



NEWSLETTER

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



Seattle, WA 2003 Winter Meeting

The 201st AAS Meeting -- 5-9 January 2003 -- returns to Seattle after more than 11 years. It will be held in the newly expanded Washington State Convention and Trade Center in the heart of this very exciting city.

The meeting features AAS Prize Lectures as well as Invited Talks and Special Sessions. Town

Meetings by NASA, NOAO, NGST, NSF, and SOFIA will be presented during lunch time slots as well as HAD and HEAD business meetings.

The AAS Job Center will be operated as normal and there will be a Career Workshop on Sunday.

A number of workshops and special sessions on astronomy education are scheduled on Sunday and throughout the week (see EDUCATION column, page 5 for details).

A reception will be held on Monday evening, 6 January at the Experience Music Project, a new interactive music museum (<http://www.emplive.com>). Tickets are limited, so be sure to order yours soon. The banquet, featuring outstanding Seattle fare, will be held at the headquarters hotel, the Seattle Sheraton.

This meeting is being hosted by the AAS Executive Office with special assistance from **Bruce Balick** at the University of Washington.

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PRESIDENT'S COLUMN

Caty Pilachowski, catyp@astro.indiana.edu

The academic year is beginning, and for many of the Society's members, fall is a time of renewal. While the leaves are falling, the chalk is fresh, and so are the faces that greet us in our classrooms – eager (we hope) to learn about astronomy. Thus, fall is a good time to explore what's new in astronomy education, and the AAS Education Office is a good place to start. Our Director of Educational Activities, Susana Deustua, is now fully on the job in our Washington office. Evidence for her presence can be seen in the Society's energizing new web pages for the AAS Education Program: to see what's happening, check out <http://www.aas.org/education>.

The Astronomy Education Board (AEB), under the leadership of Education Officer Bruce Partridge has been busy, too. The AEB has defined a compelling mission statement and goals for the next few years which outline what the Society hopes to accomplish in education. Our goals are both broad and specific, to improve graduate and undergraduate education in astronomy and to help promote science literacy for all, as well as to advocate for astronomy education and for astronomers to be involved in education. The Mission Statement and Goals were approved by Council at the Albuquerque meeting in June.

Each year more than 200,000 undergraduates in the US and Canada enroll in undergraduate introductory astronomy classes; for many, these "Astronomy 101" classes may be the only college-level science they encounter. At two national meetings sponsored by the AAS and organized by the AEB, astronomy department chairs discussed the educational goals of Astronomy 101, arriving at two sets of goals, one for content and one for skills, values, and attitudes. Participants urged us to consider a "less is more" approach, focusing on understanding of a limited number of astronomical qualities, with training in critical thinking and appropriate skepticism. The goals and report are now available on the AAS Education Website.

Astronomy education research has also received attention. The Society has endorsed, along with the Astronomical Society of the Pacific, the new refereed journal, *Astronomy Education Research*, which is just issuing its first online issue this fall. Take a look at this lively compendium at <http://aer.noao.edu>. In March, the Executive Committee of the AAS adopted a statement endorsing the value of education research in astronomy and stressing that the utility of astronomy education research is greatly enhanced when it is centered in departments in which astronomy is taught.

All of this activity comes as no surprise to AAS meeting regulars, who flock to sessions on astronomy education organized by Susana, Bruce and the AEB, the Working Group on Astronomy Education, and others. Our Albuquerque meeting featured several valuable sessions, and the upcoming Seattle meeting will as well. Members may wish to arrive early especially for the Sunday education sessions included in the Seattle program.

With all this going on, it's no wonder that astronomy education is increasingly visible on the national scene!

PUBLISHING

Scalo Deputy Editor, ApJL

Professor **John Scalo** of the University of Texas at Austin has been approved by the Publications Board as the next Deputy Letters Editor of the *Astrophysical Journal Letters*. Dr. Scalo will have direct editing oversight for a small percentage of the Letters manuscripts. Additionally, he will have full authority over all manuscripts when the Letters Editor, **Chris Sneden**, is traveling or otherwise unavailable. John Scalo, Chris Sneden, and the Managing Editor, Ms. Elizabeth M. Korves, will consult regularly on overall *Letters* policies as well as any difficulties that arise with particular manuscripts. The *Letters* office is currently in transition from Cambridge to Austin, with the Austin staff assuming full control of all manuscripts at the end of this year.

John Scalo has been a faculty member at the University of Texas at Austin since 1975, and now is the Jack Josey Centennial Professor of Astronomy. He has been a Sloan Research Fellow. John is a theoretician with close ties to various aspects of observational astronomy. His research interests are wide-ranging and he has published papers on red giant evolution, nucleosynthesis, star formation, galaxy evolution, interstellar medium, turbulence, astrobiology, and complex systems.

Manuscript Submissions using AASTeX

The *AJ* and *ApJ* accept manuscripts electronically that are prepared using the AASTeX manuscript package. Following are some important addresses for obtaining information about AASTeX and electronic manuscript submission.

AASTeX Homepage:

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

User Support:

aastex-help@as.org

Journal Homepages/Manuscript Submission:

AJ, *ApJ*, *ApJL*:

<http://www.journals.uchicago.edu/ApJ/information.html>

POLICY ON UNPAID JOURNAL SUBSCRIPTIONS

Member Subscriptions Only

To avoid any lapse in journal subscriptions, annual dues and subscription fees should be remitted so that they are received by the AAS Executive Office by **6 December 2002**.

After 1 January, no unpaid subscriptions will be mailed. In the event a subscription is reinstated after lapsing, there will be a surcharge for shipping the back issues — \$25 for the *ApJ* and \$15 for the *AJ* or *ApJ Supplement*, in addition to any membership reinstatement fee. If no back issues are required, no surcharge will be imposed.

Final Slate, AAS Elections

The following have been nominated for office; most of the terms begin June 2003. An election ballot will be enclosed in the December *Newsletter* and must be returned to the Secretary's office by **31 January 2003**.

President	Neta A. Bahcall Robert P. Kirshner
Vice-President	Chris D. Impey Colin A. Norman
Education Officer	George D. Nelson
Councilors	Todd A. Boroson Gregory D. Bothun Carol A. Christian Harold A. McAlister David R. Silva Alycia J. Weinberger
USNC-IAU	Geraldine J. Peters Yervant Terzian
Nominating Committee	David S. De Young Andrea K. Dupree Steve B. Howell

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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.

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

Items of general interest to be considered for publication in the *Newsletter* should be sent to lscholz@as.org. Appropriate pictures are welcomed. Further information about deadlines and submitting articles, see <http://www.aas.org/publications/newsletter.html>.

Letters to the Editor on current issues of importance to astronomers are welcomed. Letters must be signed and should not exceed 250 words. Letters must be received by Jeff Linsky, Associate Editor, Letters, no later than one week prior to the Newsletter deadline (above). You may contact Jeff Linsky by email jlinsky@jila.colorado.edu, Tel: 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.

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.

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

Sessions at AAS Meetings

The AAS holds at its semi-annual meetings four basic types of session, three of which are planned one meeting in advance by the AAS Committee on Meetings. The Committee is composed of the three Vice-Presidents, the Executive Officer and the President (ex-officio). The chair of the Committee on Meetings is always the senior Vice-President.

CONTRIBUTED SESSIONS are oral or poster presentations (both referred to as "papers") by meeting registrants. Further rules on contributed papers may be found on the AAS meeting web pages.

INVITED TALKS are oral presentations made at the invitation of the Committee on Meetings. Members can communicate ideas for possible invited speakers directly to the Committee on Meetings by sending email to the AAS Conference Manager Diana Alexander (diana@as.org).

SPECIAL SESSIONS

- Scheduled in response to proposals from AAS members.
- Held at both the Winter and Summer meetings.
- Length is 1 ½ hours.
- Scheduled in parallel with other special and contributed sessions.
- At Winter meetings, they may be held on any of the four meeting days; at Summer Meetings, they will be scheduled only on Monday or Thursday.
- No required format, *i. e.*, may be a series of talks or a panel discussion.

TOPICAL SESSIONS

- Scheduled in response to proposals from AAS members.
- Held at Summer meetings *only*.
- Length is either a half day (3 ¼ hours) or full day (6 ½ hour).
- No more than three topical sessions will be scheduled in parallel.
- Held only on Tuesdays and Wednesdays.
- No required format, but an opening introductory summary talk for a non-specialist audience is strongly suggested.

Proposals for Special and Topical Sessions should be sent to Diana Alexander (diana@as.org). For the Summer 2003 Nashville meeting, proposals for Topical Sessions are due by **15 November 2002**, and proposals for Special Sessions are due by **13 December 2002**.

