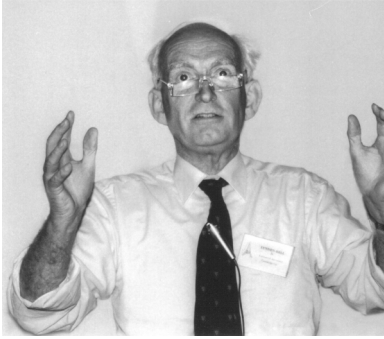


# NEWSLETTER

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

## Lynden-Bell, Russell Lecturer



Donald Lynden-Bell lecturing at the XXth IUPAP International Conference on Statistical Physics (Statphys 20) in Paris in July 1998.

Donald Lynden-Bell, Professor of Astrophysics at the University of Cambridge, is awarded the AAS's highest honor, the Henry Norris Russell Lectureship for his contributions to dynamics. The prize citation reads, "He taught us how to understand the rich properties of disks around planets, stars, black holes, and galaxies; he showed us what is to be learned from the study of the motions of

gas clouds around the Milky Way, of galaxies within the Local Group, and of the nearby universe through the thermal background radiation; and he communicated to us all the pleasure and importance of considering the fundamental basis for our subject within the sciences of heat, matter, and gravitation."

Lynden-Bell was born in England in 1935. He received his PhD in theoretical astrophysics from Cambridge University in 1960, after which he worked at Clare College, University of Cambridge; at California Institute of Technology, Mt. Wilson and Palomar Observatories; and at the Royal Greenwich Observatory, where he became Senior Principal Scientific Officer. In the 1960s, he contributed what has come to be known as the "ELS Collapse Theory," and in 1969, he published a paper in *Nature* in which he postulated the Accretion Disc theory of quasars and predicted giant black holes in the nuclei of large galaxies, estimating their masses in nearby galaxies. He became Professor of Astrophysics at Cambridge and a Professorial Fellow of Clare College in 1972.

Lynden-Bell has practiced, taught or advised on astronomy all over the globe, notably in the Netherlands, Ireland, Israel, Australia, South Africa and India. He has been as widely honored. He was elected Fellow of the Royal Society (1978); he won the Schwarzschild Medal of the Astronomische Gesellschaft (1983), the Eddington Medal (1984) and the Gold Medal (1993) of the Royal Astronomical Society, the Dirk Brouwer Prize of the AAS Division on Dynamical Astronomy (1990), and in 1998, both the Bruce Medal of the ASP and the Faculty of Science Medal of the Charles University, Prague. He is a foreign associate of the Royal Society of South Africa, the US National Academy of Sciences, and the American Academy of Arts and Sciences. He was President of the Royal Astronomical Society (1983-1985). In 2000, in addition to winning the Russell Lectureship, he is also the recipient of the National Academy of Sciences' J. J. Carty Award for the Advancement of Science.

### OTHER AAS PRIZE WINNERS

*Continued on page 6*

## PRESIDENT'S COLUMN

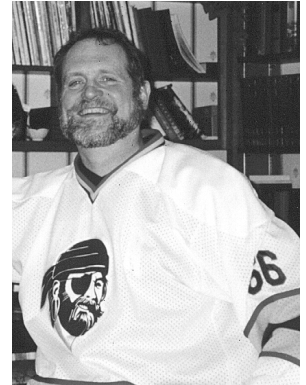
### Science Budget for FY 2001

Robert D. Gehrz, President,  
gehrz@ast1.spa.umn.edu

My term as your President ends at the conclusion of the June 2000 AAS Meeting in Rochester, and I would like to leave you with a few thoughts about how we, as members of the AAS, can improve the state of federal funding for US astronomy in the next few years.

It should have been an encouraging lesson to us all — as well as a personal satisfaction for me — to see how effectively our efforts were at reversing the NSF and NASA

budget cuts Congress initially proposed for the FY 2000 budget. Many AAS members contacted their elected representatives. The AAS Committee on Astronomy and Public Policy (CAPP), ably led by Chair Marcia Rieke and Kevin Marvel as AAS Associate Executive Office for Policy Programs, conducted very effective visits to Congress. Scientific society Presidents and Executive Officers visited key members of Congress to advocate a substantial increase in funding for all science research. The amateur community, led by the AAVSO, also voiced its strong support.



After his contract as President expires, Bob Gehrz will be an unrestricted free agent and expects to be signed up by the Minnesota Wild.

*Continued on page 23*

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## AAS Second Century Lectures Have Begun

*Neta A. Bahcall, Chair, AAS Century Lecture Series,*  
neta@astro.princeton.edu

As the American Astronomical Society steps into its second century, we begin an exciting new initiative — The AAS Second Century Lecture Series — aimed at bringing the fascinating developments in astronomy to the public. The Century Lectures will provide a series of outstanding public talks, to be given throughout the country at various locations — in planetaria, science centers, science museums, colleges, universities, astronomical amateur associations, and any place where the public interests reside.

The lectures will highlight the most interesting areas of current astronomical research and present not only the most recent exciting findings to the public but also their historical context. The topics will cover the broad range of astronomical discoveries — from our solar system, to extra-solar planets, stars, and black-holes, all the way to the beginning of the universe, its expansion and its future.

The series is currently planned for about four lectures per year over the next several years. The lectures will be delivered by the AAS Second Century Lecturers — outstanding scientists who are also excellent public speakers. The Century Lecturers were selected by a committee appointed by the AAS Council; committee members were **Neta Bahcall** (Chair), **David Helfand**, **Robert Kirshner**, **Bruce Margon**, and **Virginia Trimble**; all members were asked by the AAS to serve as Lecturers as well. The list of thirty current AAS Second Century Lecturers is included below.

Each lecture will be organized and advertised by the host institution; each institution can select among the different topics and speakers. The lectures will be widely advertised, both locally (at each venue town) and nationally. The AAS will support advertisement for the lectures, travel expenses for the Lecturer and some local venue expenses as needed. Our goal is to draw a large audience for each of these lectures and thus reach as broad a public as we can.

Suggestions for appropriate venues for the lectures, and offers from institutions or organizations to host an AAS Second Century Lecture are welcome. Please send such information to me at neta@astro.princeton.edu (or to me at Princeton University) or through Bob Milkey, milkey@aas.org, at the AAS Executive Office.

I am pleased to announce the first several lectures planned at this time. These have been coordinated with the help of David Helfand and Bob Milkey, with support from the local hosts Len Kuhl, Neil Tyson, David DeVorkin, and Paul Etzel.

- University of Minnesota, MN: 5 May 2000  
“Runaway Universe?” Prof. **Robert Kirshner**, Harvard Univ.
- Hayden Planetarium, NY: 20 June 2000 (solstice)  
“From Dust to Us,” Prof. **Anneila Sargent**, Caltech
- National Air and Space Museum, Washington, DC:  
7 December 2000 (tentative); Lecture: TBD
- Reuben H. Fleet Science Center, San Diego, CA:  
9 January 2001; Lecture: TBD

Many thanks to all who are helping (and will help) with this important project bringing our exciting field of astronomy to the public.

### Current AAS Second Century Lecturers

<b>Neta Bahcall</b>	<b>Geoffrey Marcy</b>	<b>Steven Beckwith</b>
<b>Bruce Margon</b>	<b>Paul Butler</b>	<b>Philip Morrison</b>
<b>John Carlstrom</b>	<b>Vera Rubin</b>	<b>France Cordova</b>
<b>Anneila Sargent</b>	<b>Alan Dressler</b>	<b>Michael Shara</b>
<b>Alexei Filippenko</b>	<b>David Spergel</b>	<b>Margaret Geller</b>
<b>Ed Stone</b>	<b>Andrea Ghez</b>	<b>Joe Taylor</b>
<b>J. Richard Gott</b>	<b>Kip Thorne</b>	<b>Douglas Hamilton</b>
<b>Charles Townes</b>	<b>Heidi Hammel</b>	<b>Michael Turner</b>
<b>David Helfand</b>	<b>Virginia Trimble</b>	<b>Robert Kirshner</b>
<b>Neil Tyson</b>	<b>Rocky Kolb</b>	<b>Robert Williams</b>

### Department/Program Chairs Meeting

This Fall, the AAS will sponsor the second biennial meeting of the chairs or directors of astronomy departments and programs. The first of these meetings was held in Arlington in May, 1998. On the agenda for this day-and-a-half meeting will be: the report of the Astronomy and Astrophysics Survey Committee, released last month; questions about the goals of astronomy courses for non-majors; employment and salary issues and other items added by those planning to attend.

If you are a program or department chair and have NOT received a letter inviting you to this meeting (and would consider attending), please contact either Doug Duncan, AAS Education Coordinator, aased@aas.org or Bruce Partridge, AAS Education Officer, bpartrid@haverford.edu.

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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 *AAS Newsletter* should be sent to lscholz@aas.org. Appropriate pictures are welcomed. The remaining 2000 deadlines are: **16 June** (for August); **25 August** (for October); and **13 October** (for December).

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 August 2000 issue, letters must be received by Jeff Linsky, Associate Editor, Letters, by **15 June 2000**. 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.

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

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

## **AAS Statement on the Teaching of the History of the Universe**

*The following open letter has been prepared and approved by the AAS Council.*

January 11, 2000

To Whom It May Concern:

The American Astronomical Society (AAS) is the largest organization of professional astronomers in the United States. Its 6,000 members are men and women of all convictions and a variety of religious faiths. They work in ALL fields of astronomy, including the study of planets, of stars and of the Universe as a whole. Research in each of these areas, and in many other areas of astronomy, has produced clear, compelling and widely accepted evidence that astronomical objects and systems evolve. That is, their properties change with time, often over very long time scales.

Specifically, the scientific evidence clearly indicates that the Universe is 10 to 15 billion years old, and began in a hot, dense state we call the Big Bang.

Given the ample evidence that change over time is a crucial property of planets, including our own, of stars, of galaxies and of the Universe as a whole, it is important for the nation's school children to learn about the great age of, and changes in, astronomical systems, as well as their present properties.

More generally, we believe that it is important to teach students the nature of the scientific method. Scientific inquiry involves the development and testing of hypotheses based on a systematic collection and analysis of data acquired through observations, experiments, and computer simulations. Science is not a collection of facts but an ongoing process, with continual revisions and refinements of concepts necessary in order to arrive at the best current views of the Universe. Science is unified; it is not possible to make use of scientific laws in one context, and then deny them in another. The same laws of science that govern – or empower – our advanced technology also underlie changes in time of astronomical systems. Science is not based on faith, nor does it preclude faith. Whatever personal beliefs teachers, students, parents or administrators may hold, the teaching of important scientific concepts, such as the formation and aging of planets, stars, galaxies and the Universe, should not be altered or constrained in response to demands external to the scientific disciplines.

The astronomical discoveries of the past century, many made by American scientists, are among the great triumphs of the human intellect, and we deeply regret any attempt to ignore them or deny them.

Children whose education is denied the benefits of this expansion of our understanding of the world around us are being deprived of part of their intellectual heritage. They may also be at a competitive disadvantage in a world where scientific and technological literacy is becoming more and more important economically and culturally.

Sincerely,



Robert D. Gehrz  
President, AAS

### Member Discount Program *Annual Review of Astronomy & Astrophysics*

The AAS and the Annual Reviews, Inc. are pleased to offer for another year discounted subscriptions to the 2000 *Annual Review of Astronomy and Astrophysics*. AAS Members with 2000 dues paid in full are eligible to order Volume 38 at a savings of 22% off the list price.

Members who currently have a standing order for the *Annual Review of Astronomy and Astrophysics* must first contact Annual Reviews, Inc. (1-800-523-8635) to cancel the standing order before qualifying for the AAS discount. The AAS will accept orders only for the current year volume; orders for back volumes or other *Annual Reviews* series should be placed directly with Annual Reviews, Inc.

Fax or mail the order form below to the AAS before **4 August 2000**. The foreign order price applies to Members in Canada and Mexico. The volume will be shipped in September 2000 directly from the publisher. If you have questions, call the AAS Membership Department at 202-328-2010 or the Annual Reviews, Inc. at 1-800-523-8635.

### Allen's Astrophysical Quantities

#### Discount for AAS Members

The Fourth Edition of *ALLEN'S ASTROPHYSICAL QUANTITIES*, edited by Art Cox, is being offered by the publisher, Springer Verlag, to AAS Members at a 20% discount.

Go to the Catalogue at <http://www.springer-ny.com> and follow the instructions. The discount code is "AAS."

### Member Deaths Noted

Since the March *Newsletter*, the Society is saddened to learn of the deaths of the following members:

- Patricia G. (Rogers) Campbell
- Paolo Farinella (DPS Affiliate)
- William M. Kaula
- Philip C. Keenan
- Gijsbert van Herk
- John G. Wolbach

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# PUBLICATIONS AND PUBLISHING

## WHY OBSERVATORY REPORTS?

Virginia Trimble and Bob Milkey

### *Should we submit one? What if I have to write it? Yes; and relax!*

*This is the advice offered by your Council and members thereof who were responsible for such a report/such reports in the last few years.*

### **Why should we bother to prepare an annual report? After all, we have a web page.**

There are several answers to this:

- *Comparison shopping.* Think of a graduate student wanting to compare the various institutions she might apply to or attend. There is your institution and the competition all in one place, saving the sequential search.
- *Reprints.* These can be sent to potential students and strong candidates for postdoctoral and faculty positions as a tangible expression of your interest in them.
- *Raising your profile.* Editors seeking referees, nominating committees seeking candidates, and staff at sponsoring agencies seeking peer reviewers have all told us they consult these reports for names of people working on particular topics at institutions they might not have thought of. Of course you feel a certain ambivalence about being asked to referee, run, or review. But collectively it is good for your institution (and you) to be doing these things.
- *Think of the historians.* Web pages come and go and are generally not archived. Records of who was where, when and what they were working on and with whom are of long-range value, and a *BAAS* report is one of the easiest ways of preserving this information.

### **What if I have to do it?**

No, it isn't entirely beer and skittles. In particular, when your colleagues finally send you the information needed, they seem to think they are doing you (rather than themselves and your communal institution) a favor. BUT, much of what you need is relatively easy to come by:

*Lists of staff and staff changes,* including PhD and MS recipients and where they have gone. You already have much of this on your departmental directory (real or virtual). The observatory or department administrator or the boss's secretary probably has the rest;

*Honors and such.* This is an easy part. Most of your colleagues will respond promptly to a blanket email asking them to brag if they were elected to something (from the NAS on down to AAS Council), received a prize or a major grant, or were otherwise recognized as among the great and good;

*Education and outreach.* If you don't know what your department is doing, now is the time to find out!

