. The RXTE workshop featured a tour of the X-ray sky where participants learned about black holes, pulsars and distant galaxies. The second workshop provided an "Astro Capella" musical introduction (courtesy of **Alan** and **Karen Smale**, NASA's GSFC) to the mysterious phenomena of gamma-ray bursts. Participants also learned how to play the cosmic gamma-ray burst lottery, and other new educational games.

## January in San Diego

### Rossi Prize Lecture

At this past meeting in San Diego, HEAD awarded the 2000 Bruno Rossi Prize jointly to **Peter Meszaros**, **Bohdan Paczynski**, and **Martin Rees** for the development of theoretical models of gamma ray bursters and their afterglows. Each played a key role in the development of what is now the standard cosmological fireball model of gamma-ray bursts. Their physical insight led to a number of predictions which have since been verified by X-ray, optical and radio observations of a number of gamma-ray burst afterglows. Peter Meszaros accepted the award and delivered the prize lecture on the status of gamma-ray burst theory.

### Invited Talks

HEAD Vice-Chair Josh Grindlay organized two sessions of invited talks at the San Diego Meeting. A session on *High Resolution Views of Compact Objects* included talks by **Jack Hughes** (Rutgers U.), who discussed Chandra observations of supernova remnants and the compact sources they contain; by **Chris Mauche** (LLNL), who presented Chandra and XMM-Newton observations of intermediate polars; by **John Raymond** (CfA), who reviewed the theory of accretion disk coronae and by **Martin Ward** (Leicester U.), who discussed Chandra studies of intermediate mass black holes and their environment.



Peter Meszaros (Pennsylvania State U.), a co-recipient of the 2000 Rossi Prize, received the certificate from HEAD Chair Alice Harding.

Photo by Richard Dreiser,  
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Continued on next page

**HEAD MEETING IN SAN DIEGO***Continued from page 15*

At a press conference in San Diego during the AAS meeting, David Helfand (left, Columbia U.) explained the significance of new evidence for the identification of the Guest Star of 386 AD with an X-ray pulsar, as reported by McGill University's Mallory Roberts (center) and Victoria Kaspi (right).

Photo by Richard Dreiser,

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The other session on *High Energy Constraints on Extended Structures* included presentations by **Andrew Wilson** (U. Maryland), who discussed Chandra images and spectroscopy of jets and hot gas in nearby radio galaxies; by **Frits Paerels** (Columbia U.), who presented XMM-Newton X-ray spectroscopy

of cooling flows; by **Joseph Mohr** (U. Illinois), who discussed Chandra and XMM observations of high redshift clusters of galaxies; and by **Gunter Hasinger** (Astrophysikalisches Institut Potsdam), who gave an overview of Chandra and XMM deep surveys and how they have now resolved most of the X-ray background in the 2-10 keV band as active galactic nuclei.

*Press Conference in San Diego (10 January 2001)*

**Victoria Kaspi** and **Mallory Roberts** (McGill U.) used Chandra data to show that the pulsar in G11.2-0.3 is located in the exact center of the supernova remnant. This indicates that pulsar was indeed formed in the year 386, during an event that was witnessed and recorded by Chinese astronomers. The lack of motion of the pulsar indicates that it cannot be 24,000 years old, as indicated by the usual P/Pdot analysis, and calls into question the ages of other pulsars. G11.2-0.3 is only the second pulsar (after the Crab) to have been historically dated. The story received widespread coverage, especially in Canada, which had several correspondents in attendance in San Diego.

New results strengthening the evidence for black holes were also presented in San Diego. HEAD members **Ramesh Narayan** (Harvard U.) and **Michael Garcia** (CfA) used Chandra data to distinguish between quiet neutron stars and black hole candidates (see picture, page 8). The putative black holes only emitted about 1% of the energy in quiescence as did the neutron stars, because the matter falling into the black hole is swallowed up, along with most of the X-radiation that it produces. The process, known as advection, has been advocated by Narayan and others for several years. The Chandra data, however, show the best evidence to date for the existence of advective event horizons.

## Planetary Sciences

### Nominate for Division Prizes By 30 April

The DPS awards up to four prizes annually: The *Kuiper Prize* for scientific contributions to planetary science; the *Urey Prize* for contributions by a young scientist; the *Masursky Award* for service to the planetary science community, and the *Sagan Medal* for communication of planetary science to the public. The deadline for nominations this year is **30 April 2001**.

Details for nominating can be found at

[http://www.aas.org/~dps/prizes\\_contact.html](http://www.aas.org/~dps/prizes_contact.html). To submit a nomination, contact the Chair of the Prize Subcommittee, Robert Nelson, [Robert.M.Nelson@jpl.nasa.gov](mailto:Robert.M.Nelson@jpl.nasa.gov) or mail to MS 183-501, Jet Propulsion Laboratory, Pasadena, CA 91109.

## Dynamical Astronomy

### April 2001 DDA Meeting in Houston

*Marc Murison, Secretary*, [murison@aa.usno.navy](mailto:murison@aa.usno.navy)

The 2001 DDA meeting is 22-25 April 2001 at the **Lunar and Planetary Institute** (*please note corrected location*), Houston, TX. The deadline for meeting preregistration is **23 March**.

The deadline for abstract submission was 27 February, however, requests for the acceptance of abstracts after this date may be directed to Hal Levison, [hal@boulder.swri.edu](mailto:hal@boulder.swri.edu). The Organizing Committee consists of **Joe Hahn** (local host, [hahn@pi.usra.edu](mailto:hahn@pi.usra.edu)), Hal Levison (DDA Vice Chair), and Marc Murison (DDA Secretary). Complete information is available at <http://dda.harvard.edu>.

Invited speakers this year include: **Pawel Artymowicz** (Stockholm Observatory), **Edmund Bertschinger** (MIT), **Stanley F. Dermott** (U. Florida), **Richard Greenberg** (U. Arizona), **Wang Sang Koon** (Caltech), and **Philip D. Nicholson** (Cornell U.).