While no specific format is required, proposals should contain enough information to justify to the Committee the value of the session to the AAS membership.

For the Nashville meeting, proposals will be reviewed by the Committee in early December and proposers will be informed of their decision shortly thereafter. See the AAS home page for more information on Meetings and Session guidelines.

SECRETARY'S CORNER

Arlo U. Landolt, AAS Secretary

Committee Vacancies To Fill . . .

Vacancies for several AAS committees will be filled by Council, at its meeting in January 2003. Current committee members are listed on the AAS homepage, <http://www.aas.org>. Committees which have vacancies, together with the number of vacancies on each (in parenthesis immediately following), are:

- Russell Lectureship Committee (2),
- Heineman Prize Committee (2),
- Warner and Pierce Prize Committee (3),
- Annie J. Cannon Prize Committee (1), and
- Van Biesbroeck Prize Committee (3)
- Beatrice Tinsley Prize Committee (3)
- AAS Education Prize Committee (2)
- Weber Prize Committee (2)

AAS Members may themselves volunteer, or suggest other Members for one of the vacancies. To be most useful to the Committee on Appointments, such input also should include the date of PhD, as well as a few sentences conveying to the Committee the background and area of expertise of the named individual. The idea is to have both quality and breadth across the AAS committee structure.

Input should be received in the Office of the Secretary no later than **15 December 2002**. Submit suggestions to Arlo U. Landolt, AAS Secretary, Department of Physics & Astronomy, Louisiana State University, Baton Rouge, LA 70803-4001 Tel: 225-578-1160, Fax: 225-578-7001, aassec@rouge.phys.lsu.edu.

Seattle Meeting Sessions Need Chairs

AAS members are invited to volunteer to chair one of the oral paper sessions at the AAS's meeting in Seattle in January 2003. A session chair should be at least a few years beyond the PhD, and have had experience, *i. e.*, being the lead author, in presenting at least two or three oral papers at AAS meetings. Watch for the Final Program on the Web, and after it has been posted, review its contents, and then list in order of preference two, three or four oral sessions that you would be willing to chair, in or near your field of expertise. Email your preferences to Arlo U. Landolt, AAS Secretary, at aassec@rouge.phys.lsu.edu, and he will respond once final chair assignments are known.

2003 Membership Invoices

The 2003 AAS Membership Renewal Invoices will be mailed in the first two weeks in October. If you have not received your invoice by mid-November, please contact Dennis Renner at renner@as.org.

Refer to the 2003 Membership Renewal Brochure which accompanies the invoice for instructions on making invoice adjustments. And please use this opportunity to make a tax-deductible contribution to AAS programs explained in the accompanying brochure and itemized on the invoice.

A statement regarding the privacy of member records has been printed on the back of the Renewal Invoice. Please be sure to read it in its entirety

Our Graying Leadership? NOT!

Virginia Trimble, UC Irvine and Univ. of Maryland,
vtrimble@astro.umd.edu

Noters-with-alarm have often noted with alarm that scientific communities are getting older, as must inevitably happen when exponential growth tapers off. And you might reasonably suppose that we would also be electing older officers than in the past. This turns out to be true for some scientific societies, but not for the AAS.

The next president we elect will be number 40, which clearly provides a golden opportunity for collecting numbers by quartiles. The table below does this for four specialized societies (AAS, American Physical Society (APS), American Chemical Society (ACS), and American Mathematical Society (AMS) and two general ones (American Association for the Advancement of Science (AAAS) and Sigma Xi: The Scientific Research Society). All sets begin in about 1899 (since AAS chose its first president then), though AAAS and ACS were founded considerably earlier. One person is missing from the AAAS set and four from the Sigma Xi set, because they never appeared in *American Men (and Women!) of Science*, from which the birth years were taken. The missing five came from territories like science education and government service. The lists of presidents were taken from Society directories or Website.

Society	No. of Presidents	Mean Age (whole group)	Earliest Quartile	Q2	Q3	Latest Quartile
AAS	40	57.8	62.0	56.7	56.7	55.8
APS	91	58.3	50.5	57.4	58.9	66.2
AMS	56	54.6	48.6	50.8	57.3	62.2
ACS	99	58.0	50.0	50.8	61.0	64.0
AAAS	106	62.9	60.8	64.2	61.6	63.0
Sigma Xi	60	59.8	50.9	62.0	64.9	61.5

All the numbers assume that we are race horses, whose birthdays occur on 1 January. Thus everyone born in say, 1900, is 43 years old throughout 1943. This underestimates conventional ages by six months on average but does not affect trends or comparisons, unless all chemists are Aquarians and all astronomers, Scorpions (I think this unlikely, but have not checked). The AAS numbers presume that the next election will select half of each candidate, the happiest possible outcome, since both are wonderful people.

A quick summary of the table is that the mathematicians, chemists, and physicists are electing more senior presidents than they used to, the astronomers are not, and the general societies come in between. The mathematical presidents have been the youngest and the general society ones the oldest, though not, you will notice, by enormous amounts.

Now, how well do you know your AAS presidents?
(The answers will be found on page 7.)

- Who was the first AAS president born in the 20th century?
- The last born in the 19th century?
- Who was oldest upon taking office? Second oldest?
- Who was youngest upon taking office? Second youngest?

And an advanced quiz for experts:

Five AAS presidents have also skipped AAAS, one both AAS and AMS, and one both AAS and Sigma Xi. Try naming some before you look up the answers on page 7.

Incidentally, AAS has never had a president die between election and the end of his term or resign because of getting a better job. The other societies have not been so fortunate.

2001 Chrétien Grants To Martí, Hudson

In the spirit of "better late than never," we report the 2001 Chrétien grant winners we neglected to announce earlier.
— Editor.

Seven proposals were received for the 2001 round of applications representing Spain, Canada, New Zealand, and the US. The final decision on these proposals was made in September 2001 by the committee that is chaired by Peter Boyce. Awards were given to **Josep Martí** of the University of Jaén in southern Spain and **Mike Hudson** of Waterloo University.



Josep Martí of the University of Jaén will use his 2001 Chrétien Grant hopes to expand the number of known galactic microquasar sources.

Martí will expand the known number of galactic microquasar sources with a multi-wavelength observational campaign on a set of candidate sources gleaned from standard catalogs and databases. By using radio interferometry, optical and infrared spectroscopy and occasional multi-wavelength monitoring campaigns, Dr. Martí hopes to significantly increase our understanding of these fascinating sources. Interesting both as analogs to extragalactic quasar-jet sources as well as in their own right, these X-ray binary systems produce relativistic jets perpendicular to the accretion disk. Due to the highly variable nature of the synchrotron emission associated with the jets, imaging with interferometers is complicated and alternative data processing techniques must be employed. Dr. Martí has developed and utilized some of these methods and will do so in this project as well.

Mike Hudson will use his Chrétien Grant to pursue the NOAO Fundamental Plane Survey (NFP) along with a group of colleagues. The NFP is an ongoing deep and homogeneous all-sky spectroscopic and photometric study of 100 X-ray selected galaxy clusters within 200 Mpc/h. The survey has two goals. The first is to map dark matter in the nearby universe on large scales by measuring the peculiar velocities of clusters using the fundamental plane distance indicator. The second goal of the survey is to study galaxy evolution, stellar populations and galaxy morphologies in the cluster environment. The NFP data archive will be a unique and valuable resource to the community once complete.

Abstract Deadline for Seattle Meeting:

Wednesday, 16 October 2002

EDUCATION

Bruce Partridge, Education Officer, bpartrid@haverford.edu and Susana Deustua, Director of Education Activities, deustua@aac.org

Education Highlights, Seattle Meeting

Greetings from the Education Office. Hard to believe, but it's time to submit those abstracts for the next AAS meeting. The Seattle meeting promises to be interesting; astronomy educators will not want to miss it.

Sunday, 5 January: Three Workshops

- 9:30am–Noon: *Teaching with Tutorials for Introductory Astronomy* is a morning workshop on how to include collaborative learning groups using lecture tutorials in introductory astronomy courses for non-science majors. New and senior faculty, post-docs and graduate students are encouraged to attend. The workshop will be led by **Tim Slater**, **Ed Rather** (both, U. Arizona) and **Jeff Adams** (Montana State Univ.).
- 2:00–5:00pm: *Teaching Astronomy for the First Time: A Teaching Excellence Workshop for Graduate Students and Post-Docs* is an introduction to effective strategies for teaching astronomy including time-saving approaches to grading homework and writing effective exams. **Steve Pompea** (NOAO) and **Tim Slater** (U. Arizona) will lead this three hour afternoon workshop.
- 2:30–5:30pm: *Astro 101: A Continuing Dialogue*: see below.