*Major institutional initiatives.* Have you joined a telescope consortium, built a major instrument, or any other thing worthy of description for the record? Have you closed or decommissioned a telescope, instrument, or other major facility?

*Lists of publications.* These can, if necessary, be culled from CVs on file. But a good place to start is to ask the graduate students for publications bearing their names. Most of them are still rather pleased to be publishing and to have other people know about it. You can even list theirs first if you want to.

*Summary of ongoing, not yet published, work.* Yeah, this is the hard one. But again, students and junior staff are likely to respond quickly, and their projects will include many joint ones with senior staff or faculty, thereby picking up some of their work as well. And, finally, just ask, with a back up threat of some sort (e.g. if you don't provide the requested paragraph about what you are doing, I'll write it myself!).

*Deadlines.* What ever you do, someone will be angry. If you are honest and say exactly when you must have the information to make *BAAS* deadlines, you will be accused of rigidity (or anal retentiveness or worse). If you cheat and allow a little slop, you will be accused of dishonesty. But no worthwhile task was ever accomplished without a few harsh words being said (and usually regretted).

Observatory reports can be submitted anytime before **1 November**. Reports submitted in LaTeX will be posted in the electronic *Bulletin of the American Astronomical Society (BAAS)* within three weeks of receipt. All reports submitted by 1 November will be published in the paper edition *BAAS*, No. 1, which is distributed in February of the following year. Follow the formatting and submission instructions at <http://www.aas.org/publications/baas/baas.html>.

# COMMITTEE NEWS

## Status of Women in Astronomy

### Women in Astronomy DataBase

A list of Women in Astronomy produced by the AAS's Committee on the Status of Women (CSWA) can be found at <http://www.stsci.edu/stsci/service/cswa/women/>. It includes the names, professional affiliations and scientific interest information of more than 200 women in the disciplines of astronomy and astrophysics. The list can be used to find speakers, sorted by scientific interests, for colloquia, meetings, or schools; solicit female job applicants, searchable by year of PhD; and quickly access statistical information about today's women in astronomy.

Users of the list should make their own contacts with individuals contained therein. For speaking engagements, arrangements and provisions should be made directly between the institution and the desired speaker, not through the Committee. The CSWA discourages use of this list for bulk e-mail postings.

The information contained in this database was submitted by each person listed using the easy-to-follow CSWA Speaker Submission Form. Women affiliated with the science of astronomy and related fields are encouraged to register.

The CSWA Women in Astronomy Database was created in 1997 by **Lisa Frattare** (STScI, CSWA member) with much editorial help from the following people: **Kathryn Mead** (formerly of NRAO), **Meg Urry** (STScI, CSWA member) and **Debbie Elmegreen** (Vassar College, formerly CSWA President).

## 2000 AAS PRIZE WINNERS

Continued from page 1

### 2000 AAS/AIP Heineman to Shu



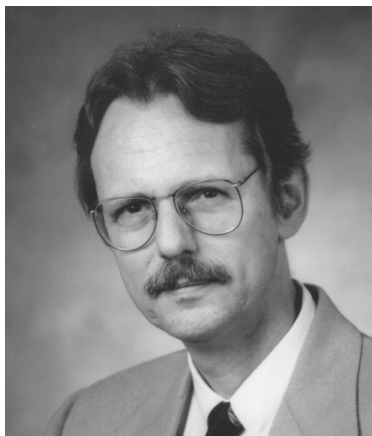
UC Berkeley's Frank Shu is this year's Heineman Prize winner.

Frank Shu, of the University of California, Berkeley, has been awarded the Dannie Heineman Prize for 2000. The citation of his award reads: "The Dannie Heineman Prize for 2000 for astrophysics is awarded to Dr. Frank H. Shu for shaping our current understanding of star formation, for his research on an unusually large array of topics including the origin of spiral structure in galaxies, stellar dynamics, the

evolution of close binary stars, planetary rings and composition of meteorites, and for his contributions as an educator and leader of the astronomical community."

Shu received his PhD in astronomy from Harvard University in 1968 and began his career at the SUNY-Stony Brook where he was an Alfred P. Sloan Foundation Fellow. In 1973, he moved to California to become Associate Professor at UC Berkeley where he continues as University and Chancellor's Professor of astronomy.

Throughout his career, he has been widely recognized for his work in astrophysics, beginning in 1977, when he won the Warner Prize for early career contributions to astronomy. He is an elected member of the National Academy of Sciences, The American Academy of Arts and Letters and the Academia Sinica. Recently, he has been a distinguished lecturer at a number of US universities and colleges, including Rossi Lecturer at the Arcetri Observatory (1999) and in 1996 was recognized with the Brouwer Award. Since 1982, he has continued to serve the community notably as Councilor, Vice-President and President of the AAS (1994-1996).



Charles Alcock's direction of the MACHO team's search for dark matter in the Galactic Halo won him the 2000 Tinsley Prize.

### Tinsley Prize to Charles Alcock

In awarding the Tinsley Prize to Charles Alcock of the Lawrence Livermore National Laboratory (LLNL), the prize committee cites: "The nature of the dark matter in the universe is one of the key questions of our time. The search for dark matter in the Galactic Halo through gravitational micro-lensing by the MACHO project team was one of the most

challenging astronomical projects ever undertaken. That project was successfully developed, and led, by Charles Alcock, in the face of considerable skepticism about the feasibility of carrying out such a massive survey. The MACHO project has in fact provided unique data in the search for dark matter, but it also has raised important questions about the stellar mass function and contributed new insights in the study of variable stars. For his intellectual leadership of this project, both scientifically and technically, Charles Alcock hereby is awarded the Beatrice M. Tinsley Prize for 2000."

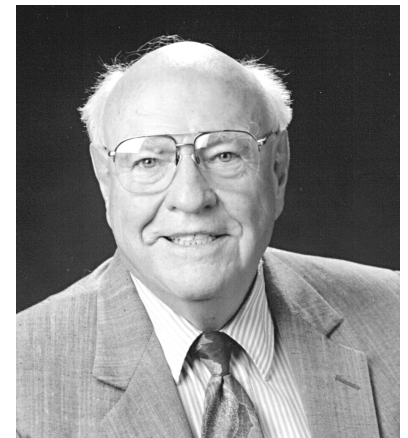
Alcock received his PhD from CalTech in 1977 and became a Long Term Member at the Institute for Advanced Study until 1981. He went on to become Associate Professor in the Physics Department at MIT where he received an Alfred P. Sloan Fellowship in 1983. In 1987, he moved to California to become adjunct professor in the Astronomy Department of UC Berkeley, where he stayed until 1994. In 1993 he won the R&D 100 Award and in 1996 was recognized with the E.O. Lawrence Award for Physics. He was University of California Regent's Lecturer in 1998-99. Presently Alcock is Deputy Associate Director for Physics and Head of the Institute for Geophysics and Planetary Physics at the LLNL.

### McNamara Wins Van Biesbroeck

The 2000 Van Biesbroeck Prize recognizing long-term extraordinary or unselfish service to astronomy is awarded to Dr. D. Harold McNamara of Brigham Young University. The prize citation reads that he "was the effective Editor of the *Publications of the Astronomical Society of the Pacific* in 1969-1991, during which time that journal grew by more than a factor of three. In 1988 he started the *ASP Conference Series* that now numbers about 200 volumes. That series has

provided good quality, rapid, and inexpensive astronomical publication. Recently he persuaded the International Astronomical Union to profit similarly in the production of its many conference publications. In 1999 alone he is supervising the printing of 44 conference volumes."

Dr. McNamara earned his PhD at the University of California, Berkeley in 1950. After being a guest investigator at Lick, Mt. Wilson, McDonald and Palomar Observatories, he joined the faculty of Brigham Young University in 1995, where he has continued to the present. In 1968, he became editor of the *Publications of the Astronomical Society of the Pacific* in which position he continued for twenty-three years. During this period, he maintained his research with observing trips to Kitt Peak and Cerro Tololo. In 1987, he started the *Conference Series* of the Astronomical Society of the Pacific, a series of books on recent developments in astronomy and astrophysics. Recently, in addition, he has become managing editor of the International Astronomical Union publications.



D. Harold McNamara of Brigham Young University is recognized with the Van Biesbroeck Prize for his important ASP publications editorships.



## 2000 Warner Prize to Wayne Hu



Wayne Hu of the University of Chicago is this year's Warner Prize Winner.

Dr. Wayne Hu, soon to join the faculty of the University of Chicago, has been awarded the AAS's Helen B. Warner Prize, which recognizes early career contributions to observational or theoretical astronomy. Dr. Hu's citation states: "Dr. Hu is awarded the Warner Prize for 2000 for clarifying our understanding of how fluctuations in the microwave background radiation are formed under a comprehensive range of cosmological assumptions,

and for demonstrating how observations of galaxies from large surveys can lead to complementary information covering more recent epochs. Through his deep understanding of the fundamental physics and his skill in communication, Dr. Hu's work is having a strong influence on our understanding of cosmology."

Hu earned his PhD in 1995 at the University of California, Berkeley where he studied the cosmic microwave background with Joseph Silk, now at Oxford University. For the past five years, he was a Long Term Member at the Institute for Advanced Study, Princeton. In 1995-1996, his PhD research was recognized with the Uhl Award from the UC Berkeley and the Robert J. Trumpler Award of the Astronomical Society of the Pacific. In 1997 he received an Alfred P. Sloan Foundation Fellowship. He currently holds the position of assistant professor at the University of Chicago.

## Nandra Wins Pierce Prize

Dr. Kirpal Nandra, of the Universities Space Research Association (USRA), has been awarded the 2000 Newton Lacy Pierce Prize, which recognizes outstanding early career achievement in observational astronomical research based upon measurements of radiation from an astronomical object. The



Nandra identified reflection spectra and iron lines from accretion disks in AGN.

citation for Nandra's Pierce Prize states that the prize is awarded "in recognition of using data from a variety of x-ray satellites to identify reflection spectra and broadened iron lines from accretion disks in active galactic nuclei. His leadership and careful analyses are having a major impact on our growing understanding of the properties of massive black holes and on how gas accretes onto them."

After completing undergraduate studies in natural sciences at Churchill College, Cambridge University, Nandra earned a PhD from the University of Leicester in 1992 while studying x-ray emissions from galactic nuclei with K. A. Pounds. Afterwards, he was a research associate at the Institute of Astronomy, Cambridge, before coming to the Goddard Space Flight Center in 1995 as an NRC Fellow. He is currently a research scientist at USRA and works at Goddard.

## AAS-AMS-APS Public Service Awards

The AAS, the American Mathematical Society and the American Physical Society announced their first joint Year 2000 Public Service Awards to Senators **Bill Frist** (R-TN) and **Joseph Lieberman** (D-CT) and to former National Institutes of Health Director, Dr. **Harold Varmus**. All three awardees have driven science policy in the right direction over many years. They have stressed consistently the interdependence of the scientific disciplines and the need for balanced federal spending among them.

Senators Frist and Lieberman have been major advocates for increased government spending in R & D and they were the original co-sponsors of the Federal Research Investment Act (S. 296) which called for the doubling of federal support for civilian science over the next ten years. (The bill awaits House action after having passed the Senate.)



(Fr. left) Senator Joseph Lieberman, Dr. Harold Varmus, and Senator Bill Frist won the AAS-AMS-APS Public Service Award for 2000 for their steady advocacy of balanced federal funding for basic research.

Photo by Robert Visser

Dr. Varmus has been an outspoken advocate for funding for all the sciences while he led the NIH through a period of amazing growth over the last five years. He has been outspoken in his support of increased federal funding for all the basic research activities of NSF, NASA and DOE.

The AAS is proud to participate in this award program, which will recognize leadership in science policy, especially related to the physical sciences.

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## EDUCATION NEWS

Bruce Partridge, Education Officer, bpartrid@haverford.edu

### What They're Thinking...

Patricia Boeshaar, Bruce Partridge, and Rene Walterbos

The three of us served a couple of months ago on an NSF panel to help select NSF Graduate Student Fellows for the coming year. We thought it might be useful to you and to your students, particularly next year's seniors, if we summarized a few trends we detected.

First, there are wonderful students out there! It appears that astronomy is still able to attract smart, well prepared and enthusiastic young men and women. And we should add that the fraction of women in the applicant pool was gratifyingly high, though nowhere near 50%. The quality of today's students may not surprise you; what may surprise you is what these astronomers of the future considered the hot topics in the field. LIGO leads the list, followed by a collection of topics in cosmology and particle astrophysics. There were some students interested in more conventional "astronomical" topics such as solar physics, stellar evolution, galactic dynamics and planetary physics and astrophysics. We hasten to add that there may be a sort of Malmquist bias here — we were, of course, seeing the ablest students in the field. But these were the research fields this group of students found interesting — there was no selection applied by the panel.

Most students had been involved in not just one but several research experiences as undergraduates, and a substantial percentage already had papers published or papers in press with them as coauthors.

The range of institutions in which they've done their undergraduate work was gratifyingly large. The contribution from liberal arts colleges continued to be disproportionately large. We suspect that even more students, from an even wider range of institutions, would make good candidates and should consider applying (perfect GRE scores aren't a requirement!). On the other hand, the applicants were intent on attending a rather small range of graduate institutions. Nearly two thirds intended to attend (or already were attending) either Berkeley, Caltech, Harvard or Princeton.

From our reading of the written material that students submitted, it appears largely to have escaped the attention of the applicants, and possibly their advisors as well, that there are TWO criteria for selection to these fellowships. The first is the one with which most of us are familiar, intellectual merit. The second, added recently, is a set of broader criteria, including diversity, social outreach, and the integration of education and research. Many applicants simply ignored requests to describe their activities fitting under this broader criterion, or else offered rather unconvincing evidence (being a TA in an undergraduate course, for instance, probably isn't what the NSF had in mind as evidence for the integration of research and education).