## Solar Physics

### Popular Writing Awards: Nominate Articles

Articles about the Sun or heliosphere published in US or Canadian newspapers, magazines, or semi-popular journals during calendar year 2000 are eligible for one of two prizes. One prize will be awarded to a scientist (either professional or student), and another will be awarded to a science writer or journalist (see <http://cfa-www.harvard.edu/~vanballe/SPD/>). If you are aware of worthy articles, please notify Committee Chair Jeff Brosius ([brosius@comstoc.gsfc.nasa.gov](mailto:brosius@comstoc.gsfc.nasa.gov)) or mail to him at Code 682, NASA's Goddard Space Flight Center, Greenbelt, MD 20771. Nominations should be received by **16 April 2001**.

### Solar Physics On The ADS

The Astronomical Data System (ADS) now has the full articles of *Solar Physics* online. Kluwer gave ADS permission to scan *Solar Physics* back to Volume 1 and currently Volumes 59-169 are online. It is highly unusual for a commercial publisher, such as Kluwer, to grant permission to scan its journal, so it would be helpful if you would send a note to Kluwer c/o Harry Blom, [harry.blom@wkap.nl](mailto:harry.blom@wkap.nl), thanking him for Kluwer's cooperation. This may help ADS get permission to scan more of their journals and possibly conference proceedings. As always, please don't hesitate to contact ADS if you have any suggestions, questions, remarks, or requests. The ADS Web site is <http://adsabs.harvard.edu>.



## HONORED ELSEWHERE

### Ostriker Winner of the National Medal of Science



*Jeremiah Ostriker, Princeton University Provost and The Charles A. Young Professor of Astronomy, has won the National Medal of Science.  
Photo courtesy of Princeton University*

In December, President Clinton conferred upon AAS Member **Jeremiah P. Ostriker**, the National Medal of Science, the nation's highest science honor. Ostriker, Princeton University Provost and The Charles A. Young Professor of Astronomy, was cited for "for his bold astrophysical insights which have revolutionized concepts of the nature of pulsars, the 'ecosystem' of stars and gas in our galaxy, the sizes and masses of galaxies, the nature and distribution of dark matter and ordinary matter in the universe, and

the formation of galaxies and other cosmological structures."

Ostriker was appointed Princeton provost in 1995. Previously, he served as chair of astrophysical sciences and director of the University Observatory since 1979. Ostriker joined the Princeton faculty in 1965 and has held the Young Professorship since 1982. He has won fellowships from the National Science Foundation, Alfred P. Sloan Foundation, California Institute of Technology, Smithsonian Institution and the American Association for the Advancement of Science. Ostriker also has received numerous awards and prizes including the Karl Schwarzschild Medal of Astronomische Gesellschaft in 1999, the Vainu Bappu Memorial Award of the Indian National Science Academy in 1993 and the Henry Norris Russell Lectureship of the American Astronomical Society in 1980.

The National Medal of Science was established by Congress in 1959 and is administered by the National Science Foundation.

### APS Congressional Science Fellow is Astronomer

AAS Member **Sherri Stephan** has been selected as a 2000-2001 American Physical Society (APS) Congressional Science Fellow. She is currently a legislative fellow on the Subcommittee on International Security, Proliferation and Federal Services of the Senate Governmental Affairs Committee.

Stephan received her PhD in astronomy from Boston University in 2000. While there, she worked in the Center for Space Physics, building a high resolution ultraviolet interferometer sounding rocket experiment. This instrument, called SCARI (Self-Compensating All-Reflecting Interferometer), was launched in April 1998 from White Sands Missile Range to observe neutral interplanetary hydrogen to study the heliospheric interface region between the very local interstellar medium and solar wind.

The APS and the American Institute of Physics run independent congressional science fellowship programs though they advertise them jointly. Fellowships are for one year, usually running September through August. Applications are due by 15 January of the fellowship year. Complete information about APS and AIP Congressional Science Fellowships can be found at [http://www.aps.org/public\\_affairs/fellow.html](http://www.aps.org/public_affairs/fellow.html) or at <http://www.aip.org/pubinfo/>.

### NSF CAREER Grant To Brandt

AAS Member **Niel Brandt** of Pennsylvania State University is another FY2000 NSF CAREER winner for his research entitled, "Investigating the Sources of the X-ray Background with Chandra and the Hobby-Eberly Telescope."



*AAS Member Sherri Stephan is an APS Congressional Science Fellow for the year, working with a Subcommittee of the Senate Governmental Affairs Committee.*

### National Academy of Sciences Honors Butler and Marcy

The National Academy of Sciences (NAS) has presented its prestigious Henry Draper Medal for 2001 to AAS Members **R. Paul Butler**, staff scientist, Carnegie Institution of Washington, Washington, DC, and to **Geoffrey W. Marcy**, professor of astronomy, University of California, Berkeley. The Draper Medal, a medal and a prize of \$15,000, goes to Butler and Marcy "for their pioneering investigations of planets orbiting other stars via high-precision radial velocities. They have proved that many other planetary systems exist in the universe."

The NAS awards the Draper Medal every four years to those who have made a significant contribution to astronomical physics. It was established through the Draper Fund and was first awarded in 1886. The awards will be presented on 30 April at a ceremony in Washington, DC, during the Academy's 138th annual meeting.



*Draper Medalists Butler (left)(Carnegie Institution of Washington) and Marcy (U. California, Berkeley) with their colleague Debra Fischer (also, U. California, Berkeley), just before the three announced the discovery of two unusual extrasolar planetary systems at an AAS press conference held during the January meeting in San Diego.  
Photo by Richard Dreiser. © 2001 American Astronomical Society*

## GENERAL NEWS

### “Explore the Universe” Opens in September at the National Air and Space Museum

*Text and photos by David DeVorkin, David.DeVorkin@nasm.si.edu.*

Over the past decade the National Air and Space Museum has been planning a significant renovation of its “Stars” gallery, which had opened in 1983 and finally closed in 1997. We were keenly aware that with the closing of “Stars” there would be no significant exhibition of contemporary stellar, galactic and extragalactic astronomy on the Mall, so every effort was made to develop a large-scale and broad-reaching theme at the outset of the new century. Thus we chose the theme “Explore the Universe” as an open-ended invitation to our visitors to experience the wonders and achievements of cutting edge observational astronomy. The primary sub-text of the exhibition is that, in the past millennium, as we gained new tools of perception and inference, we discovered new universes.