Monday, 6 January: Special Session

- 10:00am–11:30 am: *Undergraduate Research* organized by **Randy Phelps** (CSU Sacramento) and **John Percy** (Univ. of Toronto). Invited speakers will address the importance of research for a successful undergraduate academic experience; what makes for a successful program; and sources of funding.

Tuesday, 7 January: Invited Talk

- 3:40pm: **Chris Impey** (U. Arizona) will be giving an invited lecture on *Teaching in the Age of Electrons*.

Thursday, 9 January: Special Sessions

- 10:00–11:30am: *Innovations in Graduate Education in Astronomy*, organized by **Bruce Partridge** (Haverford College), highlights innovations in graduate programs in several North American universities following the 1997 report "An Examination of Graduate Education in Astronomy" (*BAAS* 29, p. 1426).
- 2:00–3:30 pm: If you have ever thought about writing an education and public outreach (EPO) proposal, or just want to find out about NASA's Office of Space Science EPO programs, *How to Write Winning E/PO Proposals for NASA Space Science Research Awards*, will be of interest. This session introduces NASA's Office of Space Science education and public outreach funding and resources, and discusses the elements for a successful proposal. It is organized by **Cheri Morrow** (Space Science Inst.), **Ellis Miner** (JPL) and **L. Mayo** (NASA).

Check the meeting announcements on the AAS Website for complete information and check the Final Program for room assignments.

"ASTRO 101" Continues in Seattle

George Greenstein, Amherst College, gsgreenstein@amherst.edu
On Sunday, 5 January, "ASTRO 101: A Continuing Dialogue," will focus on the educational challenges and opportunities afforded by the Internet revolution. Five panelists will describe their experiences in this new and exciting arena. Topics include some recent applets which demonstrate astronomical phenomena; the use of computers in 'just in time learning,' and distance-learning software that utilizes education research in its design. After this initial discussion, we very much hope that others will come prepared to make their own brief presentations. Panelists will be **Greg Bothun** (U. Oregon), **Dick McCray** (U. Colorado), **Chris Impey** (U. Arizona), **Chuck Hailey** (Columbia U.), **Adam Neaman** and **George Greenstein** (Amherst College), *Moderator*.

TRANSITIONS

Goldsmith steps down at NAIC

After serving for a decade, **Paul Goldsmith** will step down at the end of the year as Director of the National Astronomy and Ionosphere Center. During his tenure as Director, Goldsmith oversaw the Gregorian upgrade project and other enhancements of the 305-m radio dish, located in Arecibo, Puerto Rico. Developments, including adjustment of the primary surface and low-noise receivers enabling observations at frequencies as high as 10 GHz, and a variety of pulsar backends, have greatly improved the telescope's sensitivity and frequency range. A seven-element dual-polarization feed array operating at L-band (1.2-1.5 GHz) called ALFA, is currently under construction and will offer a significant leap forward for HI and pulsar studies. Goldsmith also supported development of the Education and Outreach activities at Arecibo, which now include a Visitor Center classroom/meeting facility, and additional accommodations for visiting scientists and teachers. He has also pursued his research on molecular clouds and star formation using the new capabilities of Arecibo as well as other facilities including SWAS, the Submillimeter Wave Astronomy Satellite.

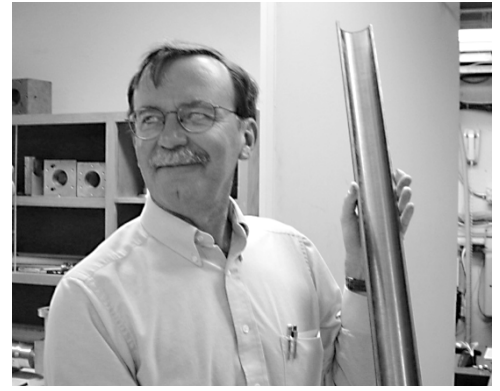
Professor Goldsmith's successor is expected to provide the leadership needed to insure that the opportunities furnished by Arecibo's enhanced capabilities are fulfilled and to seek new directions for the Observatory. A search committee, chaired by Joe Burns of Cornell University, has been formed to look for Goldsmith's replacement. Committee members include Riccardo Giovanelli of Cornell, Vicki Kaspi of McGill, Shri Kulkarni of Caltech, Loris Magnani of the University of Georgia, Joe Salah of Haystack Observatory, Chris Salter of NAIC and Bob Williams of STScI. The committee welcomes suggestions from the community at naicsearch@cornell.edu.



K. S. "Bala" Balasubramaniam told reporters visiting Sunspot, NM, of research facilities and programs at the National Solar Observatory, Sunspot.

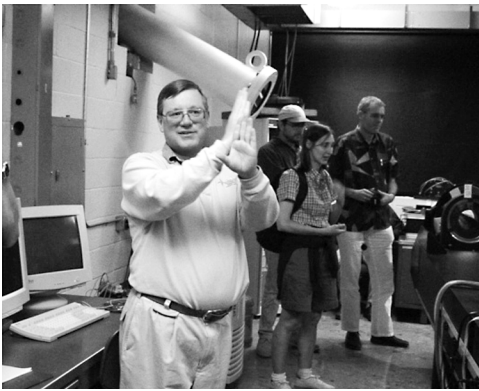


Stephanie Snedden explained the control system of the 2.5m SDSS telescope to writer Jeff Kanipe, whose latest book, Astronomy: The Definitive Guide, was recently published in Australia.



On an AAS press tour at the VLA site, EVLA project scientist Rick Perley exhibited a cutaway section of vintage 1970s VLA waveguide.

AAS Press Tours: Where, When and Why?



Craig Gullixson welcomed journalists to an NSO laboratory where narrow-band tunable Fabry-Perot filters are evaluated and calibrated.

The AAS organizes Press Tours in connection with most of our national meetings and if we will be meeting near your facility in the future, you might consider hosting one. (Just contact our Press Officer to discuss the possibilities.)

The purpose of an AAS Press Tour is to give the press corps at our meeting an interesting outing to a facility that many of them might not otherwise have the opportunity to visit. It's not the occasion for a series of sit-down briefings; the reporters are already sitting through briefings all week at the AAS meeting. (Well, one or two *brief* briefings might be OK.) What we do want to see is an interesting new telescope, experiment, or facility, preferably at the end of a scenic ride, although we do urban tours as well. It's mandatory to have scientific experts on hand to discuss the object(s) of the visit, not just telescope operators or facility managers.

Usually, most of the attending reporters are taking notes for background information and getting acquainted with the host scientists and outreach representatives, but some articles do result from the tours. For example, after the press corps visited the VLA site during the June meeting in Albuquerque, there were favorable reports on the VLA and its planned upgrade to the EVLA in *The New York Times* and on the Reuters news wire; both of those media also reported on the June 2001 AAS night press tour to Mount Wilson Observatory.

Goodwill and sometimes, media coverage result from a press tour. The AAS arranges for a group of reporters to attend at a time that does not conflict with media events at our meeting. The host organization arranges for transportation, expert speakers/guides, and at their option, refreshments.

All photos are by Steve Maran.



Ten hard-hatted persons at a time, the AAS press corps climbed the VLA antenna in the servicing hangar. One reporter even wrote about an owl found roosting near the ceiling!



Sloan Digital Sky Survey (SDSS) spokesperson Richard Kron (U. Chicago) built anticipation for a visit to the SDSS telescope with the public address system on a press bus bound for the observatory.

COMMITTEES

Status of Women in Astronomy

Meg Urry, Chair, meg.urry@yale.edu

CSWA Session at the Winter AAS Meeting

At the January meeting in Seattle, the CSWA session will feature Dr. Denice Denton, Dean of Engineering and Professor of Electrical Engineering at the University of Washington, and director of the NSF ADVANCE program at UW. Dean Denton will describe efforts to encourage women and under-represented minorities to pursue Science and Engineering, what works and what doesn't. Her talk will be followed by a Q & A session with the audience.

Astronomy educators will be interested in the following eye-opening article, which appeared in The Washington Post on 10 June 2001 as part of the "Unconventional Wisdom" column. Researchers found that perception has a remarkable impact on performance, — in this example, performance of men and women on a math test — to the extent that it erased any gender-based differences in math performance. Food for thought when teaching your next class! — Meg Urry.

"Mind Over Math"

By Richard Morin. ©2001, *The Washington Post*. Reprinted with permission.

There may be a surprisingly simple way to close the long-standing gender gap on standardized math tests: Add a line at the beginning of the exam stating that men and women do equally well on the test. And then they will, claim psychologists Diane Quinn and Steven Spencer.

Their research suggests that the gender disparity may be due in large part to anxiety produced by the stereotype that girls don't do as well in math. They've discovered that telling test takers that the exam is "gender fair" is enough to neutralize corrosive effects of the stereotype — and to more than double the scores of female students on difficult math tests.