With that last thought in mind, let us now move from a quick analysis of what we saw to some advice. First, NSF does take seriously the broader criterion mentioned above (see the application forms for the NSF graduate fellowships). They have instructed panelists to take them seriously. Admittedly, in this round, it was difficult to do so because the notion that the applicants should speak to these issues does not appear to have

sunk in. But some attention on the part of student applicants and on the part of those of us writing letters of recommendation for them will surely be needed in the future. Letters and applications should address specific contributions to scholarly research as well as the student's efforts in education and community outreach. Have students thought about the ways in which they can use their talents to repay the society that supports them? Are they integrating their research experiences with their own education or the education of others?

Next, a few words about letters of reference. Those that lack detail, particularly comparative detail, are not helpful. Learning that "Smith received an A in my rigorous course on quantum chromodynamics," is not particularly helpful—virtually all the students we were looking at received A's in virtually all their courses. One thing that does help is a clear statement of the student's aptitude in and background in research, and in particular what the student's individual contribution to the research project was.

The potential applicant and his or her advisor should also read carefully the instructions for the Proposed Plan of Research. The panel looks carefully at this plan to see if the applicant has demonstrated an understanding of how to formulate a sensible research proposal, *i.e.* not only the ability to elucidate important research questions, but, more importantly, devising ways to address possible solutions to these problems. This portion of the application constitutes one of the clearest indications that the applicant has thought carefully about pursuing independent research, and it should be well integrated with the rest of the application.

Finally, we should add that it is puzzling to the panelists when they see referees check "excellent" in all categories of judgment and then write much more guarded and undetailed letters of reference. Be assured that the panelists *do* read the letters of reference, and read them critically.

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## ASP NEWS

Bob Havlen, Executive Director, rhavlen@stars.sfsu.edu

### ASP Conference Series Milestone

The ASP *Conference Series* passed a significant milestone in March 2000 with the publication of Volume #200. Since 1988, **Harold McNamara** has led the ASP's efforts to provide the astronomical community with high quality, low cost conference series proceedings from the astronomical colloquia and symposia that occur annually. The activity has returned significant financial support to the ASP; all proceeds are returned to the ASP education and public outreach programs such as the ASP free quarterly newsletter for astronomy educators.

The ASP book publishing effort originated in the Brigham Young University (BYU) editorial office of the *PASP* managed by McNamara and the late **Liz Holloman**, who were both longstanding ASP veteran editors. From modest beginnings in 1988, when only four volumes were published, the ASP *Conference Series* has grown to become the dominant publisher of symposia, colloquia, and workshops for the worldwide astronomical community. Thirty-nine volumes were published in 1999 alone. The BYU office now also publishes the official IAU symposium volumes for the ASP.

For his outstanding, unselfish efforts in support of the astronomical research community, McNamara recently was awarded the George Van Biesbroeck Prize by the AAS (see page 6). Thank you, Harold!



## ANNOUNCEMENTS

### Major Cosmology Prize Announced

The Peter Gruber Foundation, along with the International Congress of Distinguished Awards (ICDA), announced the creation of the world's first award devoted to cosmology with a substantial cash prize of \$150,000. The Cosmology Prize of the Peter Gruber Foundation, given annually to an outstanding astronomer, cosmologist, physicist or mathematician, will recognize fundamental scientific advances that shape the way we see and comprehend our universe. The first winner of the Cosmology Prize of the Peter Gruber Foundation will be announced at the time of the XXIV General Assembly of the International Astronomical Union in Manchester, U.K., in August and will be formally presented for the first time on 11 November 2000, in ceremonies at the Pontifical Academy of Sciences at the Vatican.

The award recipients will be chosen by a distinguished Advisory Board which includes Professor John D. Barrow of Cambridge University; Dr. Vera C. Rubin of the Carnegie Institution of Washington; Sir Martin Rees of the University of Cambridge; Rev. Dr. George V. Coyne, S.J.; and Professor Owen Gingerich of Harvard Smithsonian Center for Astrophysics.

Dr. Larry E. Tise, Ph.D, founder and president of the International Congress of Distinguished Awards ([icda@icda.org](mailto:icda@icda.org)), a historian and author, will administer the awards program of the Peter Gruber Foundation from offices located in Philadelphia, Pennsylvania.

### Second 2MASS Data Released

The Two Micron All Sky Survey (2MASS) announces the public availability of its Second Incremental Data Release, which includes data from the northern and southern 2MASS facilities, covering 47% of the sky. The Release data products consist of a Point Source Catalog containing positions and photometry for over 162 million objects, an Extended Source Catalog containing positions, photometry and basic shape information for over 585,000 resolved sources, approximately 1.9 million compressed 512x1024 pixel (1"/pixel) images in the three Survey bandpasses, and non-compressed "postage-stamp" images for all of the Extended Source Catalog objects.

The release data products can be accessed on-line from the IPAC/2MASS Web site at <http://www.ipac.caltech.edu/2mass/> or directly from the NASA/Infrared Science Archive site at <http://irsa.ipac.caltech.edu/>. In the near future, the release Catalogs will be available via ftp download, and on a limited distribution DVD-ROM. Access to the 2MASS Atlas Images is currently possible only via the on-line services.

Questions about the release can be directed to the 2MASS Help Desk at [2mass@ipac.caltech.edu](mailto:2mass@ipac.caltech.edu). Users are encouraged to notify 2MASS at [2mass@ipac.caltech.edu](mailto:2mass@ipac.caltech.edu) about any refereed publications or conference proceedings (even in preprint form) which make use of these or earlier 2MASS Release data products. Links to papers will be gladly provided from the 2MASS website.

The Two Micron All Sky Survey is a joint project of the University of Massachusetts and the Infrared Processing and Analysis Center/California Institute of Technology, funded by the National Aeronautics and Space Administration and the National Science Foundation.

### Call for NSO Observing Proposals

The current deadline for submitting observing proposals to the National Solar Observatory is **15 July 2000** for the fourth quarter of 2000. Forms, information and a Users' Manual 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)). A TeX or PostScript template and instruction sheet can be emailed at your request; obtained by anonymous ftp from <ftp.sunspot.noao.edu> (cd `observing_templates`) or <ftp.noao.edu> (cd `nso/nsoforms`); or downloaded from the WWW at <http://www.nso.noao.edu>. A Windows-based observing-request form is also available at the WWW site.

### SIRTF Legacy Science Program CFP

*Michael D. Bicay, SSC/Caltech*

*Call for Proposals Issued: 30 June 2000*

*Letters of Intent Due: 31 July 2000*

*Proposals Due: 15 September 2000.*

The SIRTF Science Center (SSC) at the California Institute of Technology, on behalf of NASA and the SIRTF Project at JPL, will issue the final version of the SIRTF LEGACY SCIENCE PROGRAM Call for Proposals (CP) on 30 June. This research announcement solicits large-scale scientific investigations meeting these fundamental principles:

- (1) Large and coherent science projects, not reproducible by any reasonable number or combination of smaller General Observer investigations;
- (2) Data are of general and lasting importance to the broad scientific community; and
- (3) All raw and pipeline-processed data enter the public domain immediately upon SSC verification, thereby enabling timely and effective opportunities for follow-on observations and for archival research, with both SIRTF and other observatories.

It is anticipated that about 3000 hours of SIRTF observing time will be devoted to Legacy Science projects during the first year of the mission, with observations beginning in early 2002. The Legacy Science Program is open to all science topics and to all scientists worldwide.

The Call for Proposals is available in various electronic formats in the 'Proposal Kit' section of the SIRTF public Web site at <http://sirtf.caltech.edu>. In addition to the CP, SIRTF observers are advised to consult three supporting documents, also available online: the SIRTF Observer's Manual, the SIRTF Observing Policies, and the SIRTF Planning Observations Tool (SPOT) User's Guide.

Legacy Science proposals should be submitted electronically to the SSC, and must be submitted by **15 September 2000**. The SSC will announce the selections in November, with approved Legacy Science investigators established and funded by December.

Questions pertaining to the LEGACY SCIENCE PROGRAM, or to any aspect of SIRTF, should be sent to the SSC HelpDesk: [sirtf@ipac.caltech.edu](mailto:sirtf@ipac.caltech.edu).

## HONORED ELSEWHERE



Weinberger's research using high resolution imaging of disks around stars won her this year's A. J. Cannon Award.

### AAUW Cannon Award to Alycia Weinberger

**Alycia J. Weinberger**, a NICMOS Postdoctoral Research Astronomer at UCLA, is the winner of the 2000 Annie Jump Cannon Award of the American Association of University Women (AAUW). She is recognized for her research involving high resolution imaging techniques to study the properties and evolution of disks around stars.

Weinberger graduated from the University of Pennsylvania in 1991 with a degree in physics. In 1998, she earned her PhD at the California Institute of Technology where she

studied with Gerry Neugebauer and used the 10-m Keck Telescope on Mauna Kea and the Hale 200-inch telescope on Palomar Mountain for near-infrared speckle imaging. Her thesis was on very high angular resolution observations of six nearby active galactic nuclei. She was one of a team of astronomers using NASA's Hubble Space Telescope who found a dark gap dividing an immense dust disk around a young main sequence star, HD 141569. They postulated that an unseen planet could be carving or perturbing the disk.

From 1992–1995 she was a NASA Graduate Student Researchers Program Fellow after which she had an AAUW Dissertation Writing Fellowship during 1996–1997.

Currently she is working with data from the infrared camera (NICMOS) and spectrograph (STIS) aboard the HST as well as imaging and spectroscopy from the Keck Telescope to study morphologies and compositions of dusty planet-building disks around stars. She also studies ultraluminous IRAS galaxies in the thermal infrared using the Keck.

The Cannon Award recognizes a postdoctoral woman scholar for significant research in astronomy and is accompanied by a stipend of \$5000.

### AAS Members Honored by the President

Presidential Early Career Awards for Scientists and Engineers (PECASE) are the highest honor bestowed by the US government on young professionals. Among the recipients of the fourth annual awards announced by President Clinton in April 2000, are AAS Members **Fiona Anne Harrison**, of the California Institute of Technology, who was nominated by NASA and **Richard J. Elston** of the University of Florida, who was nominated by the NSF.

Fiona Harrison is Assistant Professor of Physics and Astronomy, in the Space Radiation Lab (SRL), at the California Institute of Technology. Her primary research interests are in experimental and observational high-energy astrophysics. She is developing optics and detectors for future balloon- and satellite-borne X-ray and gamma-ray missions. Richard Elston is Associate Professor of astronomy at the University of Florida. His primary interest is the formation and evolution of galaxies, and near-infrared instrumentation.

### Geller is Smithsonian Research Lecturer

**Margaret J. Geller** of the Smithsonian Astrophysical Observatory and professor of astronomy at Harvard University was named the first Smithsonian Secretary's Distinguished Research Lecturer. Geller was recognized for her research which has generated new understanding of the structure of the Universe and its early evolution. She is a Member of the National Academy of Sciences. The lecture series honors the achievements of the research community and highlights the breadth and quality of Smithsonian research. Lectures will be given annually. Geller delivered her lecture on 18 April 2000 in Washington, DC.

### AAAS Fellows Elected

Congratulations to five AAS Members who are the most recently elected Fellows of the AAAS. They are **Richard P. Binzel** (MIT); **Clark R. Chapman** (Southwest Research Institute); **Heidi B. Hammel** (MIT); **Stephen S. Holt** (NASA's GSFC); and **John R. Percy** (U. Toronto).

### AAAS Awards to Three from the AAS

At the February 2000 Annual Meeting of the American Association for the Advancement of Science, three AAS Members received AAAS awards. **Matthew J. Holman** (SAO) and **Norman W. Murray** (CITA, U. Toronto) were presented with the Newcomb Cleveland Prize for their report, "The Origin of Chaos in the Outer Solar System," which was published in *Science* on 19 March 1999.

The AAAS Award for Public Understanding of Science and Technology was presented to **Lawrence M. Krauss**, physics professor and Chair of the Physics Department at the Case Western Reserve University.

*(Editors note: At the same meeting, one of the AAAS Science Journalism Awards was presented for a radio show entitled, "Planet Pluto," produced by Michael Lamp and broadcast on Northern Arizona Public Radio.)*

### NEAR Spacecraft Renamed Shoemaker

The Near Earth Asteroid Rendezvous (NEAR) Spacecraft currently orbiting asteroid 433 Eros has been renamed NEAR Shoemaker, after the late **Eugene Shoemaker**, the geologist who devoted his research to how asteroids and comets helped shape the planets. He was a key member of the 1985 working group that defined the scientific objectives and designed the conceptual payload for the NEAR Spacecraft. Shoemaker died in 1997.

### Wetherill is J. Lawrence Smith Medalist

**George W. Wetherill**, of the Carnegie Institution of Washington's Department of Terrestrial Magnetism, has been awarded the J. Lawrence Smith medal of the National Academy of Sciences. He was recognized for his contributions to radiometric dating of events in the history of the Earth and the meteorites, and to understanding the formation and orbital dynamics of bodies in the solar system. Wetherill is also currently involved in research associated with NASA's Astrobiology Institute headquartered at the Ames Research Center.

The J. Lawrence Smith Medal is awarded every three years for "recent original and meritorious investigations" of meteorites and has been presented since 1888.

*Continued opposite*

## NEWS FROM NSF

*Hugh van Horn, Director, Division of Astronomical Sciences*

### Staff Appointments

Dr. **Morris L. Aizenman** has accepted a new position as Senior Science Associate for the Directorate for Mathematical and Physical Sciences (MPS). He assumed his new duties effective 3 April 2000.

Morris has served with distinction for many years in NSF's Division of Astronomical Sciences (AST) — as Program Director, Section Head, and most recently as Executive Officer — and he has frequently served as a much-sought-after spokesperson on astronomical issues. We anticipate that these qualities will serve him well in his new position, and we wish him continuing success. His office is located in Suite 1005, and he can be reached at 703-306-1800 or by email at [maizenma@nsf.gov](mailto:maizenma@nsf.gov).

The Division is extremely pleased that Dr. **Eileen D. Friel** has agreed to return to NSF. She has accepted a new appointment as Executive Officer with AST, also effective 3 April 2000. She is no stranger to NSF, having recently served a two-year term as Program Director for AST's Stellar Astronomy and Astrophysics Program and subsequently a one-year appointment as Acting Program Director for Planetary Astronomy and for Galactic Astronomy and as Acting Coordinator for the entire Astronomy Research Grants Unit. In addition, she served on several MPS-wide working groups. Before coming to NSF, Friel served as Director of the Maria Mitchell Observatory in Nantucket, Massachusetts, and her scientific interests center on stellar and galactic astronomy. She has brought effective, thoughtful management to every task she has been asked to undertake, and we are delighted to have her back at NSF. Her office is located in suite 1045, and she can be reached at 703-306-1820 or by email at [efriel@nsf.gov](mailto:efriel@nsf.gov).