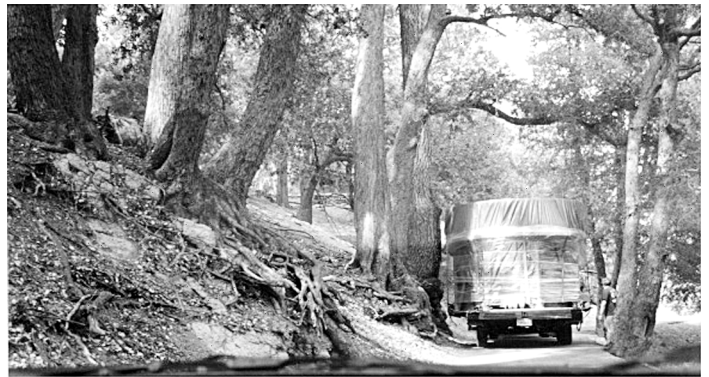
Starting with the universe perceptible to the eye, the visitor will travel through time re-examining the epitome of the visual universe (Ptolemy-Copernicus-Tycho), the advent of the telescopic universe (Galileo through Herschel), the photographic (Keeler-Hubble) and spectroscopic (Slipher-Hubble-*et. al.*) universes, and finally the digital universe of today, as perceived by ground-based, space-based, computer-based and accelerator-based tools of the astronomer and physicist.

Supported by the National Science Foundation, TRW, Corning, NASA, Kodak and Analytical Graphics, “Explore the Universe” is now in production with an opening planned for September 2001. During the course of production, approximately one-third of the Museum’s staff of 200 people will have contributed to the exhibition. Numerous AAS members have been tapped for advice and materials.

In keeping with the Smithsonian’s mandate to preserve the material and intellectual heritage of our national culture, “Explore the Universe” will showcase the most significant observational tools astronomers have devised over the past two centuries to explore the universe. European roots will be represented by a full-scale replica of Tycho’s equatorial armillary sphere, by a selection of astrolabes and quadrants, by replicas of Galileo’s telescopes and Newton’s reflector, and by significant loans of a Huygens-era lens and the original 20-foot telescope tube and 18-inch speculum built by William Herschel to conduct what is now regarded as the first systematic reconnaissance of the extragalactic universe.

The main thrust of the exhibition will be 20th century cosmology, starting with the spectacular results by Hubble with the 100-inch Hooker reflector at Mount Wilson. Hubble’s confirmation of the existence of galaxies and his establishment of their recessional motions mark the framework of the contemporary “master narrative” of modern cosmology — that galaxies exist and that they are moving away from one another — to paraphrase Alan Sandage. Hubble’s work was the culmination of the dream of George Ellery Hale and epitomized what should be known as the “Hale era” in 20th century astronomy: the construction of huge-aperture telescopes driven by the expectation that such enhancements will bring forth new knowledge.

“Explore the Universe” will be set largely in this “Hale era” which continues to this day. Even though this theme will not be explicit to our visitors, its elements will be present, especially



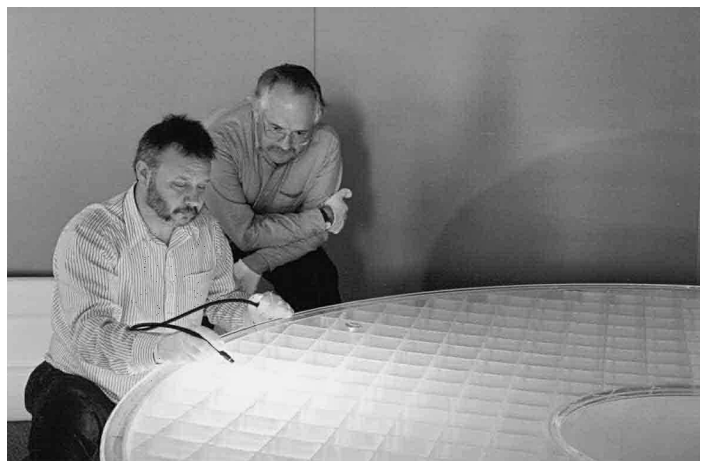
*The borrowed 100-inch Cage is leaving the mountain bound for the Museum. If it makes it past these trees it can make it to Washington.*

the constant quest for larger aperture telescopes allied with improved detector technologies for sensing the known electromagnetic spectrum and, significantly, searching for evidence of still unknown portions of that spectrum.

Marking the significance of the Hale era will be the prominent display of the original Newtonian Cage of the 100-inch Hooker telescope, complete with a mannequin of Hubble sitting in his observing chair manipulating his double-slide plate holder. The 100-inch reflector has several interchangeable cages for Newtonian, Prime, Cassegrain and Coude configurations. One of these cages has been remounted at Mount Wilson to display the Michelson 20-foot beam in the new CHARA office building.

After several years of discussions and planning, we have borrowed the Newtonian Cage from the Carnegie Institution of Washington. We worked closely with the Mount Wilson Institute, the operating agent for the observatory, to plan the loan for exhibition. Several months ago the cage was shipped by truck from Mount Wilson to Washington and will soon be moved into the new gallery for integration into the exhibit.

With the cage in place, all attention focused on the next acquisition, the back-up mirror constructed by Kodak for the Hubble Space Telescope. Planning and negotiations for this actual accession into the collection were also underway for several years, and culminated when NASA determined that the mirror was excess to their programmatic needs. It had been in storage for two decades at Perkin-Elmer in Danbury. Kodak provided the expertise and manpower for inspecting and moving the mirror from Danbury to Washington, and will assist the



*HST back-up mirror from Kodak is inspected by a Kodak technician and a curator after arrival at Museum.*

Museum in designing a suitable cradle for its display that will protect its structural integrity over the long-term in a 1g environment. To facilitate this engineering feat, we were delighted to obtain from NASA the original stainless steel test cradle used at Perkin-Elmer to handle the mirror. The mirror was put on temporary display in January in gallery 211 where visitors have been providing museum staff with invaluable commentary that has helped us shape the text of the ultimate display.

