Newsletter 101 ✦ August 2000

NEWSLETTER

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

Preliminary Slate for AAS Elections

Last Call for Nominations

The following have been nominated for office; most of the terms begin June 2001. Additional nominees are welcome.

President:	**James E. Hesser** **Catherine A. Pilachowski**
Vice-President:	**Joseph A. Burns** **Suzan Edwards**
Secretary:	**Arlo U. Landolt**
Councilor:	**Thomas R. Ayres** **Dana E. Backman** **Sun Kwok** **Susana Lizano** **Adrian L. Melott** **Robert Rosner**
IAU Category I:	**Ronald J. Allen** **You-Hua Chu**
Nominating Committee:	**Douglas K. Duncan** **R. Kent Honeycutt** **C. Megan Urry** **Hugh Van Horn**

Additional nominations for Officer or Councilor may be submitted by mail and must be accompanied by a written statement from the nominee indicating a willingness to serve and by the signatures of at least 30 voting members of the Society. Additional nominations for the Nominating Committee must be proposed by at least 5 (Full) Members of the Society and must also be accompanied by the nominee's written statement indicating a willingness to serve.

All nominations and supporting materials must be received in the Office of the Secretary by Friday, **15 September 2000**. Send nominations to: Arlo U. Landolt, Louisiana State University, Department of Physics and Astronomy, Baton Rouge, LA 70803-4001. The final slate will be announced in the October *Newsletter* and the ballot will be mailed with the December *Newsletter*.

HIGHLIGHTS

PRESIDENT'S COLUMN

Anneila Sargent, President, afs@astro.caltech.edu

I expect that many incoming Presidents of the American Astronomical Society have felt the way I do now — honored to have been elected, excited by the challenges ahead, and concerned to do the best job possible as a representative for astronomy and astronomers in the United States. For me, there is an added thrill in taking office at the beginning of the Millennium, and wondering just how astronomy will fare as the century unfolds. How many of the hoped-for projects will come to fruition? How many of the current cosmic puzzles will be solved? What new problems will emerge? And what can we as individuals and as a Society do to ensure that programs are funded and that the right tools are available to address the important questions?

We must continue to keep the public, the Congress, and the funding agencies aware of the exciting discoveries in our science. Each of us can make an impact here, in ways that range from merely chatting with a fellow airplane passenger to visiting members of Congress. As to our plans for the future, this year we can point to the NRC's new Survey of Astronomy & Astrophysics, "Astronomy and Astrophysics in the New Millennium." Here we have a carefully-reasoned listing of our goals for the first decade of the new century. Survey Committee co-chairs, Chris McKee and Joe Taylor, summarized the recommendations at the Rochester AAS meeting and the Draft Report can be seen at http://www.nap.edu/books/0309070317/html.

The plan laid out in the McKee-Taylor Report is ambitious and technologically demanding, but the anticipated scientific returns should cause dramatic changes to our view of the cosmos and our place within it. Most importantly, the Report shows astronomers stepping up to the challenge of limited funding and prioritizing their recommendations. Past experience with decadal surveys shows that we are much more likely to gain support with such an all-encompassing plan than by lobbying for individual projects. In fact, the decadal survey commands considerable respect on Capitol Hill. Our field is unique in the production of such a survey and we can rightly be proud of what it represents. But if we are to reap the benefits that community consensus generates in Washington, we cannot allow the Report to languish on the shelves of Congressional staff. When you write or visit Congressional offices, be sure to mention the Report and even cite particular sections. This will help to ensure that its utility is recognized by those on the Hill.

It is likely that by the time you read this column, the Congress will have passed the appropriations bills for FY 2001. The House version of the VA-HUD-IA appropriations bill is quite favorable to astronomy. NASA's Office of Space Science would receive nearly the full amount requested by the President,

Continued on page 2

PRESIDENT'S COLUMN
Continued from page 1

less the new startup funds for the Living with a Star (LWS) initiative. Most probably the Senate will fund the LWS initiative at some level. We can thank the active participation of our members, support from the White House, strong interest on the part of several members of Congress and election-year politics for the favorable funding situation. NSF astronomy will probably fare quite well in FY2001, although full details are not yet available. The President's request for the agency is the largest percentage increase since the agency was founded. The House reduced the overall level by targeting new initiatives. The Senate is likely to fund the agency at a level higher than the House, but the exact level will be influenced by input from the astronomical community.

Over the next two years, the McKee-Taylor Report will certainly ease my job of promoting astronomy and astrophysics. By the end of my term as President, I expect that my own copy of the report will be tattered from much use. Make sure you take a copy along on a visit your representative over the summer — when members of Congress return to their home districts.