### HONORED ELSEWHERE

*Continued from page 10*

### Newly Elected to the National Academy

The following AAS members have been elected to the National Academy of Sciences:

**J. Roger P. Angel**, Regents Professor, Steward Observatory, University of Arizona, Tucson, AZ;

**Martha P. Haynes**, professor, Department of Astronomy, Cornell University, Ithaca, NY;

**Sean C. Solomon**, director, Department of Terrestrial Magnetism, Carnegie Institution of Washington, Washington, DC;

**Rainer Weiss**, professor of physics, Massachusetts Institute of Technology, Cambridge, MA.

And among foreign associates:

**Reinhard Genzel**, director, Max Planck Institute for Extraterrestrial Physics, Garching, Germany.

*(N.B.: It will be of interest to AAS Members that NSF Director **Rita Colwell** was also among those recently elected to the Academy.)*

### Year 2000 NSF AST Program Deadlines

The National Science Foundation's Division of Astronomical Sciences (AST) announces the following deadlines for research grant opportunities for funding in FY2001.

- **22 July 2000:** CAREER - Faculty Early Career Development Program;
- **31 August 2000:** ATI - Advanced Technologies and Instrumentation Program;
- **15 September 2000:** REU Sites- Research Experiences for Undergraduates Sites;  
REU Supplements - anytime
- **25 September 2000:** Individual Investigator research grants:
  - EXC - Extragalactic Astronomy and Cosmology;
  - GAL - Galactic Astronomy;
  - SAA - Stellar Astronomy and Astrophysics;
  - PLA - Planetary Astronomy; and
  - RUI - Research in Undergraduate Institutions
- 15 January 2001:** Underrepresented Minorities Programs:
  - RPG - Research Planning Grants
  - CAA - Career Advancement Awards

Those familiar with AST's programs will notice that a common deadline for the individual investigator programs (EXC, GAL, SAA, PLA, RUI) is a departure from past practice. This change is part of a general restructuring of the research grants programs designed to reflect the dynamism of today's astronomical research environment and to ensure that the review process recognizes the most meritorious projects across the whole range of the astronomical sciences. Investigators are encouraged to propose any meritorious project of astronomical research even if does not appear to fit precisely within the existing categories, or if it spans several disciplines or program topics. Proposers are strongly encouraged to visit the Division's web site at <http://www.nsf.gov/mps/ast> for a specific program officer to contact, for updated information about the astronomy grants programs, and for details regarding proposal submission.

## APPOINTMENTS

### Smith to Head AURA

**William S. Smith, Jr.**, formerly Science Advisor and then Staff Director to the House Subcommittee on Space of the Committee on Science, Space and Technology, was appointed the new president of AURA on 11 February 2000.

Smith received a PhD in chemistry from the Texas A & M University in 1974 before becoming a postdoctoral scholar at the UC Irvine. Starting in 1977, he worked at the FCC for eight years before coming to the House of Representative staff in 1985. In 1994 he became Deputy Chief of Staff for the Democratic Caucus where he helped to develop the Democratic budget proposals for NASA, NSF, NOAA and environmental programs. He became Vice-President for Programs at AURA in 1998 and served as interim AURA president after Goetz Oertel resigned.



## CALENDAR

Listed below are meetings that have come to our attention; new listings or listings with updated information are flagged with an asterisk. Due to space limitations, we publish notice of meetings 1) occurring in North and Central America; 2) meetings of the IAU Commissions and Colloquia; and 3) other meetings as requested by AAS Members. Meetings that fall within 30 days of publication generally are not listed.

A complete list of international astronomy meetings is maintained by Liz Bryson, Librarian C-F-H Telescope ([library@cfht.hawaii.edu](mailto:library@cfht.hawaii.edu)) in collaboration with the Canadian Astronomy Data Centre, Victoria, BC. The list may be accessed at <http://cadwww.hia.nrc.ca/meetings/>

### AAS and AAS Division Meetings

Division for Planetary Sciences

23–27 October 2000 — Pasadena, CA

Contact: Rosaly Lopes-Gautier ([rlopes@issac.jpl.nasa.gov](mailto:rlopes@issac.jpl.nasa.gov))

High Energy Astrophysics Division

6–11 November 2000 — Honolulu, HI

Contact: John Vallerga ([head2K@netcom.com](mailto:head2K@netcom.com))

<http://www.eurekasci.com>

197<sup>th</sup> AAS Meeting (w. AAPT)

7–11 January 2001 — San Diego, CA

Contact: Diana Alexander ([diana@aas.org](mailto:diana@aas.org))

\*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))

\*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))

### Other Events

General Assembly of the Royal Astronomical Society of Canada

30 June–2 July 2000 — Winnipeg, MNT, Canada

Contact: Andora Jackson ([ajacks@cc.umantoba.ca](mailto:ajacks@cc.umantoba.ca))

<http://www.rasc.ca/ga2000/>

\*Summer School on Adaptive Optics

8–14 July 2000 — Santa Cruz, CA

Contact: Paula Towle ([cfao@ucolick.org](mailto:cfao@ucolick.org))

Catastrophic Events and Mass Extinctions: Impacts and Beyond

9–12 July 2000 — Vienna, Austria

Contact: [tanner@lpi.jsc.nasa.gov](mailto:tanner@lpi.jsc.nasa.gov)

<http://cass.jsc.nasa.gov/meetings/impact2000>

Interacting Winds from Massive Stars

10–14 July 2000 — Quebec, Canada

Contact: Anthony Moffat ([moffat@astro.umontreal.ca](mailto:moffat@astro.umontreal.ca))

<http://www.astro.umontreal.ca/iwinds>

\*Strings 2000

10–15 July 2000 — Ann Arbor, MI

Contact: [strings2000@feynman.physics.lsa.umich.edu](mailto:strings2000@feynman.physics.lsa.umich.edu)

<http://feynman.physics.lsa.umich.edu/strings2000/>

\*3<sup>rd</sup> International LISA Symposium

11–14 July 2000 — Golm bei Potsdam, Germany

Contact: Ute Schmoelz ([ute@aei-potsdam.mpg.de](mailto:ute@aei-potsdam.mpg.de))

<http://lisa-symposium.aei-potsdam.mpg.de>

\*Blazar Demographics and Physics

12–14 July 2000 — Baltimore, MD

Contact: Lorraine Garcia ([garcia@stsci.edu](mailto:garcia@stsci.edu))

<http://www.stsci.edu/isd/Workshops/Blazars/blazars.htm>

112<sup>th</sup> Meeting of the Astronomical Society of the Pacific

13–19 July 2000 — Pasadena, CA

Contact: S. Milanello ([meeting@aspsky.org](mailto:meeting@aspsky.org))

<http://www.aspsky.org/meetings.html>

33<sup>rd</sup> COSPAR Scientific Assembly

16–22 July 2000 — Warsaw, Poland

Contact: COSPAR Secretariat ([cospar@paris7.jussieu.fr](mailto:cospar@paris7.jussieu.fr))

<http://www.copernicus.org/cospar/cospar.html>

The Cosmos in the Classroom 2: Teaching Astronomy to

Non-Science Majors (Part of ASP Meeting)

17–19 July 2000 — Pasadena, CA

Contact: Andy Fraknoi ([meeting@aspsky.org](mailto:meeting@aspsky.org))

<http://www.aspsky.org>

Astrobiology: The Early Solar System (Part of ASP Meeting)

17–19 July 2000 — Pasadena, CA

Contact: Laura Danly ([ldanly@dmnh.org](mailto:ldanly@dmnh.org))

<http://www.aspsky.org/meetings.html>

Strangeness 2000: 5<sup>th</sup> Int'l. Conf. on Strangeness in Quark Matter

20–25 July 2000 — Berkeley, CA

Contact: G. Odyniec ([G\\_Odyniec@lbl.gov](mailto:G_Odyniec@lbl.gov))

<http://rncus1.lbl.gov/S2000>

\*17<sup>th</sup> European Cosmic Ray Symposium

24–28 July 2000 — Lodz, Poland

Contact: [ecrs2000@kfd2.fic.uni.lodz.pl](mailto:ecrs2000@kfd2.fic.uni.lodz.pl)

Workshop on String Cosmology

24 July–4 August 2000 — Vancouver, BC, Canada

Contact: Sandy Rutherford ([pfs99@kepler.physics.ubc.ca](mailto:pfs99@kepler.physics.ubc.ca))

<http://kepler.physics.ubc.ca/~pfs99>

IAU Symp. 202, “Planetary Systems in the Universe:

Observation, Formation and Evolution”

7–10 August 2000 — Manchester, UK

Contact: Alan J. Penny ([symp202@ast.star.ac.uk](mailto:symp202@ast.star.ac.uk))

<http://ast.star.rl.ac.uk/symp202>

IAU Symp. 201, “New Cosmological Data and the Values of the Fundamental Parameters”

7–11 August 2000 — Manchester, UK

Contact: A.N. Lasenby ([anthony@mrao.cam.ac.uk](mailto:anthony@mrao.cam.ac.uk))

IAU Symp. 203, “Recent Insights into the Physics of the Sun and Heliosphere-Highlights from SOHO and other Space Missions”

7–11 August 2000 — Manchester, UK

Contact: Bernhard Fleck ([iau203@esa.nascom.nasa.gov](mailto:iau203@esa.nascom.nasa.gov))

[http://sohowww.nascom.nasa.gov/meetings/IAU\\_Symp203](http://sohowww.nascom.nasa.gov/meetings/IAU_Symp203)

XXIV Gen. Assembly of the International Astronomical Union

7–18 August 2000 — Manchester, United Kingdom

Contact: [enquiries@iau-ga2000.org](mailto:enquiries@iau-ga2000.org)

<http://www.iau-ga2000.org>

\*12<sup>th</sup> Annual NASA Planetary Summer School,

“Discovery Micromissions: Focused Low-Cost Science”

14–18 August 2000 — Pasadena, CA

Contact: Corinne Karpinski ([corinne.l.karpinski@jpl.nasa.gov](mailto:corinne.l.karpinski@jpl.nasa.gov))

<http://www.jpl.nasa.gov/psciscschool>

IAU Symp. 204, “The Extragalactic Infrared Background and its Cosmological Implications”

15–18 August 2000 — Manchester, UK

Contact: Martin Harwitt ([harwit@bellatlantic.net](mailto:harwit@bellatlantic.net))

<http://www.iau.org/symp204>



## IAU Symposium 205, "Galaxies and their Constituents at the Highest Angular Resolutions"

15–18 August 2000 — Manchester, UK  
 Contact: R.T. Schilizzi (schilizzi@jive.nfra.nl)  
<http://www.nfra.nl/jive/iausymp.htm>

## The New Era of Wide-Field Astronomy

21–24 August 2000 — Preston, UK  
 Contact: Roger Clowes (r.g.clowes@uclan.ac.uk)  
[http://www.uclan.ac.uk/new\\_era](http://www.uclan.ac.uk/new_era)

## \*2nd Int'l Conf on Mars Polar Science and Exploration

21–25 August 2000 — Reykjavik, Iceland  
 Contact: Stephen Clifford (clifford@lpi.usra.edu)  
<http://www.lpi.usra.edu/meetings/polar2000>

## \*Michelson Interferometry Summer School

21–25 August 2000 — Berkeley, CA  
 Contact: Rudolf Danner (rudolf.danner@jpl.nasa.gov)  
<http://sim.jpl.nasa.gov/michelson/iss.html>

## VC3: Victoria Computational Cosmology Conference

21–26 August 2000 — Victoria, BC, Canada  
 Contact: Julio Navarro (jfn@uvic.ca)  
<http://pinot.phys.uvic.ca/~jfn/vc3>

## Eta Car and Other Mysterious Stars: The Hidden Opportunities of Emission-line Spectroscopy

24–26 August 2000 — Hven, Sweden  
 Contact: K. Davidson (kd@ea.spa.umn.edu)  
<http://ferrum.fysik.lu.se/hven2000>

## \*63rd Annual Meeting of the Meteoritical Society

28 August–1 September 2000 — Chicago, IL  
 Contact: Lunar and Planetary Institute (leung@lpi.usra.edu)

## \*4th INTEGRAL Workshop

4–8 September 2000 — Alicante, Spain  
 Contact: V. Reglero (loc@castor.daa.us.es)  
<http://www.integral.ua.es>

## \*X-Ray Astronomy 2000

4–8 September 2000 — Sicily, Italy  
 Contact: xray2000@astropa.unipa.it  
<http://www.astropa.unipa.it/EVENTS/XRAY2000>

## 20th NSO/Sac Peak Summ. Wrkshp, "Advan. Solar Polarimetry"

11–15 September 2000 — Sunspot, NM  
 Contact: ws2K@sunspot.noao.edu  
<http://www.sunspot.noao.edu/info/misc/workshops/2000/ws2k.html>

## Summer School: "Historical Development of Modern Cosmology"

18–22 September 2000 — Valencia, Spain  
 Contact: M-J. Pons-Borderia (pons@castor.ft.uam.es)  
<http://www.uv.es/~martinez/school.html>

## Spin and Magnetism in Young Neutron Stars

2–6 October 2000 — Santa Barbara, CA  
 Contact: dorene@itp.ucsb.edu  
<http://www.itp.ucsb.edu/conference/conf2000.html>

## \*The Nature of Galactic High-Energy Gamma-Ray Sources

9–11 October 2000 — Puebla, Mexico  
 Contact: Alberto Carraminana (gamma00@inaoep.mx)  
<http://www.inaoep.mx/~gamma00>

## \*17th Int'l CODATA Conf., "Data and Information for the Coming Knowledge Millennium"

15–19 October 2000 — Braveno, Italy  
 Contact: J-E Dubois (codata@dial.oleane.com)

## \*11th October Astrophysics Conference in Maryland, "Young Supernova Remnants"

16–18 October 2000 — College Park, MD  
 Contact: Susan Lehr (october@astro.umd.edu)  
<http://www.astro.umd.edu/october>

## \*Washington Area Astronomers Meeting

2 November 2000 — Washington, DC  
 Contact: George Kaplan (gkaplan@usno.navy.mil)

## \*Earth–Moon Relationships

8–10 November 2000 — Padua, Italy  
 Contact: Cesare Barbieri (barbieri@pd.astro.it)