## EMERGING FROM THE CONFUSION: A Quiet Renaissance in Low Frequency Radio Astronomy

*Namir Kassim, Joseph Lazio, and Carl Gross, Naval Research Laboratory*

Celestial radio emission was first detected by Karl Jansky in the 1930s at the relatively low frequency of 20 MHz, and sky surveys at long wavelengths have led to much of modern astronomy (e.g., the discovery of quasars from the Cambridge surveys at 178 MHz and the Nobel prize winning discovery of pulsars near 80 MHz). Nevertheless, until recently, imaging fidelity at long wavelengths has been quite poor, with typical resolutions of tens of arcminutes to degrees and typical sensitivities of more than 1 Jy, making the long-wavelength regime one of the last and most poorly explored regions of the electromagnetic spectrum. The primary difficulty has been ionospheric phase fluctuations (i.e., ionospheric “seeing”) which not only reduced imaging fidelity at meter wavelengths but completely prevented imaging on interferometer baselines longer than roughly 5 km at even lower frequencies. Additional barriers included effects of radio frequency interference, non-coplanar baseline effects, and other problems related to the computational effort associated with imaging an intrinsically large field of view.

Efforts to improve low-frequency imaging capabilities have been motivated by both the unique and complementary information that low radio frequencies offer. Detection of steep-spectrum sources — such as high-redshift radio galaxies, pulsars, and possibly exoplanets — can be optimized at low frequencies. Coupled with X-ray observations, low frequency observations can provide important constraints on shock processes in clusters of galaxies and supernova remnants; coupled with gamma-ray observations, low-frequency observations can improve our knowledge of the distribution and origin of cosmic

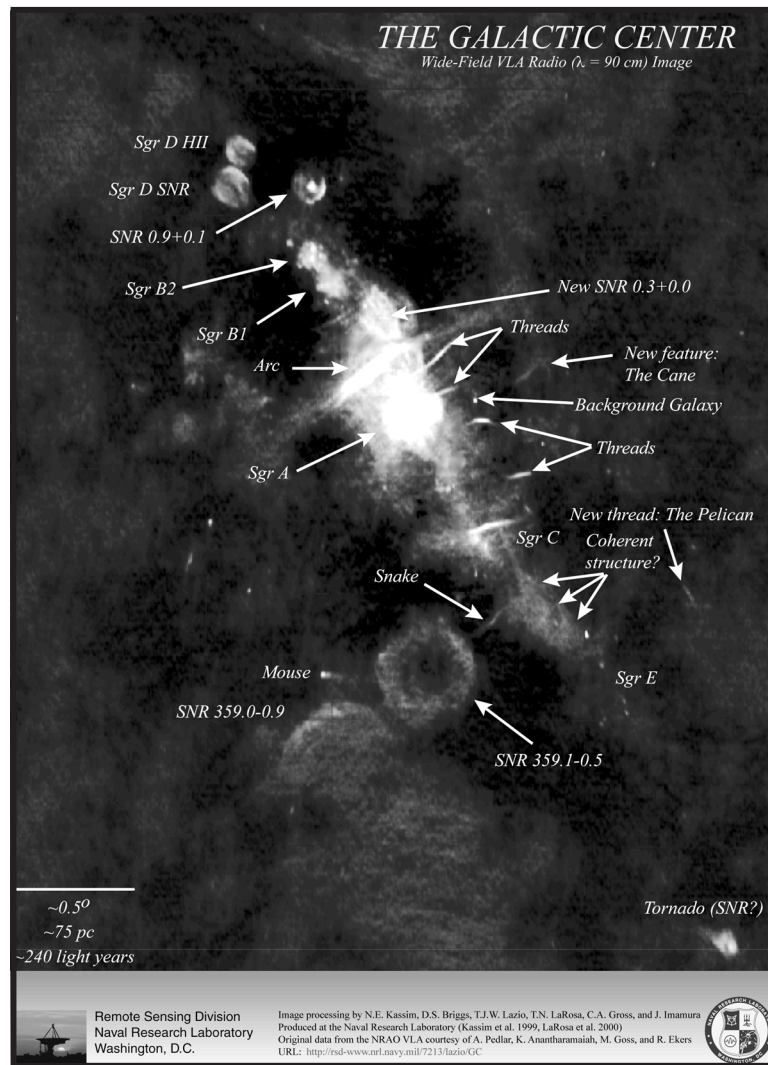
rays in the Galaxy. Low-frequency observations may provide our first indication of the epoch of re-ionization.

The advent of self-calibration techniques together with increased computing power (Moore’s law) now enable the “ionospheric barrier” to be breached and, as a result, the field of low-frequency radio astronomy is undergoing a quiet revolution. Self-calibration can correct the ionospheric phase fluctuations, and sophisticated, wide-field imaging algorithms are now available widely. The first realization of a new generation of low-frequency radio interferometers which can exploit these tools is the recently installed NRL-NRAO 74 MHz system at the Very Large Array (VLA), with low-frequency observations by the Indian Giant Metrewave Radio Telescope (GMRT) also now commencing.

This new generation of low-frequency radio interferometers can produce images with resolutions of tens of arcseconds and

sensitivities of milliJanskys to tens of milliJanskys, a clear improvement from previous instruments!

One of the best recent examples of the re-emergence of low-frequency radio astronomy has been the meter wavelength wide field imaging of the Galactic center by the VLA. This spectacular image [at the left] represents the state of the art in low frequency imaging today. It not only inspires the imagination of scientist and non-scientist alike, but it is proving scientifically valuable by uncovering a variety of new and exotic Galactic center sources. These include supernova remnants and new nonthermal filaments which, in turn, are providing new insights into the extent and orientation of the pervasive, large-scale magnetic field in the Galactic center. This remarkable VLA image



is not the end of the story — it can be improved greatly, both by increasing the angular resolution approximately 10-fold to the full power of the 35 km VLA (~6" at 1 meter) and by adding information on larger-scale structure obtained from single dish measurements. The combination of these additions might reveal structures that have been seen at much lower resolution in the past and have been connected to episodic, starburst-like activity possibly associated with the  $10^6$  solar mass black hole known to reside at the Galactic center. A 74 MHz image of the Galactic center is also now the

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**GENERAL NEWS***Continued from previous page*

subject of an ongoing thesis project being guided jointly by the University of New Mexico and the NRL.