Over the past ten years, Spencer and Quinn, working together or with others, have conducted 15 experiments involving more than 500 subjects. Quinn teaches at the University of Connecticut and Spencer at the University of Waterloo in Ontario. They summarized the results of their latest research project in the *Journal of Social Issues*.

Each study was conducted in roughly the same way, Spencer said. They recruited undergraduate students and rated their math abilities, as measured by their SAT scores and math grades in high school and college. This allowed the researchers to determine gender differences in performance that were not due simply to differences in mathematical aptitude.

The students were given a math exam drawn from the SAT or the Graduate Management Admission Test. The researchers deliberately selected difficult problems — the kind that they reasoned would be the most likely to trigger the girls-can't-do-math anxiety.

Before the tests were handed out, half of the women and half of the men were told only that the exam was a standardized test designed to measure their math ability. The other half were told they were being given a math aptitude test that was "gender fair" — meaning that, on average, both men and women had done equally well on it.

"Across the 15 studies, we came up with the same results," Spencer said. "Women underperformed the men when the stereotype threat was activated, getting a score of 10 while men typically scored 25." (The scores are the percent of the problems the student got right, with points deducted for wrong answers to discourage guessing.)

But when researchers reduced their math anxiety by telling them the test was fair to both sexes, women's test scores doubled to 20. There was one twist that the researchers did not anticipate, however: While women did better on the "gender fair" math test, men did not. Their average score dropped by 5 points, also resulting in a score of 20.

Huh? "When we saw that on the first few studies, we thought it was just random fluctuation," Spencer said. "But we've done enough of these studies now to say it's not chance."

Spencer said they don't know why the prospect of taking a "fair" test would make women do better and make men do worse. "Maybe when you tell men there are no gender differences, they don't try as hard," Spencer speculated. Or maybe something else is at work. "That's one of the problems we're working on now."

The AAS 2003 Directory Is Coming: Please Alert Your Mailroom

The 2003 AAS *Membership Directory* is shipping Third Class at the end of November. If your institution mail room has a policy of discarding Third Class Mail, please ask them to make an exception for the AAS *Directory* that will arrive in clear shrink-wrap. We cannot replace free of charge *Directories* that have been discarded by Members' institutions.

If you have not received your *Directory* by January, contact Shantice Jones at aas@aas.org.

AAS + Sigma Xi: Shapley (again)
simultaneous terms)
AAS + AMS: Simon Newcomb (in nearly
H. N. Russell, H. Shapley, E. M. Burbidge
AAS + AAS: E. C. Pickering, W. W. Campbell,
Advanced Quiz:
d. Lyman Spitzer (at 46); Robert Kraft (at 47).
G. W. Comstock (at 70)
c. Robert Aitken (at 73, in horse years);
b. C. S. Beals
a. D. H. Menzel

ANSWERS TO "GRAVING" QUIZ ON PAGE 4:

CALENDAR

Listed below are meetings or other events 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@as.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://cadwww.hia.nrc.ca/meetings>.

AAS and AAS Division Meetings

201st Meeting of the AAS

5–9 January 2003 — Seattle, WA

Contact: AAS Executive Office (diana@as.org)

*High Energy Astrophysics Division (with AAS)

5–9 January 2003 — Seattle, WA

Contact: Roger Blandford (rdb@head-cfa.harvard.edu)

*High Energy Astrophysics Division

23–26 March 2003 — Mt. Tremblant, Canada

Contact: Jonathon Grindlay (josh@head-cfa.harvard.edu)

Division on Dynamical Astronomy

4–7 May 2003 — Ithaca, NY

Contact: Joe Burns (jab16@cornell.edu)

*202nd Meeting of the AAS

25–29 May 2003 — Nashville, TN

Contact: Rich Gelderman (gelderman@wku.edu) and

David Weintraub (david@ttau.phy.vanderbilt.edu)

*Solar Physics Division

16–20 June 2003 — Scaggsville, MD

Contact: Ed Deluca (vice-chair@spd.as.org)

*Division for Planetary Sciences

1–6 September 2003 — Monterrey, CA

Contact: Ted Roush (ttroush@mail.arc.nasa.gov)

Other Events

NAS Sackler Coll.: Challenges to the Standard Paradigm:

Fundamental Physics and Cosmology

1–3 November 2002 — Irvine, CA

Contact: Miriam Glaser Heston (mheston@nas.edu)

<http://www.nationalacademies.org/nas/colloquia>

Galactic Center Workshop 2002

3–8 November 2002 — Kailua-Kona, HI

Contact: Thomas R. Geballe (tgeballe@gemini.edu)

http://www.gemini.edu/science/gc_conf

VII Escuela la Hechicera, Relatividad, Campos y Astrofísica

3–8 November 2003 — Mérida, Venezuela

Contact: Dalia Márquez (escuela@ula.ve)

<http://ogion.ciens.ula.ve>

*CHANDRA Calibration Workshop

6–7 November 2002 — Cambridge, MA

Contact: ccw@head-cfa.harvard.edu

<http://cxc.harvard.edu/ccw>

IAU Symposium. 215: “Stellar Rotation”

11–15 November 2002 — Cancun, Mexico

Contact: André Maeder (andre.maeder@obs.unige.ch)

<http://cuevano.astro.ugto.mx/~eenens/iau215>

*2nd Living With a Star Science Workshop

13–15 November 2002 — Laurel, MD

Contact: Nicky Fox (nicola.fox@jhuapl.edu)

<http://lws-workshop.jhuapl.edu>

*Undergraduate Research and Scholarship and the Mission of the Research University

14–15 November 2002 — College Park, MD

<http://www.sunysb.edu/Reinventioncenter/conference/urconfabout.html>

*X-ray Binaries in the Chandra and XMM-Newton Era

14–15 November 2002 — Cambridge, MA

Contact: Michael Garcia (garcia@cfa.harvard.edu)

<http://cxc.harvard.edu/xrbconf>

Carnegie Obs. Cent. Symp. II: Measuring & Modeling the Universe

17–22 November 2002 — Pasadena, CA

Contact: Wendy Freedman (wfreedman@ociw.edu)

<http://www.ociw.edu/ociw/symposia/symposium2>

SIRTF Observation Planning Workshop

22–23 November 2003 — Pasadena, CA

Contact: obsplan@ipac.caltech.edu

<http://sirtf.caltech.edu/SSC/ost/WORKSHOP>

*Stellar Populations and Gravitational Wave Observatories

2–5 December 2002 — University Park, PA

Contact: Lee Samuel Finn (StellarPop-Local@Gravity.PSU.edu)

SIRTF Observation Planning Workshop

6–7 December 2003 — Pasadena, CA

Contact: obsplan@ipac.caltech.edu

<http://sirtf.caltech.edu/SSC/ost/WORKSHOP>

American Geophysical Union 2002 Fall Meeting

6–10 December 2002 — San Francisco, CA

Contact: meetings@agu.org

<http://www.agu.org/meetings/fm2top.html>

IAU Coll. 190: “Magnetic Cataclysmic Variables”

8–13 December 2002 — Cape Town, South Africa

Contact: Sonja Vrielmann (sonja@pinguin.ast.uct.ac.za)

<http://mensa.ast.uct.ac.za/mcv.html>

*Stellar Candles for the Extragalactic

9–11 December 2002 — Concepción, Chile

Contact: workshop@coma.cfm.udec.cl

<http://cluster.cfm.udec.cl>

XXIst Texas Symposium on Relativistic Astrophysics

9–13 December 2002 — Florence, Italy

Contact: texas_florence@arcetri.astro.it

<http://www.arcetri.astro.it/~texaflor>

*Soft X-ray Excess Emission from Clusters of Galaxies and Related Phenomena

11–13 December 2002 — Huntsville, AL

Contact: Richard Lieu (hsv02@email.uah.edu)

<http://www.uah.edu/news.ClusterGalaxies>

Neutrinos: Data Cosmos and Planck Scale

15 January–15 May 2003 — Santa Barbara, CA

Contact: David Gross (gross@itp.ucsb.edu)

<http://www.itp.ucsb.edu>

Carnegie Obs. Cent. Symp. III: “Clusters of Galaxies: Probes of Cosmological Structure & Galaxy Evolution”

26–31 January 2003 — Pasadena, CA

Contact: John Mulchaey (jmulchaey@ociw.edu)

<http://www.ociw.edu/ociw/symposia/symposium3>

IAU Coll. 191: The Environment and Evolution of Binary Stars
3–7 February 2003 — Yucatan, Mexico
Contact: C.D. Scarfe (scarfe@uvic.ca)