## Astronomical Data Analysis Software and Systems (ADASS) X

12–15 November 2000 — Boston, MA  
 Contact: P. Buckley (pbuckley@head-cfa.harvard.edu)  
<http://hea-www.harvard.edu/ADASS>

## \*Astronomical Site Evaluation in the Visible and Radio Range

13–15 November 2000 — Marrakech, Morocco  
 Contact: Benkhaldoun Zouhair (zouhair@unice.fr)  
[http://www.eso.org/iau\\_site2000](http://www.eso.org/iau_site2000)

## \*Ionized Gaseous Nebulae

21–24 November 2000 — Mexico City, Mexico  
 Contact: Marco Martos (phot2000@astroscu.unam.mx)  
<http://www.astroscu.unam.mx/phot2000>

## \*20th Texas Symposium on Relativistic Astrophysics

11–15 December 2000 — Austin, TX  
 Contact: Craig Wheeler (wheel@astro.as.utexas.edu)

## \*IAU Coll. No. 183, "Small-Telescope Astronomy on Global Scales"

4–8 January 2001 — Kenting National Park, Taiwan  
 Contact: Kelly Chen (iauc183@joule.phy.ncu.edu.tw)  
<http://www.astro.ncu.edu.tw/iauc183>

## \*Astrophysical Ages and Time Scales

5–9 February 2001 — Hilo, HI  
 Contact: Ted von Hippel (timescales@gemini.edu)  
<http://www.gemini.edu/science/timescales>

## \*Mass Outflow in Active Galactic Nuclei: New Perspectives"

8–10 March 2001 — Washington, DC  
 Contact: Mike Crenshaw (crenshaw@buckeye.gsfc.nasa.gov)  
<http://iaacs.cua.edu/conf.html>

## \*Extragalactic Star Clusters

12–16 March 2001 — Pucon, Chile  
 Contact: Eva Grebel (starclus@mpia-hd.mpg.de)  
[http://www.astro.washington.edu/grebel/meetings/ESC\\_index.html](http://www.astro.washington.edu/grebel/meetings/ESC_index.html)

## \*32nd Lunar and Planetary Science Conference

12–16 March 2001 — Houston, TX  
 Contact: LeBecca Simmons (simmons@lpi.usra.edu)  
<http://www.lpi.usra.edu>

## \*6th Compton Symposium, "Gamma-Ray Astrophysics 2001"

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

## \*General Assembly, Royal Astronomical Society of Canada

28 June–1 July 2001 — London, ONT, Canada  
 Contact: Peter Jedicke (pjedicke@fanshawec.on.ca)  
<http://phobos.astro.uwo.ca/~rasc/home.html>

## DIVISION NEWS

### Division on Dynamical Astronomy

Marc Murison, Secretary. Photos by Alan Fiala.

#### The 2000 Annual Meeting in Yosemite



Roy Laubscher (Laubcorp, Santa Barbara) was the local host of this and three other meetings of the DDA.

The 31st annual meeting of the DDA was held 9–12 April 2000, in Yosemite National Park.

**Roy Laubscher** (Laubcorp, Santa Barbara) was the local host. Roy did a fine job organizing the meeting, and the concessionaire was particularly effective

and responsive in satisfying our needs.

There were a total of 60 oral presentations (invited and contributed) and 13 poster presentations. This was the largest number of papers presented at any DDA meeting, which unfortunately necessitated reducing the time for each paper to 15 minutes from the customary 20 minutes. There were 83 registered participants. The meeting schedule and abstracts were printed in a handsome program with a picture of Yosemite Falls on the cover. Two or three posters were presented at each coffee break and all posters remained on display for the duration of the meeting. The weather was perfect throughout our stay in Yosemite, and some of us managed to sneak in a short hike or two through the magnificent scenery, and some stayed a day or two after the meeting to relax and enjoy.

#### Dedicated to the Memory of Bill Kaula

We were saddened to learn of the death of DDA founding member **William M. Kaula** only a week before the meeting began. We dedicated the meeting to Bill's memory with a tribute, which was read by DDA Chair, **Stan Peale**, at the opening of the meeting.



Invited speaker Robin Canup (SWRI) spoke on the various theories of the origin of the Moon.

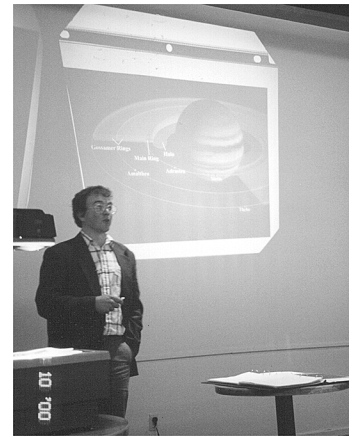
#### Origins Session

The first meeting session, titled "Origins," began on Sunday afternoon with an invited paper, "Migrating Planets," by **Norman Murray** (CITA), which outlined various schemes to account for the close, giant planets around other stars. There followed a dozen papers dealing with various aspects of disk dynamics, planet formation and stability of other planetary systems.

The next day began with an invited paper, "Origin of the Moon," by **Robin Canup**

(SWRI). Robin pointed out the problems in the giant impact hypothesis of lunar origin and introduced a combination

fluid-particle disk to study evolution after disk formation. Eleven papers of considerable variety followed in a session titled "Solar System Dynamics." These included papers on long term integrations of the solar system with comparison of numerical codes, evolution of asteroid orbits, asteroid noise in planetary motion, detection of a European ocean, and the Titan-Hyperion orbital resonance. The last paper was an invited review by **Douglas Hamilton** (U.



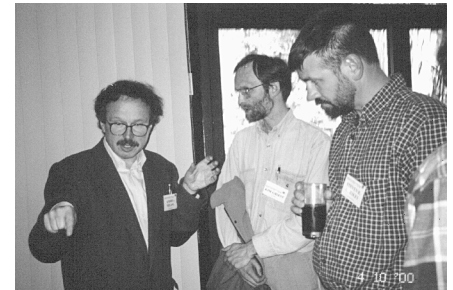
Doug Hamilton (U. Maryland) was invited to speak on resonances.

Maryland), "Resonances, Drag Forces and the Jacobi Constant," where a variety of resonances and drag forces were shown to have a common mathematical development.

#### Collisions Session

The "Collisions" session began in the afternoon with an invited paper by **Andrea Milani** (U. Pisa), "Asteroid Hazard: Algorithms for Computation of Actual Cases," detailing a project for assessing the probability of impact on the Earth from known

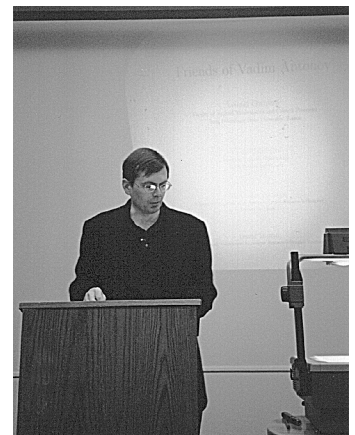
Earth-crossing asteroids. Several papers followed related to the current impact hazard and one paper on the effect of impact on planetary obliquities in the final stages of accretion. The last session on Monday, titled "Rings," dealt mostly with the details of Saturn's ring system, including the first radar images, brightness asymmetries, and formation.



Invited speaker Andrea Milani (left, U. Pisa) has the full attention of another invited speaker, Kim Griest (middle, UCSD), and Steve Chesley (JPL).

#### 1999 Brouwer to Antonov

The 1999 Brouwer Award was given to **Vadim Antonov** of the Pulkovo Observatory in Saint Petersburg, Russia, but unfortunately, Antonov could not attend to receive his award in person. The matter was complicated by the fact that we were forced to communicate with Antonov through his colleagues **Leonid Ossipkov** and **Victor Abalakin**. Without the help of these kind men, there would have been no Brouwer Lecture. However, Antonov wrote his lecture, his colleague **Alexander Baranov** formatted it into LaTeX, and it



In the Brouwer awardee's absence, David Merritt (Rutgers U.) delivered a clear and concise rendition of Antonov's Brouwer Lecture on his work on star motions.





Kim Griest (UCSD) was invited to speak on gravitational lensing.

was transmitted by Ossipkov to **David Merritt**, who presented Antonov's Brouwer Lecture, "Individual and Statistical Aspects of Star Motions." David's presentation was clear and concise, and his added comments on Antonov's work made us all appreciate why Antonov very much deserved the Award.

#### *Galactic Dynamics*

The session "Galactic Dynamics" occupied the remainder of the morning. Orbital structure of eccentric

nuclear disks modeled the double brightness peak in M31, and galaxy-galaxy interactions were treated. We also learned how fission of a cooling, rotating protostar might lead to observed close binaries with a striking animated display. The session ended with an invited paper by **Kim Griest** (UCSD), "Microlensing as a Probe of Galactic Dark Matter and Extra-solar Planets." No planets have been found, but it seems clear that compact baryonic objects in the galactic halo cannot be the dark matter causing the galactic rotation curve.

#### *Astrometry and Binaries*

The afternoon session was titled "Astrometry and Binaries," and it included papers detailing the capabilities of interferometric astrometry using the Hubble Space Telescope (HST), the Palomar Testbed Interferometer (PTI), the Space Interferometry Mission (SIM), and HIPPARCOS. Two new catalogs from the USNO were described. From a paper not matching the session title, we learned of the search for stars passing close to the Sun that can perturb comets into the inner solar system.

#### *Business Meeting*

The business meeting completed the afternoon, and after a brief period of free time we had our banquet. We were entertained after dinner by a lively talk by **Greg Laughlin** (NASA Ames), "The End of the Universe."

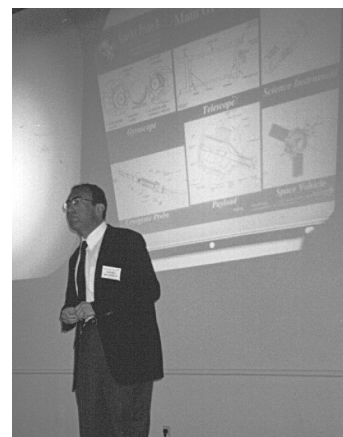


"The End of the Universe" was Greg Laughlin's (NASA's Ames) rousing-good banquet lecture.

#### *Relativity and Spacecraft Orbits*

Two short sessions occupied the morning of the last day. In "Spacecraft Orbits," we learned of the complicated orbit of the NEAR spacecraft around the peanut-shaped asteroid Eros and perturbations during and observations of hyperbolic flybys of planets and satellites. The "Relativity" session began with an invited paper by **Sasha Buchman** (Stanford), on "Gravity Probe B." Gravity Probe B is designed to test Einstein's general theory of relativity

by measuring the precession of free gyroscopes in Earth orbit due to the presence of the Earth's field. We were told that after all the technical problems have been solved and all parts fabricated, the nearly finished probe was broken and all tests have to be redone after repair. Other papers dealt with a new test of the equivalence principle and the relativistic perihelion precessions of all the terrestrial planets.

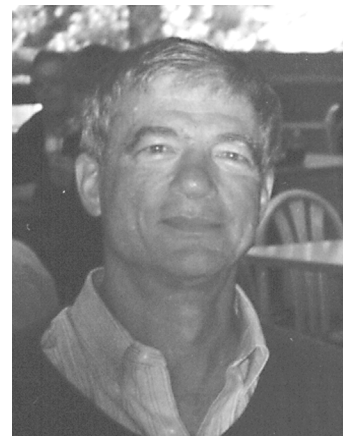


A progress report on Gravity Probe B in an invited paper by Sasha Buchman (Stanford U.) kicked off the session on Relativity.

## The 2000 Brouwer to Myles Standish

Celestial mechanics was the first quantitative physical science and remains one of the most successful and accurate. **E. Myles Standish** has led the development of the JPL

planetary ephemerides, requiring in-depth knowledge of reference frames, astrometry, celestial mechanics, numerical integration techniques, estimation theory, error analysis, and data reduction. He has pioneered the use of unique data sets to improve the accuracy of the ephemerides. The JPL ephemerides provide international standards for spacecraft navigation, almanacs, historical astronomy, solar system tests of gravity theories, pulsar timing, and quantitative studies of long-term solar



For his leadership in the development of JPL planetary ephemerides, Myles Standish has been named 2000 Brouwer Prize winner.

system dynamics. Standish and his colleagues have used these extraordinarily careful and accurate ephemerides to measure the masses of minor planets, to demonstrate that there is no dynamical evidence for Planet X, and to tie together the solar system and extragalactic reference frames with unprecedented accuracy. His classical escape criterion for the three-body problem has been incorporated in N-body codes for decades. His remarkable work has been of great service to the astronomical community, especially NASA's program of solar system exploration. His ephemerides embody the finest craftsmanship of our discipline, and in a very real sense are the crown jewel of celestial mechanics.



*New, continuing, and retiring members of the Committee. Front row (fr. l. to r.): Steve Unwin, Marc Murison; Middle row: Joe Hahn, Kirk Borne, Bill Jefferys, Paul Weissman, Stan Peale; Rear row: Joe Burns, Myles Standish, Pete Shelus, Hal Levison, Bill Newman.*

## Officers and Membership

The officers elected for 2000-2001, Committee members elected for 2000-2002, and continuing Committee members are:

<b>Chair:</b>	J. Burns (Cornell)
<b>Vice Chair:</b>	H. Levison (SwRI)
<b>Past Chair:</b>	S. Peale (UCSB)
<b>Secretary:</b>	M. Murison (USNO)
<b>Treasurer:</b>	P. Shelus (U Texas at Austin)
<b>Committee:</b>	(First year):
	J. Morrison (STScI)
	J. Ries (U. Texas at Austin)
	S. Unwin (JPL)
	(Second year):
	W. Jefferys (U. Texas at Austin)
	W. Newman (UCLA)
	E. M. Standish (JPL)

The DDA consists of 211 regular members and 20 affiliate members for a total of 231. This is 16 more than last year.



*Graduate students Robert Salow (left, Ohio U.) and Joseph D. Adams (U. Mass) gave papers at Student Stipend awardees.*

### Student Stipend Program

For the sixth year, two student stipends were awarded at the annual DDA meeting. The recipients were **Robert M. Salow** from Ohio University, who spoke on

“Self-Consistent Models of Eccentric Nuclear Disks,” and **Joseph D. Adams** from the University of Massachusetts, who spoke on “Results on the Structure and Mass of the Pleiades from a 2MASS-USNO Proper Motion Search.”