The pioneering VLA and GMRT efforts still only scrape the very surface of the potential capabilities of low-frequency radio astronomy. The 74 MHz VLA has inspired the Low Frequency Array (LOFAR), a broad-band instrument whose imaging capabilities would exceed those of present low-frequency systems by two to three orders of magnitude. Its enhanced capabilities would be due to its much larger collecting area and much longer baselines. The LOFAR instrument is being developed by an international collaboration between the Naval Research Laboratory, MIT/Haystack Observatory, and the Netherlands Foundation for Radio Astronomy (ASTRON) and was recommended by the Astronomy & Astrophysics Survey Committee in the newest "Decadal Report" (see <http://lofar.nrl.navy.mil>).

The beauty of the 330 MHz VLA image of the Galactic center has motivated us to produce a two-sided poster (see opposite) suitable for posting at universities and libraries. A number of these were distributed at the 197<sup>th</sup> AAS meeting in San Diego, and additional copies are being mailed to a variety of academic institutions. A limited number are also available on request by emailing [gross@rsd.nrl.navy.mil](mailto:gross@rsd.nrl.navy.mil). Further information on low frequency VLA imaging of the Galactic center can be found at <http://rsd-www.nrl.navy.mil/7213/lazio/GC/index.html>.

The Very Large Array of the National Radio Astronomy Observatory is a facility of the National Science Foundation operated under cooperative agreement with Associated Universities, Inc. Basic research in radio astronomy at the Naval Research Laboratory is supported by the Office of Naval Research.

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**NEW FROM THE SSB**

*Joe Alexander, Director, Space Studies Board, National Research Council*

**Solar System Exploration: An Integrated Strategy**

NASA's Office of Space Science (OSS) has asked the Space Studies Board (SSB) to survey the current status of our knowledge of solar system objects and then lay out the most important scientific questions facing planetary science today. The last full strategy for solar system exploration, "An Integrated Strategy for the Planetary Sciences: 1995-2010," was published in 1994. Since then results from missions such as the Mars Global Surveyor, Galileo, and Near Earth Asteroid Rendezvous and other factors, such as programmatic changes in the way planetary missions are conducted, have led to the need for a new or substantially revised science strategy.

Key areas to be considered in this study include comets and asteroids, the trans-Neptune realm, the major planets, the moons of the outer solar system, and the inner planets. Because of its rich scientific interest and programmatic prominence, the exploration of Mars is receiving special attention in the form of a parallel study now underway. The results from the Mars study will be integrated into the final solar system strategy. The findings of a number of recent Space Studies Board reports on focused topics in solar system exploration (e.g., "Exploring the

Trans-Neptunian Solar System" and "A Science Strategy for the Exploration of Europa") will also be incorporated in the study.

The science strategy will contain the following key components:

- the "big picture" of solar system exploration — what it is, how it fits into other scientific endeavors, and why it is a compelling goal today;
- a broad survey of the current state of knowledge about our solar system today; and
- an inventory of the top-level scientific questions that should provide the focus for solar system exploration today.

The study will be conducted over a period of 12 months by a steering group, operating under the oversight of the Committee on Planetary and Lunar Exploration (COMPLEX), and a series of discipline-specific panels. Look for further information on the COMPLEX Website soon to be posted. Comments about this activity are encouraged and should be sent to the project's study director David H. Smith ([dhsmith@nas.edu](mailto:dhsmith@nas.edu)).

**NASA's Space Mission Data:****How Useful? How Available?**

In response to language in the FY2000 House-Senate Conference Report on Appropriations for NASA, the Space Studies Board and the Board on Earth Sciences and Resources have begun a study of the availability and usefulness of NASA's space mission data. The study will also examine the usefulness of current data collections and archives in support of high priority scientific studies. Finally, the study will look at the balance between resources for mission development and for analysis of data.

An ad-hoc committee of experts in the Earth, space, and information sciences has been established to address a number of specific questions. For these identified issues and for the composition of the committee and its staff, see <http://www.nationalacademies.org/ssb/datamining1.html>.

**Solar and Space Physics: A Community Assessment and Strategy for the Future**

The Committee on Solar and Space Physics of the Space Studies Board has initiated a broadly based community assessment of future directions for the US solar and space physics research programs. The assessment will be carried out by a survey committee, which will be responsible for preparing a summary report, and five sub-committees, which will also publish their findings. The study will draw on recent strategy studies such as the NRC reports "A Science Strategy for Ground-based Solar Astronomy" and "Astronomy and Astrophysics in the New Millennium." For a complete outline of the assessment objectives, see <http://www.nationalacademies.org/ssb/cssp1.html>.

Dr. Louis J. Lanzerotti of Lucent Technologies is chairing the survey committee, and the NRC staff officer is Arthur Charo, [acharo@nas.edu](mailto:acharo@nas.edu).

**The Decadal Survey Now Available in Paper**

The report entitled "Astronomy and Astrophysics in the New Millennium" (the newest decadal report by the Astronomy and Astrophysics Survey Committee, Board on Physics and Astronomy-Space Studies Board, National Research Council) is now available in hard cover and paperback. The easiest way to order is online from the National Academy Press at <http://books.nap.edu/catalog/9839.html>.

## ANNOUNCEMENTS

### Nominate 2001 Gruber Cosmology By 30 April

The recently established Cosmology Prize of the Peter Gruber Foundation is a \$150,000 prize, given annually to the world's most worthy astronomer, cosmologist, astrophysicist, or scientific philosopher. Nominations for the 2001 award are due **30 April 2001**; for guidelines, procedures, and forms, contact Dr. Larry Tise, 705 Corinthian Avenue, PO Box 15792, Philadelphia, PA 19103; Tel.: 215-765-4525, Fax: 215-765-2721; ltise@attglobal.net; <http://www.gruberawards.org>.

*Clarification: In 2000, the first award year, two Gruber Cosmology Prizes were awarded: to Alan R. Sandage of the Carnegie Observatories of the Carnegie Institution of Washington and to P. J. E. Peebles of Princeton University.*

### Jansky Nominations Due 31 March

The National Radio Astronomy Observatory invites nominations for the 2001 Jansky Lectureship, which recognizes outstanding contributions to the advancement of astronomy. By **31 March**, send nominations to the Director's Office, National Radio Astronomy Observatory, 520 Edgemont Road, Charlottesville, VA, 22903-2475, or to [brodrigu@nrao.edu](mailto:brodrigu@nrao.edu).