Carnegie Obs. Cent. Symp. IV: Origin & Evolution of the Elements
16–21 February 2003 — Pasadena, CA
Contact: Andrew McWilliam (amcwilliam@ociw.edu)
<http://www.ociw.edu/ociw/symposia/symposium4>

*Initial ALFA Extragalactic HI Consortium Meeting
15–18 March 2003 — Arecibo, PR
Contact: Karen O'Neil (koneil@naic.edu)
<http://alfa.naic.edu/extragal/meeting1>

34th Lunar and Planetary Science Conference
17–21 March 2003 — League City, TX
Contact: Paula Walley (walley@lpi.usra.edu)

*Cosmic Microwave Background and its Polarization
19–22 March 2003 — Minneapolis, MN
Contact: Catharine Graham (cmb@physics.umn.edu)
<http://www.tpi.umn.edu/cmb>

*The Davis Meeting on Cosmic Inflation
22–25 March 2003 — Davis, CA
Contact: Andreas Albrecht (albrecht@physics.ucdavis.edu)
<http://inflation03.ucdavis.edu>

2003 EGS–AGU–EUG Joint Assembly
7–11 April 2003 — Nice, France
Contact: meetings@agu.org
<http://www.copernicus.org/egsagueng/index.html>

33rd Saas-Fee Course: Gravitational Lensing: Strong, Weak & Micro
7–12 April 2003 — Les Diablerets, Switzerland
Contact: Georges Meylan (gmeylan@stsci.edu)
<http://obswww.unige.ch/saas-fee>

IAU Coll. 192: Supernovae (10 years of SN1993)
22–26 April 2003 — Valencia, Spain
Contact: J. M. Marciade (J.M.Marcaide@uv.es)

*Astrophysics of Dust
26–30 May 2003 — Estes Park, CO
Contact: Adolf N. Witt (awitt@dusty.astro.utoledo.edu)
<http://astro1.panet.utoledo.edu/~aod03>

*The Riddle of Cooling Flows in Galaxies and Clusters of Galaxies
31 May – 4 June 2003 — Charlottesville, VA
Contact: Thomas Reiprich (thomas@reiprich.net)
<http://www.astro.virginia.edu/coolflow>

*Future Directions in High Resolution Astronomy: A Celebration of the 10th
8–12 June 2003 — Socorro, NM
Contact: Jonathan Romney (jromney@aoc.nrao.edu)
<http://www.aoc.nrao.edu/events/VLBA10th>

Sixth Biennial History of Astronomy Meeting
19–22 June 2003 — Notre Dame, IN
Contact: Matthew F. Dowd (matthew.f.dowd.11@nd.edu)

SCOSTEP/IAU Symp.: Solar Variability as an Input to the Earth Environment
23–28 June 2003 — Tatranská Lomnica, Slovakia
Contact: ISCS 2003 (iscs2003@astro.sk)

Gordon Research Conference on the Origins of Solar Systems
6–11 July 2003 — Bristol, RI
Contact: Pat Cassen (pcassen@mail.arc.nasa.gov)
<http://www.grc.uri.edu>

IAU Coll. 193: Variable Stars in the Local Group
6–11 July 2003 — Christchurch, New Zealand
Contact: Don W. Kurtz (dwkurtz@uclan.ac.uk)

XXVth International Astronomical Union General Assembly
13–26 July 2003 — Sydney, Australia
Contact: IAU Secretariat (iau@iap.fr)
<http://www.astronomy2003.com>

*IAU Symp. 216: Maps of the Cosmos
14–17 July 2003 — Sydney, Australia
Contact: L. Staveley-Smith (Lister.Staveley-Smith@csiro.au)
<http://www.atnf.csiro.au/iau-ga/iau216>

*IAU Symp. 217: Recycling Intergalactic & Interstellar Matter
14–17 July 2003 — Sydney, Australia
Contact: P.-A. Duc (paduc@cea.fr)
<http://www-dapnia.cea.fr/Sap/Conferences/IAU>

*IAU Symp. 218: Young Neutron Stars and Their Environment
14–17 July 2003 — Sydney, Australia
Contact: R. N. Manchester (Dick.Manchester@csiro.au)
<http://www.atnf.csiro.au/iau-ga/iau218>

*IAU Special Session 1: Recent Progress in Planetary Exploration
18–19 July 2003 — Sydney, Australia
Contact: D. P. Cruikshank (dcruikshank@mail.arc.nasa.gov)
<http://www.atnf.csiro.au/iau-ga/iau218>

*IAU Special Session 2: Astronomy in Antarctica
18–19 July 2003 — Sydney, Australia
Contact: M. Burton (M.Burton@unsw.edu.au)
<http://newt.phys.unsw.edu.au/sps2>

*IAU Symp. 219: Stars as Suns: Activity, Evolution and Planets
21–25 July 2003 — Sydney, Australia
Contact: A. O. Benz (benz@astro.phys.ethz.ch)
<http://cfa-www.harvard.edu/symp219/home.html>

*IAU Symp. 220: Dark Matter in Galaxies
21–25 July 2003 — Sydney, Australia
Contact: M. Walker (m.walker@physics.usyd.edu.au)
<http://cfa-www.harvard.edu/symp219/home.html>

*IAU Symp. 221: Star Formation at High Angular Resolution
22–25 July 2003 — Sydney, Australia
Contact: M. Burton (iau221@phys.unsw.edu.au)
<http://newt.phys.unsw.edu.au/iau221>

*IAU Spec. Sess. 3: New Classification Scheme for Double Stars
24 July 2003 — Sydney, Australia
Contact: B. D. Mason (bdm@draco.usno.navy.mil)
<http://www.astronomy2003.com>

*IAU Spec. Sess. 4: Effective Teaching & Learning of Astronomy
24–25 July 2003 — Sydney, Australia
Contact: J. R. Percy (jpercy@utm.utoronto.ca)
<http://www.astronomy2003.com>

Asymmetric Planetary Nebulae III: Winds, Structure, and the Thunderbird
27 July–1 August 2003 — Mount Ranier, WA
Contact: Bruce Balick (balick@astro.washington.edu)
<http://www.astro.washington.edu/balick/APN>

*IAU Coll. 194: Compact Binaries in the Galaxy and Beyond
17–22 November 2003 — La Paz, Mexico
Contact: Gagik Tovmassian (iau194@astrosen.unam.mx)
<http://www.astrosen.unam.mx/~iau194>

HONORED ELSEWHERE



Vera Rubin of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington.

Vera Rubin Wins 2002 Gruber Cosmology Prize

Vera C. Rubin of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, has been awarded this year's Cosmology Prize by the Peter Gruber Foundation. The Prize, that includes a gold medal and a \$150,000 cash award, acknowledges past discoveries and encourages further exploration in a field that shapes our understanding of the universe.

Geller Wins La Medaille de l'ADION

The Observatoire de la Cote d'Azur in Nice, France, has given it's 2002 Medaille de l'ADION to Margaret Geller of the Smithsonian Astrophysical Observatory (SAO). Geller was cited for her "eminent contributions to the study of the structure and evolution of systems of galaxies." The Medaille has been awarded annually since 1963 to a scientist "whose work has significant impact on research at the Observatoire de la Cote d'Azur." The SAO press release announcing this honor states that "Geller was a pioneer in mapping the three dimensional distribution of galaxies and showed that galaxies mark the surface of gigantic 'bubbles'."

Weinburger, Schmidt Win Vainu Bappu Medals

The Astronomical Society of India recently announced its 2000 and 2002 Vainu Bappu Gold Medals: AAS Member **Alycia Weinberger** of the Carnegie Institution of Washington has won the 2000 Bappu Medal jointly with Biswajit Paul, an X-ray astronomer at the Tata Institute of Fundamental Research in Mumbai, India. The medalists were selected for their "innovative modifications of instruments and for their use of these instruments for leading-edge observations" (V. Trimble). The 2002 Medal has been awarded to AAS Member **Brian P. Schmidt** of the Australian National University. *(At the time of this printing, we have not seen the citation for this award, but Schmidt has been recognized previously for his leadership of a team that produced evidence that the universe is expanding at an accelerating rate. – Editor)*

The award is named in memory of M. K. Vainu Bappu, founding President of the Astronomical Society of India and past President of the International Astronomical Union. It is given every two years to honor exceptional contributions in the field of astronomy and astrophysics by a young scientist.

Whittet Receives Rensselaer Teaching Award

The Alumni Association of Rensselaer Polytechnic Institute has awarded physics teacher and AAS Member, **Douglas C. B. Whittet**, its 2002 Alumni Teaching Award. The award honors outstanding teaching techniques, contributions to the campus experience and commitment to students.