To increase student participation, the Division makes available up to two student stipends of \$400 each to attend Division meetings. For the April 2001 meeting at LPI in Houston, submit an abstract of a paper for presentation, along with a letter of recommendation from an adviser, to Dr. Gene Byrd, University of Alabama, Dept. of Physics & Astronomy, Box 35487-0324, Tuscaloosa, AL 35487-0324, or email, byrd@possum.astr.ua.edu.

## Call for Brouwer Award Nominations

The Brouwer Award Selection Committee of the DDA invites nominations from any member of the AAS for an award competition. The Brouwer Award has been established to recognize outstanding contributions to the field of dynamical astronomy, including celestial mechanics, astrometry, stellar systems, galactic and extragalactic dynamics. It is open to candidates of any age or nationality, occupation, or specific field of interest. The Award consists of an honorarium of \$2000 plus an appropriate certificate.

Letters of nomination should cite the achievements in or contributions to dynamical astronomy that might appropriately be recognized by the Award. Nominations should be supported by copies of the vitae and bibliography of the nominee and by letters of recommendation from three knowledgeable people testifying to the long-term impact of the nominee’s contributions to dynamical astronomy. Nominations and supporting documentation must be received 31 December 2000 by the Committee Chair, Dr. Douglas O. Richstone, Univ. of Michigan, Dept. of Astronomy, Dennison Bldg., Ann Arbor, MI 48109-1090, dor@astro.lsa.umich.edu. Additional information regarding the Brouwer Award may also be found at the DDA web site, <http://dda.harvard.edu/>.

## Future DDA Meetings

The next DDA meeting will be held at the Lunar and Planetary Institute (LPI) in Houston, Texas, during the latter part of April 2001. The local host will be **Joe Hahn** of LPI, and the program committee will consist of **Joe Hahn**, **Hal Levison** (Vice Chair), and **Marc Murison** (Secretary).

The Timberline Lodge outside of Portland, Oregon, has been selected as the 2002 meeting site with **Al Harris** (JPL) as the local host.

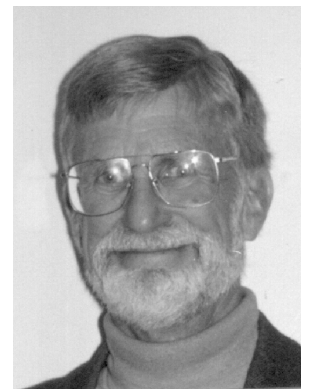
## Division for Planetary Sciences

### Year 2000 Prizes Announced

The following articles are excerpted from the Division’s Press Releases. The full text may be found at [http://www.aas.org/%7Edps/prizes\\_contact.html](http://www.aas.org/%7Edps/prizes_contact.html). All the Division awards will be presented at the 23–27 October 2000 Division meeting to be held in Pasadena, CA.

### Leovy Wins Kuiper Prize

Emeritus Professor of Atmospheric Sciences and Geophysics, University of Washington in Seattle, **Conway B. Leovy** has been awarded the Year 2000 Gerard P. Kuiper Prize by the Division for Planetary Sciences (DPS) of the American Astronomical Society. The award is given in recognition of Professor Leovy’s outstanding achievements in defining and advancing comparative studies of the structure and circulation of planetary atmospheres, their radiative and dynamic processes, and their interactions with the solid surfaces.

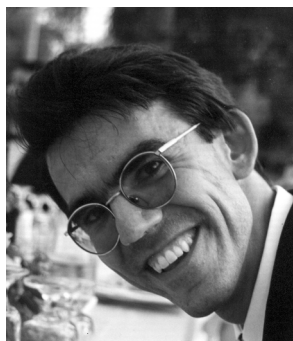


*University of Washington’s Conway B. Leovy wins Kuiper for studies of planetary atmospheres.*



Prof. Leovy's contributions to our present understanding of planetary atmospheres span more than thirty-five years, thirty of which were spent on the faculty of the University of Washington. He received his PhD in Meteorology from MIT in 1963. Before joining the faculty of the University of Washington, he worked as a research meteorologist at Rand Corporation in Santa Monica, CA, where he made major contributions to our understanding of the chemistry and dynamics of Earth's atmosphere. From Earth, he expanded his atmospheric studies first to Mars, then to Venus and Jupiter.

The Kuiper Prize is awarded annually by the DPS to a scientist whose achievements have most advanced our understanding of the planetary system.



*Alessandro Morbidelli of the Observatoire de la Cote D'Azur is the 2000 Urey Prize winner.*

### Urey Prize to Morbidelli

**Alessandro Morbidelli** of the Observatoire de la Cote d'Azur in Nice, France, has been awarded the Harold C. Urey Prize by the Division in recognition of his outstanding accomplishments in studies of solar system dynamics. His work includes modeling the delivery of meteorites to the Earth, formation and evolution of the Kirkwood gaps in the asteroid belt, studies of asteroid families, and the structure of the Kuiper belt of comets.

Dr. Morbidelli, born in Italy in 1966, received his PhD in mathematics from the University of Namur (Belgium) in 1991. Since 1993, he has worked as an astronomer at the Nice Observatory in southern France. He began his career working on the theory of Hamiltonian systems, applying it to the dynamics of small bodies in the solar system. Morbidelli has developed a theory on the secular evolution of asteroids — both inside and outside the main mean motion resonances with Jupiter — which helps to explain the origin of Sun-grazing near-Earth asteroids (NEAs). He was also the first to analytically investigate the dynamic structure of the Kuiper belt. By means of numerical integrations, Dr. Morbidelli characterized the properties of the chaotic evolution of asteroids that escape from the main belt; he succeeded in showing that typical dynamic lifetimes of such asteroids are an order of magnitude shorter than previously thought. His studies also revealed that mean motion resonances with Mars and three-body resonances with the outer planets are important in delivering asteroids to near-Earth space. He is presently working on modeling the unbiased distribution of NEAs and on scenarios for the primordial depletion and dynamic excitation of the asteroid belt and the Kuiper belt. His work has done much to extend our understanding of the evolution of these belts.

The Urey prize is bestowed annually by the DPS to recognize and encourage outstanding achievement in planetary research by a young scientist.

### Lebofsky Sagan Medalist

The 2000 Carl Sagan Medal for Excellence in Public Communications in Planetary Science is awarded to Dr. **Larry A. Lebofsky** of the University of Arizona in Tucson, Arizona.

Dr. Lebofsky has a long history of dedication to education and public outreach about a wide range of planetary science topics. In 1990, he initiated a program known as Project ARTIST

(Astronomy-Related Teacher In-Service Training) to educate elementary and secondary teachers in astronomy. To date, he is responsible for the training of over 4000 teachers with hands-on demonstration experiments related to solar system science.

Dr. Lebofsky received his PhD in Earth and Planetary Sciences in 1974 from the Massachusetts Institute of Technology. After working at the NASA Jet Propulsion Laboratory for two years, he began working for the Lunar and Planetary Laboratory (LPL) at the University of Arizona in 1977 where he has been associated since that time. Dr. Lebofsky's scientific research areas include studies of planetary surfaces, composition of asteroids and satellites, visible and infrared observations of asteroids and satellites, and laboratory studies of frosts and minerals. He is Education Director for the San Juan Institute/Planetary Science Institute and the President-elect of the Arizona Science Teachers Association. Since 1997 he has served as the DPS Education Officer.

### Late Congressman Brown Awarded the Masursky

The Harold Masursky Meritorious Service Award for 2000 is posthumously awarded to the late Congressman **George E. Brown, Jr.** in recognition of his accomplishments as a champion for planetary science and exploration.

Rep. Brown, whose California district is close to NASA's Jet Propulsion Laboratory (JPL), was first elected to the House of Representatives in 1962 and had been a member of its Science Committee since 1965. He was unique among the members of Congress in his resolve and steadfastness in support of scientific research. Throughout his career, Congressman Brown enthusiastically supported both manned and unmanned space exploration. He was instrumental in turning around several threats to cancel the Cassini-Huygens Mission to Saturn and consistently fought to keep NASA research line items in the federal budget.



*2000 Sagan Medalist for Excellence in Public Communications is Larry Lebofsky of the University of Arizona*



*For his influential support of federal funding for basic science research, the 2000 Masursky Award is awarded to the late Rep. George E. Brown, Jr.*

## DPS PRIZE WINNERS

*Continued from page 17*

DPS Chairman Robert M. Nelson notes that, "One of the principal reasons that the scientific community held George Brown in such high regard was due to his strong support for scientific research receiving federal support on the basis of peer review from the scientific community. Brown was a strong opponent of 'earmarking' by Congress, a process wherein individual congressmen trade favors in exchange for technical projects being funded within their own congressional districts. Brown recognized that excellence in science requires peer review from scientists worldwide rather than from a few special-interest individuals in a particular region."

In the mid-1960s, and again in 1979, Congressman Brown led an effort to restructure and strengthen the National Science Foundation in the changing science and technology environment of those decades. He was an active participant in shaping the permanent science advisory mechanism in the Executive Office of the President, which was established in 1976 as the Office of Science and Technology Policy.

Brown also was a valued proponent of opportunities to use space for the benefit of mankind, a central goal of the 1958 National Space Act. His genuine enthusiasm for planetary exploration and the nation's children led him to inspire students to dream of their own futures as the next generation of planetary explorers. Through live broadcasts, astronaut visits, and space-related math and science education initiatives, he brought the excitement of space exploration directly to the classroom.

## Solar Physics Division

### Acton is Hale Prize Winner

*Ernie Hildner, Chair, Hale Prize Committee*

The Division announced that it will award the 2000 Hale Prize to **Loren W. Acton** of Montana State University. The prize citation



*Loren Acton of Montana State University wins the Hale Prize for his work in soft x-ray observations of the sun.*

reads "The 2000 Hale Prize is awarded to Loren W. Acton for his pioneering instrumental and analytical work in soft x-ray observations of the sun and for his unstinting and active support of research and researchers in solar physics in the US and abroad."

In announcing the award, the Hale Prize Committee noted that "Dr Acton had led and grown a group at what is now

Lockheed-Martin to build, fly, and analyze the data from some of the very best high-resolution instruments to observe the sun in short wavelengths. Acton went so

far as to be the Payload Specialist accompanying one of these instruments into space on the Shuttle's SpaceLab mission. The data from his group's instruments, and the interpretation of them, have substantially revamped the way solar physicists understand the sun's corona and transition region; particularly they have shown that there is more magnetically-constrained fine structure and the dynamics are more rapid and on smaller scales. He forged, for himself and his Lockheed group,

marvelously productive and smooth links with the entire satellite team for the Japanese Yohkoh mission, the spacecraft on which the Lockheed-built Soft X-ray Telescope (SXT) flies and continues to provide vital data. After Loren Acton "retired" from Lockheed, he moved to Montana, his home state, where he initiated and developed what has become a world-class solar research and teaching group at Montana State University, Bozeman, MT. Throughout his career, he has energetically promoted solar physics, organizing global observing/research campaigns at each of the last two solar maxima. These campaigns addressed problems too complex and with time scales inappropriate for one observatory's data. Dr. Acton's contributions to solar physics have been enormous in research, instrument development, advocacy, organization of the community, and initiating solar research where none existed before."

## High Energy Astrophysics Division

*Paul Hertz, Secretary*

### November 2000 Meeting in Honolulu

The fifth meeting of the AAS High Energy Astrophysics Division (HEAD) will be held at the Ilikai Marriott Renaissance Hotel on Waikiki Beach, Honolulu, Hawaii from

**6-10 November 2000**. The meeting will bring together the wide spectrum of topics embraced by our field including far-ultraviolet astronomy, X-ray and gamma-ray astronomy, cosmic rays - including neutrinos and magnetic monopoles, high-energy processes in cosmic objects, and gravitational wave astronomy. The scientific program is being organized by the HEAD Executive Committee chaired by HEAD Chair Alice Harding ([harding@twinkie.gsfc.nasa.gov](mailto:harding@twinkie.gsfc.nasa.gov)). The deadline for abstract submission is **8 August 2000**. The deadline for early registration fees and conference room rates at the Ilikai is **5 October 2000**. Meeting details can be found online at <http://www.eurekasci.com/>. You may register for future meeting announcements by sending a request to [head2k@netcom.com](mailto:head2k@netcom.com).

### Rossi Prize to Meszaros, Paczynski and Rees

During the HEAD business meeting at the Atlanta AAS meeting, outgoing HEAD Chair Gordon Garmire announced that the 2000 Rossi Prize has been awarded jointly to **Peter Meszaros** (Penn State), **Bohdan Paczynski** (Princeton), and **Martin Rees** (Institute of Astronomy) for the development of theoretical models of Gamma Ray Bursters and their afterglows. The 2000 Rossi Prize Lecture will be delivered by the winners in January 2001 in San Diego at the AAS winter meeting.

### David Schramm Award Nominations Sought

The David N. Schramm Award for High Energy Astrophysics Science Journalism was created to improve the public's appreciation of this exciting field of research. The first award will be presented at the HEAD November 2000 meeting and every eighteen months thereafter. Entries for the first award must have been published between 1 January 1999 and 30 June 2000. The deadline for receipt of nominations for the first award is **1 August 2000**. Complete rules and submission forms may be found online at <http://www.aas.org/head/awards.html>. Questions should be addressed to the HEAD Press Officer, Lynn Cominsky, [lynnc@charmian.sonoma.edu](mailto:lynnc@charmian.sonoma.edu).



**ANNOUNCEMENTS***Continued from page 9***International Astrophysics Network**

Ralf I. Kaiser, Institute of Atomic and Molecular Science  
 kaiser@po.iams.sinica.edu.tw

For the last five years our group at University of California, Berkeley and the Institute of Atomic and Molecular Sciences (IAMS) in Taiwan have been studying molecules that might be precursors to amino acids in extraterrestrial environments. These studies simulate chemical reactions in planetary atmospheres and the interstellar space and the formation of organic, complex molecules as precursors of amino acids, polycyclic aromatic hydrocarbons, etc. These experiments were complimented by theoretical studies (mostly groups in the US); actual astronomical observations of distinct molecules will be performed in the future. We have set up an international astrophysics network — the first well-organized network of this kind. See <http://po.iams.sinica.edu.tw/~kaiser> for the goals and prime directives of this interstellar chemistry project.