### Fullam Proposals Due

Dudley Observatory announces its annual Fullam Award, a grant of up to \$10,000 for an innovative project in astronomy. The deadline for proposals is **2 April 2001**. See the Dudley website (<http://209.144.236.131>) for details.

### NEW: AIP/State Department Science Fellowship

This newly-established program represents an opportunity for scientists to make a substantial contribution to the nation's foreign policy. AIP will sponsor one fellow annually to spend a year working in a bureau or office of the State Department, providing scientific and technical expertise to the Department while becoming actively and directly involved in the foreign policy process.

Fellows must be US citizens and *members of one or more of the 10 AIP Member Societies at the time of application*. For the Spring 2001 selection cycle, applications must be postmarked by **15 April**. See <http://www.aip.org/mgr/sdf.html> for complete application instructions.

### NEW: Gruber Foundation Fellowships

Two new fellowships from the Peter Gruber Foundation will be awarded during the year 2001, and again at three-year intervals beginning in 2003. Each fellowship amounts to \$37,500 US to cover travel, subsistence and research expenses during a postdoctoral appointment for a period of one or possibly two years. The Fellowships will be given to extremely promising young astrophysicists working in any field of astrophysics. *Preference will be given to applicants from countries in difficult economic conditions*. Applications must be received by the IAU Secretariat by **30 April 2001**. See <http://www.iau.org/cosprize.html> for complete information.

### Newsletter: Young & Old Star Clusters

See <http://www.rzuser.uni-heidelberg.de/~s17/scyon> to order a free subscription to SCYON, a new newsletter devoted to star clusters, young and old, edited by C. Boily, P. Kroupa and J-C Mermilliod.

*Continued on page 22*



*Canadian and US leaders announced signing two international agreements on the development of radio astronomy facilities. They are (l.-to-r.) VLA/VLBA Director Miller Goss, AAS President Anneila Sargent, Canadian Astronomical Society Past President Michael De Robertis, Herzberg Institute of Astrophysics Director General Simon Lilly, and Ralph Pudritz, Chair of the Long Range Planning Panel for Canadian Astronomy and Astrophysics.*

*Photo by Richard Dreiser, © 2001 American Astronomical Society*

## NEWS FROM CANADA

*Russ Taylor, President of the Canadian Astronomical Society and Co-chair of the Canadian Coalition for Astronomy.*

### Canadian Astronomers Seek Support for LRP

The Canadian astronomical community has launched an intense campaign to promote its *Canadian Long Range Plan for Astronomy and Astrophysics (LRP)*. On 10 January, members of the newly-formed *Coalition for Canadian Astronomy* staged news conferences in Ottawa and at the AAS Meeting in San Diego, to celebrate the signing of two international agreements between Canada and the United States.

The two new agreements between Canada's National Research Council (NRC) and the US National Science Foundation; and between NRC's Herzberg Institute of Astrophysics (HIA) and the US National Radio Astronomy Observatory set the conditions for Canada to participate as a full partner in the Atacama Large Millimeter Array (ALMA) and established the groundwork for the North American Partnership in Radio Astronomy.

In Ottawa, **Russ Taylor**, the Canadian Astronomical Society President, and fellow Coalition Co-chairs pressed the case to the Federal government, that these new agreements cannot be implemented without new funding (\$16.4 million CDN per year over the ten-year plan). Representing Canadian industry, **Peter Janson**, CEO of the engineering, technology, and construction firm AMEC Inc. and the former Chair of Canada's National Advisory Board on Science and Technology's Federal S&T Priorities Committee, called on the Canadian government to provide funding for the LRP and for Canadian astronomy as a good investment for Canada.

The next several months will be important ones for the future of Canadian astronomy. Canadian astronomers look forward to the exciting new era of discovery promised by the next generation telescopes, and we are grateful to the AAS and its membership for its support.

More information on the Canadian Long Range Plan for Astronomy can be found at the Canadian Astronomical Society web site, <http://www.casca.ca>.

**ANNOUNCEMENTS***Continued from page 21***NOAO, IGO Call for Proposals for 2001B***Bob Schommer and Caty Pilachowski, NOAO;  
Phil Puxley and Jean-Rene Roy, IGO*

The International Gemini Observatory (IGO) has announced the availability of the Gemini North and the Gemini South telescopes for science programs in the 2001B semester, and NOAO has issued a call for proposals for US programs on Gemini. US proposals for Gemini observing time are due **31 March 2001**. Approximately 35 nights are available to the US community on Gemini North, and approximately 15 nights on Gemini South for first science use during the 2001B semester.

Proposals for US observing time should be submitted through NOAO using the NOAO proposal form. Further information is at <http://www.noao.edu/gateway/gemini/>, the NOAO Gemini Gateway Web site. The instruments available, as well as details of queue and classical observing options and tentative observing blocks, will be detailed in the 1 March call for proposals and the associated Web sites.

**Call for NRAO Observing Proposals**

Astronomers are invited to submit proposals for observing time on the NRAO Very Large Array (VLA) and Very Long Baseline Array (VLBA):

Instrument	Deadline	Observing Period	Note
VLA	2001 Jun 1	2001 Oct - 2002 Jan	D config/max baseline 1 km
	2001 Oct 1	2002 Feb - 2002 May	A config/max baseline 36 km
VLBA	2001 Jun 1	2001 Oct - 2002 Jan	
	2001 Oct 1	2002 Feb - 2002 May	

Calls for the new NRAO Green Bank Telescope (GBT) will be announced by the list-serve *gbtnews*.

The NRAO and the European VLBI Network jointly handle proposals for observing time on the Global VLBI Network. The deadline is **1 June 2001** for the session in Nov 2001. Further information on NRAO instruments and proposal submission routes is available at <http://www.nrao.edu>.