Guth and Steinhardt Win Dirac Medal

On the on the centenary of Paul Dirac's birth, AAS Members **Alan Guth** of the Massachusetts Institute of Technology and **Paul Steinhardt** of Princeton University have won the 2002 Dirac Medal of the Abdus Salam International Center for Theoretical Physics (ICTP) in Trieste, Italy. They share the award with Andrei Linde of Stanford University. The three physicists were chosen for developing the concept of "inflation in cosmology." The ICTP citation elaborated: "While the possibility of an exponential expansion of the early universe had been noted before, it was Guth who realized that inflation would solve some of the major problems confronting the big bang cosmology. Difficulties with the original inflationary model were recognized by Guth and others, and were overcome with the introduction of "new" inflation by Linde and Steinhardt (with Albrecht). Linde went on to propose other promising versions of inflationary theory, such as chaotic inflation. The greatest success of inflationary theory has been in accounting for the existence of inhomogeneities in the universe and predicting their spectrum, done by Guth (with Pi), Steinhardt (with Bardeen and Turner), as well as Hawking and Starobinsky."

Peimbert, Forman and Hollweg Elected

Congratulations to the following AAS Members for their recent elections to prestigious associations:

Miriam A. Forman, of the State University of New York, Stony Brook, elected a Fellow of the American Association for the Advancement of Science (AAAS) "for research and teaching in astrophysics, especially solar physics, and for valuable service to professional societies and the government on behalf of science."

Joseph V. Hollweg, of the University of New Hampshire, elected a Fellow of the American Geophysical Union "for outstanding research on topics throughout the solar corona and solar wind and for consistently clear elucidation of the fundamental physical processes involved."

Manuel Peimbert, of the Instituto de Astronomía, UNAM, elected Foreign Member of the American Philosophical Society.

ANNOUNCEMENTS

Annie J. Cannon Award: Call for Nominees

The Annie Jump Cannon Award in Astronomy honors a woman in the early stages of a career in astronomy. Preference is given to nominees who have held a doctorate in astronomy or a related field for at least a year. There are no restrictions on the nominee's nationality or on the location of her research. The award is \$5,000. All nominating materials must be received by the AAUW Educational Foundation by Monday, **10 February 2003**. Notification of the award will be mailed by 30 April 2003 and the award disbursement will be made by July 2003. Questions about the award and nominations should be directed to the American Association of University Women Educational Foundation at 202-728-7602; by fax at 202-463-7169; by mail, 1111 Sixteenth Street, NW, Washington, DC 20036; or by email at foundation@auuw.org. The award recipient will be selected by the AAUW Educational Foundation Board of Directors in cooperation with the AAS Annie Jump Cannon Award Advisory Committee.

Deep Space Network Call for Proposals

The NASA Office of Space Science Solar System Exploration Division announces a Call for Science Proposals from Guest Observers who wish to use the various radio-telescope antennas of NASA's Deep Space Network (DSN) for radio astronomy (radiometry, spectroscopy, and VLBI), solar system radar astronomy, and spacecraft-based radio science.

The Deep Space Network (DSN), operated by NASA for spacecraft telecommunications and navigation, is also used as an instrument for scientific research on a time-available basis. The high power transmitters and sensitive receiving systems on the large aperture DSN antennas are effective instruments for scientific investigations in radio astronomy and solar system radar. The high sensitivity and global distribution of the DSN complexes make the three 70m antennas particularly valuable components for international experiments using Very Long Baseline Interferometry (VLBI). The 70m antenna near Canberra, Australia is the most sensitive radio telescope in the 18-26 GHz range in the southern hemisphere. The R&D environment is also well suited for investigators to conduct long-term projects using equipment they provide. Investigators are welcome to submit observing proposals for any of the three research disciplines. Radio astronomy proposals will be reviewed as part of the NRAO proposal review process. Solar system radar astronomy proposals will be reviewed as part of the Arecibo proposal review process.

NASA is being assisted by the Jet Propulsion Lab (JPL) in the administrative and logistical work needed to support these ground-based observing proposals. Interested Guest Investigators will find information regarding proposal submission and technical support at <http://dsnspace.jpl.nasa.gov>. Investigators may also contact Dr. Michael Klein, Manager of the DSN Science Office, JPL, Tel.: 818-354-7132 or michael.j.klein@jpl.nasa.gov for additional information.

Observing time at the DSN is provided as a support service to the astronomical and radiometric sciences community by the National Aeronautics and Space Administration on a time-available basis. Proposers should realize that the DSN is *not* a national observatory and are therefore encouraged to find an observing partner at JPL with experience using DSN facilities and instruments.

New Reports from the Space Studies Board

Three new reports from the SSB that are likely to be of interest to astronomers are:

- "New Frontiers in the Solar System: An Integrated Exploration Strategy" at <http://www.nas.edu/ssb/newfrontiersfront.html>
- "Life in the Universe: An Examination of United States and International Programs in Astrobiology" at <http://www.nas.edu/ssb/lifeintheuniverse.html>
- "The Sun to the Earth—and Beyond: A Decadal Research Strategy in Solar and Space Physics" at <http://www.nas.edu/ssb/sspsuntoearth.html>.

Continued on page 15

DIVISIONS

Historical Astronomy

Colleague Death Notices: Time is of the Essence

Tom Williams, Chair, Obituary Committee,
trw@rice.edu



It has been over a decade since the Historical Astronomy Division was charged by the AAS Council with publishing obituary essays in the *Bulletin of the AAS* for each member that passes away. However, in spite of the fact that such articles have been appearing yearly since that time, we still seem to have trouble finding out that a member has passed away. In this year's collection, for example, we will publish obituaries for many astronomers who died over a year ago, with the earliest of the deaths so commemorated having occurred twelve years ago. The publication of an obituary should be timelier than that.

The AAS Obituary Committee depends entirely on the network of astronomical colleagues, including astronomy department and observatory administrators, to be notified when an astronomer has died. With every passing month after an astronomer's death, it becomes increasingly difficult to contact the family and colleagues who could prepare such an obituary. It takes time to gather the personal recollections and the highlights of a career that are necessary to prepare a historically-useful tribute, but the tribute should also be timely. Therefore, whenever you hear of an astronomer's death, even if you imagine that we already know, please advise AAS *immediately*. Notices should be sent to drcraig@aaas.org. We also welcome suggestions for appropriate tribute authors. Our committee's goal is to memorialize our colleagues in a complete *and* a timely manner. Thanks in advance for your help.

Solar Physics

John Leibacher, Chair,
chair@spd.aas.org



The Harvey Prize Endowment: Help It Grow

I am pleased to report that we are well on our way to establishing the endowment for the SPD's new Early Career Prize, named in honor of **Karen Harvey**. We have received a number of very generous personal and corporate contributions, but we want to encourage broad participation, at any financial level, in this important encouragement of young talent in solar physics. We look forward to making the first presentation at the June 2003 SPD Meeting at Johns Hopkins University's Applied Physics Laboratory.

As a reminder, this prize "for a significant contribution to the study of the Sun early in a person's professional career," will be awarded to a person who has not reached 36 years of age, or who has no more than ten years of professional experience since the PhD or equivalent degree. Please contact the SPD Chair, John Leibacher (chair@spd.aas.org or 520-318-8305) for further information about making a tax-deductible contribution for the establishment and maintenance of this prize.



INTERNATIONAL An Astronomical Opportunity to Visit Sydney: The IAU General Assembly

*John Whiteoak and Harry Hyland,
Co-Chairs of the National Organizing
Committee, 25th IAU General Assembly*

There are no crocodiles in Sydney Harbor. And you probably won't meet Australian crocodile hunter Steve Irwin in the street.

Despite that, Australia's largest city is always an exciting place to visit. During 13-26 July 2003, you would find it even more exciting than usual, because the city will then be hosting the 25th General Assembly of the International Astronomical Union.

IAU General Assemblies offer a unique variety of specialized meetings, showcasing the most recent research and giving you the chance to explore areas outside your own field. The details of the General Assembly, and registration forms, were published in the August issues of *IAU Bulletin* 91. They can also be found at the General Assembly Website, <http://www.astronomy2003.com>.

The General Assembly will be held at the Darling Harbor Convention Centre, just a stone's throw from the Harbor Bridge, the famous Opera House, and the city center. A memorable Opening Ceremony will be held in the Opera House, preceded by a harborside reception as the sun sets across the water.

The scientific program offers something for everyone, including 21 Joint Discussions spanning almost the whole of astronomy, six IAU Symposia, and several special sessions. The program will be complemented by a "festival of astronomy" for the public, involving talks, an exhibition and special events.