**Committee for ALMA**

The Atacama Large Millimeter Array (ALMA) project has formed a new committee to provide scientific advice to the project and outreach to the wider community. We hold monthly telecons and hold other meetings at regular intervals. The minutes of the telecons and reports from the meetings are placed on the following web

<http://www.alma.nrao.edu/committees/ASAC/index.html>.

A list of the committee members can also be found on this web site. Comments or questions can be addressed directly to the individual committee members or to the committee by email via the website. In addition, we are all willing to give colloquia or other presentations on the ALMA project.

**NRAO mm-Wave Telescope To Close 1 July**

The National Radio Astronomy Observatory (NRAO) will close down its millimeter-wavelength telescope on Kitt Peak, Arizona, on 1 July 2000.

The NRAO is currently participating in an international partnership to develop the Atacama Large Millimeter Array (ALMA), an array of 64 antennas to observe at millimeter wavelengths from a 16,500-foot-high location in northern Chile.

About the closing, Paul Vanden Bout, Director of the NRAO said, "We understood that ALMA eventually would replace the 12 Meter Telescope, but we had hoped to continue operating the 12 Meter until ALMA began interim operations, probably sometime in 2005. That is not possible, and we are forced to close the 12 Meter this year. ...the NRAO will consult with the operators of other millimeter wavelength telescopes in an attempt to ensure that astronomers whose research depends upon such observations can obtain observing time elsewhere. We want to mitigate the effect of this closure upon the scientific community as much as possible."

**New NRC Study: From Quarks to the Cosmos**

The National Research Council (NRC) Committee on the Physics of the Universe has begun a two-year study entitled "From Quarks to the Cosmos." It will focus on science at the intersection of astronomy and physics. The first phase, which is scheduled for completion by September 2000, will focus on key science questions and opportunities for breakthroughs. The

second phase will set priorities for implementation and recommend mechanisms for coordination and cooperation between the NSF, NASA, and DOE.

Community input is an essential part of NRC science assessments. The Committee made presentations at the Long Beach American Physical Society meeting in April and will again at the June business meeting of the AAS in Rochester, NY. Email input is also possible ([q2c@nas.edu](mailto:q2c@nas.edu)). Thoughts and suggestions about the key science questions and opportunities are especially encouraged. During the second phase, which begins in January 2001, there will be a series of open meetings for community input and email input will also be welcome.

**Charge to the Committee**

The Committee on Physics of the Universe will carry out an assessment of an area of science at the intersection of physics and astronomy. The study will provide a broad vision that goes beyond traditional categories of space missions, laboratory studies, telescope observations, and accelerator experiments. It will focus on opportunities for breakthroughs in understanding the birth, evolution and destiny of the Universe, the laws that govern it, and even the nature of space and time. The assessment will encompass astrophysical and cosmological phenomena that give insight into fundamental physics and fundamental physics that is relevant to understanding the universe and the diversity of objects within it. It will address opportunities to explore new science through (1) new techniques for observing phenomena in extreme environments and new regimes, (2) new applications of fundamental physics to modeling and simulating the origin, evolution, and fate of the universe, and (3) understanding fundamental physics by using space and the cosmos as a laboratory full of experiments that could never be implemented on the Earth.

The website for the NRC Committee on the Physics of the Universe is <http://nationalacademies.org/bpa/projects/cpu>. The "Quarks to the Cosmos" study will complement other recent NRC science assessments (*e.g.*, Decadal Astronomy Survey; Nuclear, Gravitational, and Elementary Particle Physics Reports).

**Call for NRAO 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	2000 Oct 1	2001 Feb–2001 May	B config/max baseline 11 km
VLBA	2000 Oct 1	2001 Feb–2001 May	

There is no call for proposals to the 12 Meter Telescope, as it is to be closed at the end of the current observing season, July 2000. The NRAO 140 Foot Telescope was closed in 1999. It is expected that the new Green Bank Telescope will be operational late this year or early 2001; a call for proposals will be made at a later date.

The NRAO and the European VLBI Network jointly handle proposals for observing time on the Global VLBI Network. The deadline is **1 Oct 2000** for the sessions in Feb 2001 and May/June.

Further information on NRAO instruments and proposal submission routes is available from the NRAO home page at <http://www.nrao.edu>.

## GENERAL

### NASA Institute for Advanced Concepts

Bob Cassanova, bob.cassanova@peaches.niac.usra.edu

The Universities Space Research Association (USRA) was contracted by NASA to establish the NASA Institute for Advanced Concepts (NIAC) for the purpose of soliciting from outside thinkers and researchers revolutionary aeronautical and space concepts to impact how NASA develops and conducts its mission. NIAC seeks advanced concepts for systems and architectures that can have a major impact on missions of the NASA Enterprises in the time frame of 10–40 years in the future.

The NIAC is not seeking extensions/evolutions of present NASA programs, revisions of previous programs or development of supporting technology. The NIAC is seeking concepts which leap-frog current approaches to major issues challenging the fields of aeronautics and space.

Research grants or subcontracts will be carried out in a two phase approach:

- Phase I awards of approximately \$50,000–\$75,000 are issued for six months to validate the viability of the proposed concept and definition of major feasibility issues. The last round of Phase I proposals were due 31 January 2000.
- Phase II awards of \$350,000–\$500,000 will be made for a period of 18–24 months to study the major feasibility issues of cost, performance, development time and key technology issues. Phase II contracts are competitively selected from previously awarded Phase I grants. The next batch of Phase II contracts will be awarded in the fall 2000.

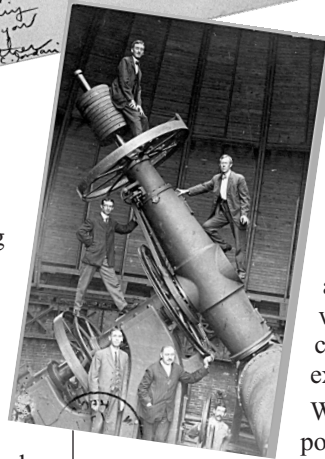
The next full funding cycle (Phase I, followed by a down-select for Phase II) will begin the next Phase I Call for Proposals planned for early fall 2000 with a tentative due date of February, 2001.

The NIAC website contains abstracts of all funded grants, final reports of completed Phase I grants, and the Phase I Call for Proposals, document CP 99-03 which explains in detail what NIAC seeks.

Both Phase I and Phase II awards will be competitively selected by the NIAC based on an independent peer review. To learn more, or if you have an idea for an advanced concept and want to get on our mailing list for the next Call for Proposals, please visit our web site at <http://www.niac.usra.edu>.

### Astronomical Postcards from the Past

David DeVorkin, Smithsonian Institution,  
David.DeVorkin@nasm.si.edu

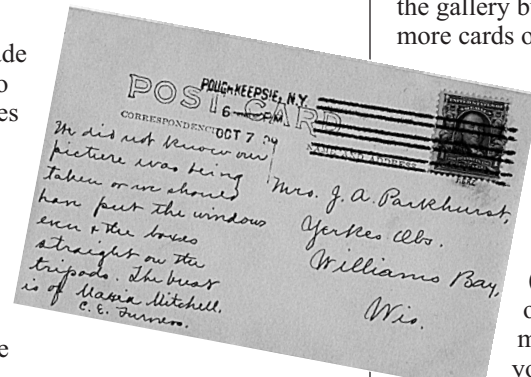


Many years ago (ca. 1900–1910), J. A. Parkhurst of the Yerkes Observatory asked astronomers to send him postcards from observatories with a bit of what they are doing in their message. He collected some 50 postcards into a scrapbook, which was stored in the Yerkes attic, until I rescued it in 1966 during an OSHA “spring cleaning.” The scrapbook provides a glimpse of another astronomy, what I call, “postcards from the edge of the Universe.” I want to revive the Parkhurst tradition, displaying some modern cards at the National Air and Space Museum, and preserving them in our archives. I need your help.

I would like to receive postcards depicting the observatory you are presently observing at, or working in, with a very simple message (like to an eight year old) about why you are at the telescope (or computer, or desk, or particle accelerator), what you hope to learn, etc, and whether the observing has been cloudy or clear, or if you have had a memorable experience.

We will get copyright permission from the postcard manufacturer and will assume that, by sending it, you give your permission to archive the card or its scanned image and to display it in our gallery, or on our website. We will mount a very few of them in the gallery but will change the display regularly and post many more cards on our web site and at a terminal in the gallery. If you wish postcards returned, we can scan both sides – so write legibly!

We much prefer postcards with messages on them for the exhibit, but would like to see all forms of cards, used and unused, that you may have, mainly to preserve the images. We are interested in three categories of postcards: (1) commercial postcards you actually write while observing, or visiting; (2) commercial postcards you may have in your collection, written to you or that you may simply have preserved; and (3) homemade



postcards that were used as season's greetings, or some similar form of informal communication. We want our visitors to come away with impressions of the wide array of venues in which astronomy is done today.

Won't you help? Please send cards to: David DeVorkin, National Air and Space Museum 3526, Smithsonian Institution MRC 311, Washington DC 20560.



## INTERNATIONAL NEWS

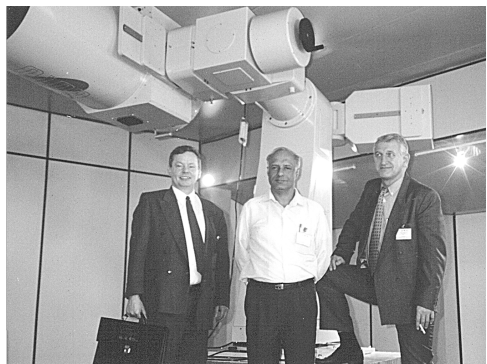
### Basic Space Science Research and Education in Developing Nations

Hans J. Haubold, United Nations Office for Outer Space Affairs, haubold@kph.tuwien.ac.at

Of the 188 countries that are Member States of the United Nations, "nearly 100 have professional or amateur astronomical organizations. Only about 60 of these countries, however, are sufficiently involved in astronomy to belong to the International Astronomical Union. Only about 20 countries, representing 15% of the world's population, have access to the full range of astronomical facilities and information. This does not include most of the Eastern European, Baltic, and former countries of the Soviet Union, whose fragile economies keep them from achieving their full potential, despite the excellence of their astronomical heritage and education." (John R. Percy, IAU, Mercury, Vol. 24, 1995, No. 2, p.15)

Annually since 1990, the United Nations (UN), in cooperation with the European Space Agency (ESA), has held Workshops on Basic Space Science for the benefit of the worldwide development of astronomy. These workshops have been held in India (1991), Costa Rica (1992), Colombia (1992), Nigeria (1993), Egypt (1994), Sri Lanka (1995), Honduras (1997), Jordan (1999), and in Europe (1996 and 2000). The Workshops on Basic Space Science are organized and hosted by local Governments and scientific communities which agree beforehand on the need to introduce or further develop basic space science at the university level and to establish adequate facilities for pursuing such a field of science.

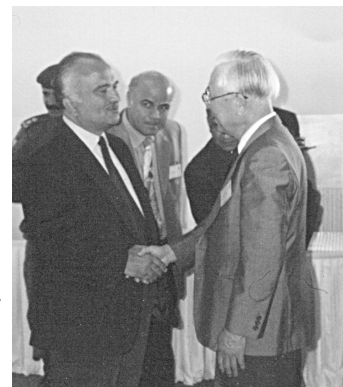
The establishment of astronomical telescope facilities has been an important goal and outcome from the workshops; Colombia, Egypt, Honduras, Jordan, Morocco, Paraguay, Peru, Philippines, Sri Lanka, and Uruguay have all benefitted. A number of governments, among them Honduras and Jordan, in cooperation with international partners, have established Meade 16" Schmidt-Cassegrain telescopes. In conjunction with the workshops, the Government of Japan has donated to a number of countries 45cm high-grade astronomical telescopes with photoelectric photometer, computer equipment, and spectrograph (or CCD). Sponsored by the Japan International



(Fr. left) Hans Haubold (UN), Rajesh Kochhar (India) and Willem Wamsteker (ESA) in front of the 45cm Goto Telescope at the Arthur C. Clarke Institute, Sri Lanka, 1995.

Cooperation Agency [JICA], observatory staff members were invited to the Bisei Astronomical Observatory for training. In conjunction with receiving these new telescopes, the UN/ESA Workshops identify research and educational materials to be used by astronomy teachers. It was determined that variable star observing by photoelectric or CCD photometry is a good prelude to even more advanced astronomical activity and the American Association of Variable Star Observers (AAVSO) has generously made available their excellent teaching package entitled "Hands-On Astrophysics." The package includes 45 star charts, 31 slides of

five constellations, 14 prints of the Cygnus star field at seven different times; 600,000 measurements of several dozen stars; user-friendly computer program to analyze them; an instructional video on how to enter new observations into the database; and a comprehensive manual for teachers and students. By using the astronomy, mathematics, and computer elements of the AAVSO material, an immediate link between the telescopes and the teaching of astronomy or astrophysics at the university level can be established.



(Fr. left) His Royal Highness Prince Hassan (Jordan), Hamid Al-Naimiy (Jordan) and Masatoshi Kitamura (Japan) at the UN/ESA Workshop on Basic Science, Al al-Bayt University, Jordan, 1999.

Local scientific communities have expressed the desire also to use educational materials available locally and in their local languages. The Workshops have recommended that a goal should be that astronomy educational materials can be used in universities of different nations while preserving the specific cultural environment in which astronomy is being taught and telescopes used. A first promising step in this direction was made with the project "Astrophysics for University Physics Courses," which was featured at the IAU/COSPAR/UN Special Workshop on Education in Astronomy and Basic Space Science, held during the UNISPACE III Conference at the United Nations Office, Vienna, in 1999. A number of astronomy text books and CD-ROMs are now available that astronomers from developing nations agree are particularly useful. These issues are discussed in Newsletters distributed by the UN/ESA and published (see note below) for particular regions of the developing world such as for Africa in *African Skies/Cieux Africains*, Asia and the Pacific in *Teaching of Astronomy in the Asian-Pacific Region*, and for Latin America and the Caribbean in *Astronomia Latino Americana*. Several Arab countries are working with our office to produce a similar newsletter for Western Asia.