**NSO Observing Proposals**

The current deadline for submitting observing proposals to the National Solar Observatory is **15 May 2001** for the third quarter of 2001. Forms and information are available from the NSO Telescope Allocation Committee at PO Box 62, Sunspot, NM 88349 for Sacramento Peak facilities ([sp@sunspot.noao.edu](mailto:sp@sunspot.noao.edu)) or PO Box 26732, Tucson, AZ 85726 for Kitt Peak facilities ([nso@noao.edu](mailto:nso@noao.edu)). Proposers to SP may inquire whether the Adaptive Optics system may be available for their use.

**CSO Call for Proposals: Due 31 May 2001**

The Caltech Submillimeter Observatory (CSO) encourages observing participation by astronomers from both US and non-US institutions. Complete instructions for application and information about available instruments, including new receivers, can be found at [http://www.submm.caltech.edu/cso/cso\\_call.html](http://www.submm.caltech.edu/cso/cso_call.html). Applications for observing time between 1 Sep 2001– 31 Jan 2002 are due by mail **31 May 2001**.

**Free Palomar/National Geographic Sky Surveys**

The Caltech Graphic Arts Facility will give away for the price of shipping 50 sets of the transparent overlay grids for the "Palomar Observatory-National Geographic Society Sky Survey" — POSS-I. (These are simple coordinate grids — one

grid for each declination zone of the survey. No astronomical objects are marked). For further details, please contact Dlorah Gonzales at [Dlorah.Gonzales@caltech.edu](mailto:Dlorah.Gonzales@caltech.edu).

**Help Your Community Have a Solar Blast***Michael J. Carlowicz, Science Writer and Senior Outreach Coordinator for ISTP*

NASA's Sun-Earth Connection Education Forum is looking for scientists to serve as volunteers and advocates for a national celebration of solar and space physics. "Sun-Earth Days 2001" will be a nationally promoted and locally developed celebration of our dynamic Sun and how it affects life on Earth. Scheduled for **27–28 April 2001** — in conjunction with National Astronomy Week and the 5th anniversary of the SOHO and Polar spacecrafts — the event is designed to bring together scientists, teachers, students, amateur astronomers, museum and planetarium visitors. We are looking for scientists to give presentations and demonstrations at local schools, museums, or other public venues; to participate in web chats and video conferences; to advise local teachers and community groups; or to develop your own event. We will support you with free presentation materials, demonstration and classroom ideas, and a central web page. We will assist in finding a local educator or museum to work with you. For complete information, see [http://sunearth.gsfc.nasa.gov/SECEF\\_SunEarthDay/index.html](http://sunearth.gsfc.nasa.gov/SECEF_SunEarthDay/index.html).

**NASA Research Proposer Guidelines OnLine**

The *Guidebook for Proposers Responding to a NASA Research Announcement (NRA)* is now available online. Comments are requested: <http://www.hq.nasa.gov/office/procurement/nraguidebook>.

**SScAC Letters to the Astronomical Community***Steve Squyres, Chairman, SScAC*

NASA's Space Science Advisory Committee (SScAC) met at the Jet Propulsion Laboratory on 1–3 November 2000. We will describe the key findings of each SScAC meeting in a widely-publicized letter, which will be posted on the WWW, the objective of which will be to give the space science community a more complete picture of the activities of both the NASA Office of Space Science (OSS) and its advisory committees. Letters will be written approximately three times a year. For complete information about the committee's charter, membership, and for a discussion of the findings and recommendations from each of these meetings, see <http://spacescience.nasa.gov/advisory.htm>.

**AAS Grant Deadlines Upcoming Soon**

- **Chretien International Research Grant:** Proposals due **30 March 2001**; for application instructions, see *Membership Directory*, page 20 or <http://www.aas.org/grants/chretien.html>.
- **Small Research Grant:** Proposals due **4 May 2001**. See *Directory* page 18 or <http://www.aas.org/grants/smrgr.html>.
- **International Travel Grant:** Proposals due **30 March 2001**. See <http://www.aas.org/grants/itg.html> or *Directory* page 19.

**Membership Directory Corrigendum**

Readers have pointed out that, at the back of the *2001 AAS Membership Directory* in our listing of World Wide Institutions, in some cases when the last letter of a URL is a vowel, it has not printed. To remedy, make sure the URL ends with the same the two-letter country abbreviation found at the end of the email address. We apologize for missing this in proofing.

## WASHINGTON NEWS

Continued from page 24



rivals astrophysics in complexity and arcana. For our office visits, we were provided in advance with carefully prepared presentation points and handouts, and grouped in delegations of two or more, generally including at least one senior participant. Most meetings were with 20-something staffers who listened intently, asked pointed questions, and took detailed notes. Fewer meetings were with

actual Members of Congress — often ones already keenly aware of our primary message and interested in our views of specific pieces of legislation. In the end, the impact of these meetings was distressingly difficult to gauge. Objective measures don't exist.

Few lawmakers have any firsthand knowledge of scientists and their work. The personal contact on Congressional Visits Day provides tangible proof to our elected officials that their political decisions about science influence a large number of real life constituents. The future of astronomy depends on public support, and it's up to us to keep Congress informed about the benefits of our enterprise and our contributions to the nation.

*Note: This year Congressional Visits Day is 1–2 May 2001.*

### San Diego Meeting Events

#### *NASA Town Meeting*

Dr. **Ed Weiler**, associate administrator, Office of Space Science (OSS) presented a comprehensive discussion of the current status of OSS funding and future efforts at OSS. Of particular interest to AAS members, he discussed the Mars reprogramming effort, which has received an adequate funding profile and is again on track to ultimately bring a sample of Mars back to Earth. The Outer planets program is undergoing a reinvigoration, including the naming of a new director and the production of a long-range plan for outer planet exploration. Additionally, he explained the justification behind the cancellation of a joint Europa-Pluto mission (expansion of costs) and announced the competition for a Pluto-only mission, now underway. He also highlighted an upcoming HST servicing mission that will bring the NICMOS camera back online with a new cooling system. Weiler mentioned that he was particularly proud of the SIRTf team, which has remained on-schedule and on-budget, although the launch date has been delayed until July 2002. SOFIA has been delayed until 2004 and NGST will now launch in 2008 and is currently being re-scoped to use a 6.5 or 7 meter mirror. VSOP is now budgeted for 2002 and HST will be terminated in April of 2010.