Sydney hosted the 2000 Olympic Games. Its inhabitants are friendly, cosmopolitan and enthusiastic about both their city and Australia. You'll find plenty of opportunities to explore. In the city, even a harbor ferry ride can be a voyage of discovery. To take you further afield, the meeting organizers have put together a set of day trips and longer tours. Why not extend your visit to central Australia and the Outback, to the Great Barrier Reef in the north, or to the beautiful island of Tasmania in the south? Tasmania will be a little cool but the other areas are warm and accessible in July. Sydney itself at this time of year usually enjoys sunny days with clear blue skies.

We hope you'll consider joining us at the General Assembly. In principle, attendance is by invitation of the IAU President, with IAU members being automatically invited (a membership application form was included in the previous AAS *Newsletter*). However, invitations to non-members can also be given by National Adhering Organizations (in the USA, this is the US National Committee for IAU), Presidents of the IAU Divisions and Commissions, and the Scientific Organizing Committees of the Symposia, Joint Discussions and Special Sessions.

Visit our Website for further details and to plan your trip "downunder." See you in Sydney!

AAS Travel Grants to IAU General Assembly in Sydney, Australia



The AAS has received grants from the NSF and from NASA to support travel by US-based astronomers to the 25th IAU General Assembly (IAU GA) in Sydney.

Astronomers at US institutions should apply for travel grants through the AAS. *See opposite page for the AAS application form* or at "Grants" at <http://www.aas.org>. The grants may be used for airfare and meeting registration. Small additional amounts may be available to help offset ground transportation expenses. The deadline for submitting travel grant request forms for the IAU GA is **21 February 2003**.

US-based astronomers are strongly encouraged to attend this important event. Astronomy is increasingly international in scope, with most large astronomical facility projects now requiring the participation of multiple nations to guarantee completion. Our journals reflect the international nature of our science, with roughly 50% of the papers published in the *ApJ* including at least one foreign author. International collaboration brings benefits beyond visits to overseas institutions. The interaction with individuals from other lands often brings unanticipated insight to research problems. Differing viewpoints enhance any collaborative discussion and ultimately benefit our science in a variety of ways too extensive to list. The IAU General Assembly provides a forum for interaction with astronomers from around the world and provides a perfect way to form new collaborations and enhance both your own research efforts and US astronomy as a whole.

"Under African Skies 2002:" Science and Technology Education in Southern Africa

Packed into a large overland truck filled with books, posters, magazines and science toys, the Cosmos Education 2002 Under African Skies team departed Nairobi on 22 June and began the long journey south to Johannesburg. Over the course of the five-week education expedition, the international team of scientists, teachers, and graduate students are visiting over 50 rural and urban schools in five sub-Saharan countries of Africa. The team of more than 20 teachers and graduate students from 10 different countries is teaching a curriculum ranging in topics from health and the environment to physics and electronics.

The Under African Skies project is run by Cosmos Education, a US based non-governmental organization dedicated to science and technology education in developing countries. See <http://www.cosmoseducation.org> for more information. (*Adapted from a UN Information Service News Release, 17 July 2002.*)

Regional Space Centers Curricula Online

As a follow-up on the article by Hans Haubold in the August 2002 *Newsletter* #111 (page 17), the established curricula is outlined for four core educational components of 1) remote sensing and geographic information systems; 2) satellite meteorology and global climate; 3) satellite communications; and 4) space and atmospheric science, and can be

**AMERICAN ASTRONOMICAL SOCIETY
INTERNATIONAL TRAVEL GRANT PROGRAM**

Feb. 2003–Feb. 2004 APPLICATION FORM

Full Name _____ Year PhD Received _____

Institution _____ Current Position _____

Address _____

Telephone _____ FAX _____ Email _____

Please check all the boxes below where the associated statements apply:

Applicant is a Federal Employee. Indicate below to whom the grant check should be made out:

Applicant is a graduate student. Provide advisor's name, contact information and expected degree completion date. *Attach a recommendation letter from advisor to this application.*

_____ Anticipated Degree Date _____

*Check the appropriate boxes below; if funds are requested for a meeting other than the IAU General Assembly, indicate on the line below the **complete** meeting information (title, date and location); please use a separate application form for each meeting:*

Funds are requested for the XXVth IAU General Assembly, Sydney, Australia, 13–26 July 2003.

IAU GA Registration Fee requested.

Please justify need to attend and describe the activities in which applicant will participate (e.g. invited speaker, Commission member, contributing paper, etc.).

Estimated air fare _____ Anticipated carrier _____

NB: Maximum allowable fare, economy rate round trip from nearest large airport. If not a US flag carrier, please explain below why not.

Applicant sought funding from other sources. Explain why funds could not be obtained from applicant's grant or institution (*attach additional pages, if necessary*):

Please sign the following statement: If I receive this travel grant, I will comply with all reporting requirements, acknowledge the grant in any related publication (*i. e.*, conference proceedings), and return my report in a timely manner.

Applicant's Signature _____ Date _____

MAIL OR FAX APPLICATION TO:

Travel Grant Selection Committee
American Astronomical Society
2000 Florida Ave., NW, # 400
Washington, DC 20009-1231
Fax: 202-234-2560

DEADLINES:

21 February 2003, for meetings between
21 Feb. 2003 and 1 Aug. 2003

1 August 2003, for meetings between
1 Aug. 2003 and 27 Feb. 2004.

GENERAL

Astrophysical Activities at the Kavli ITP

L. Bildsten, Permanent Member, KITP and UCSB

The recently renamed Kavli Institute for Theoretical Physics (KITP) is a National Science Foundation-funded institute located on the campus of the University of California, Santa Barbara. The Institute's work in theoretical physics, including astrophysics and relativity, is conducted by approximately 50 members, including the Director, Deputy Director, four Permanent Members, 10-15 Postdoctoral Members, and 40 visiting senior members. We have four-five postdocs in astrophysics and relativity (advertised in the *AAS Job Register*).

A recent donation of \$7,500,000 from local businessman, Fred Kavli, has allowed us to add 17 offices, a 50 seat auditorium and a common space in a tower overlooking the Pacific ocean. This expansion will allow KITP to carry out more programs per year and to rapidly respond to developments in all fields of physics.

Intensive Studies

Most visiting members participate in one of about five annual intensive study programs each lasting from three to six months. At least 20 visiting senior scientists (post-PhD) are in residence for each program at all times. We encourage minimum stays of one month.

The astrophysics program for 2001–2002 was

- “Solar Magnetism and Related Astrophysics,” for which a conference was held 16–18 January 2002.
- A one-week conference: “Black Holes: Theory Confronts Reality, Three Years Later” on 25–28 February 2002.

The scanned talks from these programs (as well as audio) are available at <http://online.kitp.ucsb.edu/online>.

The long-term programs with astrophysical content and associated one-week conferences this academic year are:

- “The New Cosmology Confronts Observation: The Cosmic Microwave Background, Dark Matter, Dark Energy, and Brane Worlds” (12 August–20 December 2002);
- “Neutrinos: Data, Cosmos, and Planck Scale” (13 January–9 May 2003); and
- “Gravitational Interaction of Compact Objects” (12 May–11 July 2003); and
- One week conference on “Globular Clusters: Formation, Evolution and the Role of Compact Objects” (27–31 January 2003) (NB: registration is still open.).

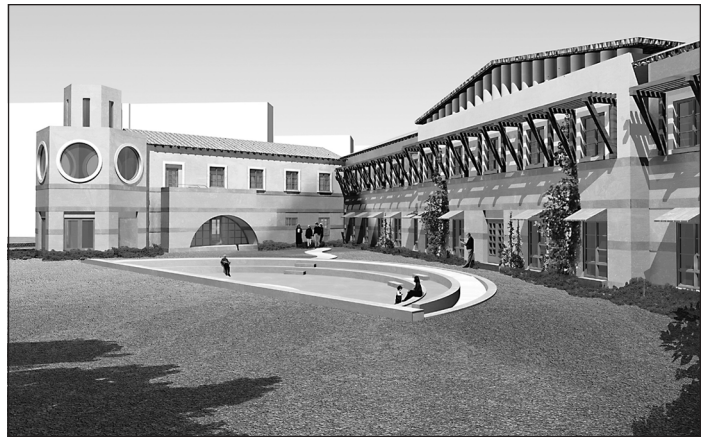
For the 2003-2004 academic year, the following astrophysics-oriented programs have been approved and applications are now being taken for long-term participants:

- “Superstring Cosmology” (4 August–19 December 2003, apply by **30 November 2002**);
- “Planet Formation: Terrestrial and Extra Solar” (5 January–26 March 2004, apply by **30 April 2003**)

Applications are taken at <http://www.kitp.ucsb.edu/activities/future>, which also has information on the particular program focus and coordinator contacts.