The next UN/ESA Workshop on Basic Space Science will discuss the benefits of basic space science to society, particularly in developing nations, over the last ten years and the usefulness of networks of astronomical telescopes for common research and education programs. The Ninth Workshop, hosted by the Centre National d'Etudes Spatiales (CNES) at the Observatoire Midi-Pyrenees (Universite Paul Sabatier), on behalf of the Government of France, will be held 27-30 June 2000, in Toulouse and is entitled "Satellites and Telescopic Networks — Tools for Global Participation in the Studies of the Universe." The feasibility of establishing a World Space Observatory, discussed since the workshop in 1995, and the participation of developing nations in such an effort, will be on the agenda. The next workshop in 2001 is tentatively scheduled to be held in Mauritius for the benefit of Africa.

*Author's note: I am grateful for the collaboration with H. M. K. Al-Naimiy (Jordan), C. P. Celebre (Philippines), K. Chamcham (Morocco), H. S. P. de Alwis (Sri Lanka), M. C. P. de Carias (Honduras), and A. E. Troche Boggino (Paraguay) in the writing of this article. Invaluable support for the organization of the workshops and their follow-up projects are being provided by W. Wamsteker (ESA), M. Kitamura and T. Kogure (Japan), and J. Mattei and D. G. Wentzel (USA). For further details about this program, see the UN/ESA Workshop home page <http://www.seas.columbia.edu/~ah297/unesa>.*

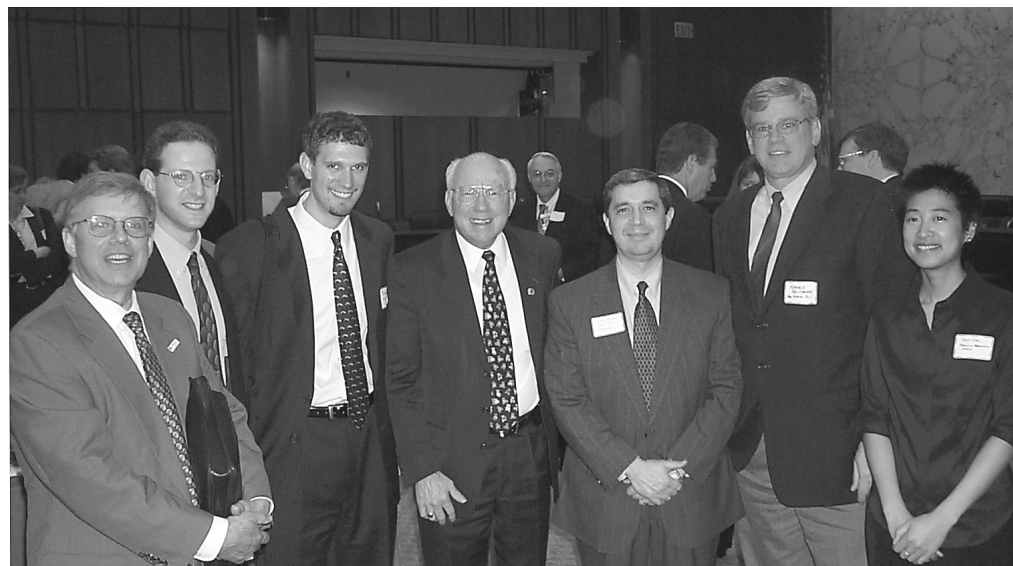
**ANNOUNCEMENTS***Continued from page 19***BIMA Observing Proposals**

The Berkeley-Illinois-Maryland Association invites visitor proposals for use of its 10-element millimeter-wave array at Hat Creek. The deadline for proposals is 25 July 2000. Further information regarding this Call for Proposals may be found at [http://www.astro.uiuc.edu/~bima/call\\_for\\_proposals.html](http://www.astro.uiuc.edu/~bima/call_for_proposals.html). General information about the BIMA array may also be found on the BIMA home page. Those interested in receiving email announcements about proposal deadlines and scheduling of the array may send email to [bimasched@astro.uiuc.edu](mailto:bimasched@astro.uiuc.edu) requesting that their names be added to the "bimaext" email exploder.

**Best K-12 Hands-On Astronomy Activities**

An annotated catalog of 140 of the best hands-on astronomy (and space science) activities on the Web is now available on the Astronomical Society of the Pacific website at <http://www.aspsky.org/education/astroacts.html>. Organized by topic in astronomy (from moon phases to cosmology), the catalog reviews each activity briefly, explaining what is involved and what grade range it is most appropriate for. Activities included come from NASA, science education reform projects, educational organizations, and individual astronomers. There is also a listing of 12 space-science activity books that can be downloaded from the Web in their entirety. The activities selected for listing are those that are most effective in giving students in grades K–12 a good inquiry-based experience in learning.

This catalog is part of a new compilation of astronomy education resources and activities called "More Universe at Your Fingertips," being published by the ASP's Project ASTRO this spring. Project ASTRO is a national program that establishes ongoing partnerships between professional or amateur astronomers and 4th–9th grade in their communities. It is currently operating in ten regional sites around the country.



Rep. Vernon Ehlers (R-MI) (center) with members of the AAS CVD team (l. to r.) Paul Vanden Bout, David Wilner, David Brauher, Jack Burns, Harold Reitsema and Sally Oey. Ehlers said that he and Rep. Rush Holt (D-NJ) were thinking of founding the House Physics Caucus once a third physicist joined the Hse. of Rep. (they are recruiting!). Our participants wondered "Would an astronomer be acceptable?"

**AAS Congressional Visits Day***Photos by Kevin Marvel.*

On April 4 and 5, members of the Committee on Astronomy and Public Policy (CAPP) and four early-career astronomers participated in the 5th annual Congressional Visits Day (CVD).

The coalition that organizes Congressional Visits Day represents nearly 1.5 million scientists from across the country and the group was able to visit approximately 65% of

all Congressional offices. The two-day event begins with a day



Sally Oey, David Wilner and Paul Vanden Bout discuss plans for their day of meeting Congress members at a CVD reception in the Senate Office Building.

member **Jack Burns**. They were accompanied by **Jim Brauher**



Harold Reitsema and David Brauher after their successful meeting with the science staffer for Sen. Connie Mack (R-FL). They conveyed that NASA missions not only provide exciting science but also increase launches from Cape Kennedy, a major employer for Florida's 15th Cong. District. They repeated the message to other Florida delegation members Rep. Dave Weldon (R) and Sen. Bob Graham (D).

of briefings from members of the executive branch, followed by a full day of visits with members of Congress and their staff.

This year, the astronomy participants included CAPP members **Joseph Alexander**, **Harold Reitsema**, **Paul Vanden Bout** and new CAPP

member **Jack Burns**. They were accompanied by **Jim Brauher** of IPAC, **Sally Oey** from STSCI, and **David Wilner** from the Harvard-Smithsonian CfA. The AAS had 21 office visits, nearly evenly split between the House and the Senate. These included face-to-face visits with Representative **Kenny Hulshof** (R-MO) and Senator **Daniel Akaka** (D-HI). The AAS will continue to participate in this event each year.

In addition to visits and briefings, the coalition also gave its George E. Brown, Jr. Public Service Award to Senator **Jay Rockefeller** (D-WV) and Senator **Bill Frist** (R-TN).

**Marta Brown**, George Brown's widow, was in attendance to help present the awards. After the award ceremony the AAS contingent was able to chat briefly with Rep.

**Vernon Ehlers** (R-MI).

*Photo by Robert Visser*



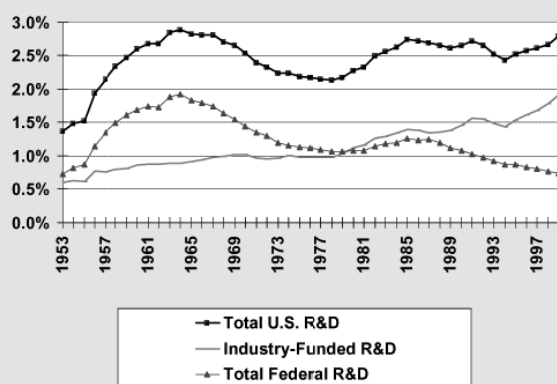
**PRESIDENT'S COLUMN***Continued from page 1*

These activities have contributed to the favorable science budget request from President Clinton for FY 2001. Astronomy would fare well generally, but not on all fronts. If we fall silent now, we would send the message that we are satisfied with things as they are and that we no longer want to be "players" in the process.

A dangerous trend away from government support of basic research needs to be addressed (see figure below). As a percentage of GNP, research and development (R&D) funding is slowly returning to the peak level of the early 1960s, but now the increase is attributable only to narrow corporate objectives.

**U.S. R&D as Percent of Gross Domestic Product**

Total, Industrial, and Federal R&amp;D - 1953-1999



Source: AAAS, based on NSF, *National Patterns of R&D Resources, 1999 Data Update*. 1998 and 1999 data are preliminary. R&D funded by other sources (universities, nonprofits, etc.) included in Total U.S. R&D. Includes defense and nondefense R&D. NOV. '99 © 1999 AAAS



Government funding for basic research — the kind of research that leads to fundamental discoveries that advance all science — is at an all time low, and falling. The scientific excellence and technical prowess of the United States will decline if we do not voice our concerns.

The President's budget was submitted to Congress on February 7. Large increases were proposed for NSF and NASA; other agencies that fund astronomy research, such as the Department of Energy and the Department of Defense, also fared well. NASA's Office of Space Science would receive an overall increase of about 9.4% for FY 2001 (see <http://ifmp.nasa.gov/codeb> for detailed budget information). NSF Astronomy would get a significant increase in funding in the FY 2001 budget: the Astronomy Research and Instrumentation program, which directly funds research grants, would increase 37.3%; however, the Facilities Program (National Observatories) would remain flat in FY 2001. This is a matter of great concern to us all, and you may wish to address it in your letters to Congress.

The appropriations process is in full swing and will likely continue into the early fall. However, this year we expect the debate to be very limited, as Members of Congress will want to return to campaigning in this election year. This should favor the President's proposal, but AAS members must be prepared to

**WASHINGTON NEWS***Continued from page 24*

a standard piece of text, which is simple to include in each letter. Remember, having an impact means being noticed. For better or worse, gaining the attention of Congress will continue to be a counting game. By making it easy to respond and then responding regularly, you can help ensure our community has an active voice on Capitol Hill.



respond quickly to any negative — or positive — congressional proposals. The AAS Action Alerts will keep you up-to-date on the budget process, tell you whom to contact and provide you with sample letters that should be modified to meet your own particular concerns and opinions.

*AAS members can do several things during this process to ensure that our interests are being addressed by Congress:*

- Thank Members of Congress for their early efforts in support of R&D funding — in particular, **Vernon Ehlers** (R-MI), **Rush Holt** (D-NJ), **James Rogan** (R-CA), **Dave Weldon** (R-FL), **David Dreier** (R-CA) and **Nick Smith** (R-MI) went out of their way to support the favorable House budget resolution. (The addresses of all House members who helped support R&D in the resolution are listed in Action Alert 2000-2 already sent out and available online.)

- Contact individual members of Congress. The importance of your letters cannot be overestimated.

Staffers tell us that as few as five letters a week on a single topic will occasion an agenda item at the Congress-person's weekly coordination meeting. Imagine what could happen if an office got 30, 50 or 100 letters a week on a single topic? Arrange a visit with them when they are in the home district.

- Thank NSF Director **Rita Colwell** and the Head of the NSF Mathematics and Physical Sciences Directorate, **Robert Eisenstein** as well as **Hugh Van Horn**, head of the Astronomical Sciences Division (AST) for the increased funding levels for the AST program. Pledge to work on behalf of NSF for future funding increases.

- Stay informed. There are several resources available on the AAS

Public Policy web page that will keep you informed as to what is happening and how to participate effectively. A PDF file of a Public Policy Brief outlining much of the detail of the budget and the appropriations process is available online at the AAS Public Policy web page,

<http://www.aas.org/policy/FY2001Budget.html>.

**... as few as  
five letters a week on a  
single topic will occasion an  
agenda item at the weekly  
staff meeting of the  
Congress member.**





## ANNUAL AWARDS ISSUE



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## WASHINGTON NEWS

Kevin Marvel, Associate Executive Officer for Policy Programs



### Make It Easy

Usually once a month, sometimes twice a month or even more often in the early fall, US AAS members will receive an AAS Action Alert. These Action Alerts typically provide a short summary of the subject at hand, some background information and then advocate particular action AAS members can take to have

some impact. To have an impact on Congress, letters are particularly important. Even trained scientists and technologists have difficulty with email; Congress handles this 'new' technology with even less grace.

However, all Congressional offices can handle hardcopy. This includes FAXes as well as normal letters. Each office has a slightly different procedure, but as mail arrives throughout the day one or two office staff open and sort the mail by topic. They then place the mail directly into the hands of the staffer responsible for particular issues. These staffers then tally up the opinions expressed in the letters and formulate a response. If other letters on the same topic are received, they go into folders. As the folder gets thicker, it moves to the top of the stack.

Responses usually go out the same week the mail is received. For particularly "hot" topics, form letters are often employed explaining the position of the member and outlining their action on the issue. As the tallies grow for particular topics, staffers pay more attention to the issue. Sometimes the volume of mail will instigate some political or legislative action on the part of

the member. This action is formulated in discussions with the member's staff. It can take as few as five letters to bring an issue to the table at the weekly office meeting. This is why letter writing is preferred and why the AAS Action Alerts so often recommend sending hardcopy letters.

However, the sheer number of requests to AAS members to write letters can be overwhelming. The Committee on Astronomy and Public Policy understands this. We are all busy people and one more time sink is the last thing active scientists need. We continue to try to make the process of taking action easy.

The Alerts themselves are structured to make it clear what the situation is and exactly what is being requested. We now include a sample letter you can 'cut & paste' into a word processing program and send to your members of Congress or particular members mentioned in the Alert (their addresses appear at the bottom of the Alert). We continue to enjoy a direct link to "Zip-To-It," an online advocacy tool that allows AAS members to determine their Senators' and Representative's addresses by simply entering their home zip codes. This service can be accessed on the AAS Policy web page (<http://www.aas.org/policy>).

Members can also make it easy on themselves. Create a page of mailing labels for your Senators and Representative. Create template letters that already include all address and structural information. Then you can simply paste in the sample letter, edit it appropriately and click print. *Having templates and mailing labels at the ready greatly reduces the amount of time necessary to take action.* You can (and should) always edit the letter to include some personal information. This could also be