#### *NSF Town Meeting*

Acting AST director, **Wayne Van Citters** and Executive Officer, **Eileen Friel** presented an informative session in San Diego. A number of new initiatives were discussed, including expanded opportunities for graduate students and postdocs. The latest deadlines for proposals were announced. The funding situation for AST remains unclear as the higher-level management of NSF partitions the funds the agency received from Congress. NSF received the largest dollar increase ever in its history and the President's proposed budget for FY2001 included a substantial increase for the AST research and related activities program (direct

grants to researchers and other programs). The Congress included an additional \$15 million in the NSF budget for astronomical facilities. Some agency-wide initiatives were reduced, and Congress added a small (less than 1%) reduction to all domestic discretionary programs. (The exact text of the appropriations law for FY2001 can be found on the AAS public policy web pages.) AAS members should continue to work to support the NSF budget and keep the overall agency budget on its current positive growth trend.

#### *Goldin Gives Public Policy Address*

NASA Administrator **Dan Goldin** presented yet another challenging vision for the future to AAS members. Stressing the successes of recent years and the triumphs now underway, Goldin urged AAS members to think outside of the box and to expand their ideas of what was attainable. During the lecture, he held aloft a concept design from a group at the Jet Propulsion Laboratory for extremely large telescopes for use in a future mission aimed at imaging the surface of planets. It now appears that Mr. Goldin will continue as NASA administrator in the near-term as the Bush transition team expands their search for a potential replacement. (The full text of the speech is available through the AAS Public Policy web page, under the Current Issues link.)

## INTERNATIONAL NEWS

### IAU Announces New Officers

At its General Assembly this past August, the International Astronomical Union announced its officers for 2000–2003:

*IAU President:* **Franco Pacini**, Dipto. di Astronomia, Università Degli Studi, Largo E. Fermi 5, I–50125 Firenze, Italy; Tel. +39-055-27-521, Fax. +39-055-22-0039, pacini@arcetri.astro.it

*General Secretary:* **Hans Rickman**, IAU Secretariat, 98bis, Bd. Arago, F-75014 Paris, France; Tel: +33-1-4325-8358, Fax: +33-1-4325-2616, iau@iap.fr. (Home Institute) Astronomiska Observatoriet, Box 515, S-751-20, Uppsala, Sweden; Tel: +46-18-471-597, Fax: +46-18-471-5999, hans@astro.uu.se.

*Assistant General Secretary:* **Oddbjörn Engvold**, Institute of Theoretical Astrophysics, Univ of Oslo, Box 1029, N 0315 Blindern Oslo 3, Norway; Tel. +47-22 856 521, Fax +47-22 856 505, oddbjorn.engvold@astro.uio.no.

*President-Elect:* **Ronald D. Ekers**, CSIRO, Australia Telescope National Facility, Box 76, Epping NSW 1710, Australia; Tel. +61-2 9372 4300; Fax +61-2 9372 4310, rekera@atnf.csiro.au.

## APPOINTMENTS

### Jeremy Mould Selected To Head NOAO

The Association of Universities for Research in Astronomy, Inc. (AURA) announced the selection of AAS Member **Jeremy R. Mould** for the Directorship of the National Optical Astronomy Observatory (NOAO). Mould has been a staff member and user of NOAO facilities over the past 25 years. More recently he has been Director of the Australian National University's Mount Stromlo and Siding Springs Observatories. Dr. Mould has also played a central role in the Hubble Space Telescope Key Project on the Extragalactic Distance Scale to determine the Hubble constant to a high level of accuracy. Mould will succeed Sidney Wolff.



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70% Recycled Paper

## WASHINGTON NEWS

*Kevin Marvel, Associate Executive Officer for Policy Programs*



### FY 2002 Appropriations Cycle

On a cold, rainy January 20th, George W. Bush became the 43<sup>rd</sup> US President. Ordinarily, the President's proposed budget for the next fiscal year is submitted to Congress at the start of February, but during administrative transitions, processes and schedules change. In the first year of a new administration, the budget submitted is

a legacy budget of the prior administration. Modifications to this budget based on the priorities of the new President percolate through the Office of Management and Budget and arrive on Capitol Hill a bit later, typically in mid- to late March. This delays the potential time for grassroots efforts, such as the AAS Action Alerts, into the late spring and early summer.

It is difficult to determine the exact impact the new administration may have on the slice of federal pie of most interest to astronomers, the VA-HUD-IA appropriations bill that funds NASA and NSF. Of course, the total amount of funding available for domestic discretionary spending will depend on how the new administration chooses to use the large and growing federal receipts surplus. If Mr. Bush moves ahead with a large tax cut, federally funded researchers may have to tighten their belts. Almost certainly, there will be funding increases in defense R&D expenditure and weapons acquisition which could have a great impact on astronomy and astrophysics research funded through non-defense agencies.

Additionally, the Department of Energy may be reorganized and restructured in response to perceived security issues and the astronomy and astrophysics activities funded there might have to be reduced.

So, what to do now when we have no idea how new priorities will be implemented? Well, we could just sit tight and wait. Or, we could realize that now is good time to renew the usual Congressional contacts; to meet new staff and new Members and to talk in a non-crisis mode about astronomy and astrophysics. Mention the Decadal Survey report and point out its usefulness to Congress as an astronomy-wide agreement about funding priorities for our science. Give them the Website where they can read it in full (<http://www.nap.edu/books/0309070317/html>). Then, as Presidential priorities are made known, they will be ready to assess the budgetary impact on our science.

### **Congressional Visits Day: Close Encounters With Government In Action**

*David Wilner, [dwilner@cfa.harvard.edu](mailto:dwilner@cfa.harvard.edu)*

Congressional Visits Day (CVD) is an event organized by a large coalition of science societies, educational institutions and companies. It brings participants to Washington, DC for policy briefings and face-to-face meetings with legislators. I took part last spring as an "early career" astronomer, spending a day making visits to the Congressional offices to bolster the case for federal investment in research and development, particularly in the physical sciences.

I was thrilled by this close encounter with government in action. Capitol Hill is a lively and bewildering warren, with a vast array of special-interests plying the halls. The legislative process

*Continued on page 23*