Program Proposals Welcomed

Scientists interested in proposing programs for the 2004–2005 academic year should contact any of the astrophysicists of the KITP's Advisory Board (currently K. Freese, C. McKee and



A new wing and tower for Kohn Hall, designed by Michael Graves and Associates, will begin construction in April 2003.

Courtesy of Michael Graves and Associates

D. Stevenson), the director of the KITP (D. Gross) or the astrophysics permanent member (L. Bildsten) for information on proposal preparation. Decisions are made in February 2003, and full proposals should be at the KITP by **early December 2002**.

Go to <http://www.kitp.ucsb.edu/activities/suggest/> for more information.

Graduate Student Programs

Graduate students may participate at the KITP either as an affiliate of a visiting senior member (this is typically the case for a graduate student who accompanies their thesis advisor as a participant) or as a Graduate Fellow. The purpose of the graduate fellowship program is to offer a unique opportunity for a select group of physics graduate students to spend a period of five to six months participating in KITP research programs and broadening their understanding of physics in areas of current research. Students may not apply to the program directly; we require that the student's advisor nominate the candidate student. Graduate Fellows will be fully supported during their stay at the KITP and participants are expected to stay for the entire period for which they have been accepted. For the Spring of 2003 program (Fall of 2002), nominations must be received by **15 October 2002 (15 May 2003)**. For complete information, see http://www.kitp.ucsb.edu/activities/grad_fellows.

Visiting Researchers

We also have established a program for visiting researchers in theoretical physics, the *KITP Scholars*. The purpose of this program is to support the research of faculty at US colleges and universities that are not major research institutions. Applicants from non-PhD-granting institutions and from institutions with greater emphasis on teaching (as measured, for example, by teaching load) are particularly encouraged to apply. Active theorists at national labs with large programmatic responsibilities are also encouraged to apply. Ongoing research activity is an important criterion. Each award funds a total of three round trips and up to six weeks of local expenses, to be used over a period of three years. Nearly 40 scholars have been selected to date. For complete information <http://www.kitp.ucsb.edu/activities/scholars/> for further information.

ANNOUNCEMENTS*Continued from page 11***Apply for:**

- *National Research Council Research Associates Programs* by **1 November 2002** at <http://www4.nationalacademies.org/pgarap.nsf>;
- AAAS Science & Technology Policy Fellowships by **10 January 2003** at <http://fellowships.aaas.org/application.html>;

Nominate for:

- National Medal of Technology **this Fall**; watch for applications to be posted at <http://www.ta.doc.gov/medal/>;
- Awards of the Meteoritical Society, including Best Student Paper in Planetary Sciences, by **15 January 2003** at <http://www.uark.edu/campus-resources/metsoc/awards.htm>;
- Awards and Medals of the American Geophysical Union by **15 October 2002** and **31 December 2002**; see <http://www.agu.org/inside/awardnom.html>.

APS Booklet: Physics Careers for Women

The American Physical Society's Committee on the Status of Women in Physics has announced the release of the updated edition of the 16 page, four-color booklet, "Physics in Your Future." It features profiles of young women scientists engaged in various jobs in industry, government labs, and academia. The booklet is aimed at middle and high school girls who are about to make decisions about how much mathematics and science to take in high school. It shows the exciting possibilities for physics-related careers and advises girls that strong preparation in mathematics and science is needed to enter such careers. It is free to students, educators, guidance counselors, and groups who work with young women. To order copies, go to <http://www.aps.org/educ/cswp/index.html>.

Science and Engineering Trends in R&D Funding

The recently-released "Science and Engineering Indicators — 2002" report, produced by the National Science Foundation, contains much detailed information on more than four decades of US R&D funding trends, sources, recipients and performers: federal and non-federal government, industry, non-profit organizations, universities and colleges. When inflation is taken into account, federal spending on both R&D and on applied research declined between 1990 and 2000, while industry's share of R&D spending has grown significantly. In 1960, the federal government supported 65 percent of total R&D, as well as more than 50 percent of basic and applied research. By 2000, the federal share of total R&D had fallen to 26.3 percent, and its shares of basic and applied research had dropped to 48.7 percent and 26.3 percent, respectively. At the same time, industry support grew to 68.4 percent of total R&D, 33.9 percent of basic research, and 66.1 percent of applied research. For more details, the two volume report is available to download or to order in CD-ROM at <http://www.nsf.gov/sbe/srs/seind02/pdfstart.htm>. For hardcopy, write paperpubs@nsf.gov or call 301-947-2722.

WASHINGTON NEWS*Continued from page 16.*

The Research and Related Activities (R&RA) for the division of Mathematics and Physical Sciences, which funds astronomy research, would match the overall increase of 14.8%, and amount to an increase of \$136 million compared to FY 2002. Whether astronomy would benefit from this increase has yet to be seen, but since astronomers have fought hard for overall increases at NSF, some trickle-down should occur.



All of this good news must be tempered by the old adage that "it ain't over 'til it's over." The House must still pass its version of the VA-HUD-IA appropriations bill and the conference process and final negotiations with the White House must still take place.

With most of Washington debating other issues such as Iraq and Afghanistan, it will be difficult to find willing ears for our arguments for funding increases for science. However, the fact that Congress has provided such large increases with relatively little prodding indicates that science, especially the physical sciences, are valued and appreciated. This is evidenced by the recently released PCAST report calling for increased physical science funding; see <http://www.ostp.gov/PCAST/Pcast.html>.

The most important activity for AAS members this fall and winter will likely be to send thank you letters to those legislators responsible for the beneficial funding increases. Please take some time this year to send thank-you letters to members of Congress once the process has concluded. An AAS ACTION ALERT will be sent to prompt you to action. This small personal effort has tremendous payoff and the time spent writing and mailing a thank-you is truly valuable.

**AAS Small Research Grant Proposals:
Due 6 December**

The American Astronomical Society provides two opportunities annually to apply for these grants to cover the costs associated with any type of astronomical research.

The grants are open to both US and foreign astronomers with PhD or the equivalent; graduate students are not eligible. Priority is given to astronomers from smaller, less well-endowed institutions.

See page 19 of the AAS *Membership Directory* or the AAS Website, "Grants," for complete information about applying. For the remaining funding cycle in 2002, proposals must be submitted by 6 December 2002.

Pollock Grant Proposals Due

Dudley Observatory invites applications for the Pollock Award, a grant of up to \$5,000 for a project on the history of astronomy. The deadline is **8 November 2002**. See <http://www.dudleyobservatory.org> for details.



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WASHINGTON NEWS

Kevin B. Marvel, Deputy Executive Officer, marvel@aas.org



Budget Update: and Thank Those Lawmakers!

The end of summer in Washington is marked with cooler temperatures, lower humidity and the return of Congress. Just like the migrating geese, our legislators usually come back to a full agenda of necessary

business, including debate and passage of the 13 appropriations bills that provide funding for all government activities.

This year, in a break with past tradition, the Department of Defense appropriations bill was passed by both houses first (actually passed by the House in June and the Senate in August). Also breaking with tradition, the Senate passed all appropriations bills before they broke for the August recess, leaving the House to play catch-up. The often contentious conference process comes next, followed by passage by both houses and the signing of the bill into law by the President.

Astronomy is situated well going into this process. The Senate provided an increase to the Office of Space Science budget of nearly 22%, or \$625 million more than the FY 2002 budget. Most of this large increase was actually included in the President's budget request (and some of it represents programmatic transfers), but the Senate added even more funding for specific projects like \$105 million extra for the

Pluto-Kuiper Belt (PKB) mission, one of the priority missions in the new Planetary Decadal Survey.

Of course, the Senate proposed to fund PKB after disregarding the Administration's request to cancel the Pluto mission and reorganize all outer-planet exploration efforts into a New Frontiers program. The Senate's counter-proposal is to have the PKB be the first mission in a New Frontiers budget line and push for a 2006 launch date.

Small adjustments were also proposed in the budget, like a \$13 million reduction in nuclear technology programs, but overall the outlook for space science in FY 2003 is very good.

Clearly, the debate over the NASA budget and the PKB issue is likely to get heated and AAS members can keep up-to-date on the progress through AAS ACTION ALERTS, INFORMATIONAL EMAILS and the AAS Public Policy Web pages.

The Senate treated NSF well too, granting the agency an increase of 11.8% (\$64 million) over the FY 2002 budget. The fantastic news this year is that the Senate recommended an increase of 14.8% (\$533 million) over the FY 2002 budget for NSF Research and Related Activities (R&RA), which represents the source of funding for most NSF grant recipients. This increase is the first move toward doubling the NSF budget over five years, a priority with Senators Mikulski (D-MD) and Bond (R-MO) the chair and ranking member of the Senate VA-HUD-IA appropriations committee.

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