Member Deaths Noted

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

James Cuffy
Edward R. Dyer
Samuel J. Goldstein
Jean Heidmann
Frederick H. Hollander
Jerome Korman
James Wai-Kee Mark
Harrision S. Mendenhall
K. Narahari Rao
Jeffrey Willick

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

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

Items of general interest to be considered for publication in the *AAS Newsletter* should be sent to lscholz@aas.org. Appropriate pictures are welcomed. The remaining 2000 deadlines are: **25 August** (for October); and **13 October** (for December). 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.

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 October 2000 issue, letters must be received by Jeff Linsky, Associate Editor, Letters, by **18 August 2000**. You may contact Jeff Linsky by email jlinsky@jila.colorado.edu, Tel: 303-492-7838, or FAX: 303-492-5235. The Associate Editor may edit letters, but will consult with authors before doing so. Letters will be published at the discretion of the Editors.

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

HONORED ELSEWHERE

Presidential Early Career Grants

AAS Member **Brenda L. Dingus** of the University of Wisconsin was among those scientists honored in April with a Presidential Early Career Awards for Scientists and Engineers (PECASE) for her research entitled "Gamma-Ray Astrophysics from the Ground and Space." She was nominated by the NSF and is studying the highest energy emission from gamma-ray bursts, as well as other transients, using large field of view gamma-ray detectors.

Topical Session Proposals Due 15 November

Proposals for Topical Sessions for the June 2001 AAS Meeting in Pasadena, CA are due in the Executive Office by 15 November 2000. Proposals should be sent to diana@aas.org. Please read Topical Session guidelines at http://www.aas.org/meetings/topguide.html.

Small Research Grant Deadline

The Deadline for proposals to the AAS Small Research Grant (SMRG) Program is **1 December 2000**. This program is intended to provide funds for small research projects, travel for observing, educational or public outreach efforts and small hardware expenses that enable research and are related to NASA science themes. Proposals are accepted for amounts ranging from $500 to $7,000 dollars. Details on submission guidelines can be found at http://www.aas.org/grants/smrg.html.

Corrections to June 2000 AAS Newsletter

A typo in the June *Newsletter* (pg. 6) reported that, in 1995 Dr. D. Harold McNamara, winner of the 2000 Van Biesbroeck Prize, joined the faculty of Brigham Young University. He actually joined in 1955.

In the article on Congressional Visits Day (June *Newsletter*, pg. 22), the captions in pictures one and three should have identified Jim Brauher, of IPAC, instead of David Brauher.

Manuscript Submissions using AASTeX

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

AASTeX Homepage:

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

User Support:

aastex-help@aas.org

Journal Homepages/Manuscript Submission:

AJ: http://www.journals.uchicago.edu/AJ/

ApJ: http://www.journals.uchicago.edu/ApJ/

ApJL: http://cfa-www.harvard.edu/apjl/

COUNCIL ACTIONS

The following are among the most noteworthy actions taken by the Council on 4 June 2000 at its 196th Meeting in Rochester, New York.

- Adopted the Bylaws revisions as published in the AAS *Newsletter*, March 2000, Number 99;
- Selected Keller Bruner & Company to be the American Astronomical Society's Auditor for fiscal year 2000;
- Approved the AAS Audit Report for 1999;
- Approved the 2001 Budget for the AAS;
- Authorized the Division of Planetary Science (DPS) to open a temporary bank account in a Colorado bank near the current DPS Chair of the Local Organizing Committee for their meeting in 2001;
- Accepted the AAS 2000 election results which were: Robert E. Williams, Vice-President; R. Bruce Partridge, Education Officer; Charles J. Lada, Dimitri M. Mihalas, and Ellen G. Zweibel, Councilors;
- Accepted the election of new members to the 2000 Nominating Committee who were: Blair D. Savage and Donna Weistrop;
- Appointed the following to the Executive Committee for the interval between the annual business meetings, June, 2000 to June, 2001, as described in Bylaws, Article VI. 2: A. I. Sargent, R. D. Gehrz, R. C. Kennicutt, Jr., J. C. Wheeler, L. V. Kuhi, A. U. Landolt, and R. W. Milkey;
- Authorized a budget of $6,360 to cover costs for an Astronomy Education Board (AEB) autumn 2000 retreat;
- Approved the sum of $11,850 to support an autumn 2000 Astronomy Department and Program Chairs meeting;
- Approved the annual reports under the purview of the Education Officer, the annual reports from the AAS journals, the standing committees, and the divisions;
- Approved the Division of Dynamical Astronomy's Bylaws revision, concerning voting procedures;
- Delegated to the Executive Committee authority to approve guidelines for the new AAS Education Prize;
- Approved appointments to the Employment Committee, the Investment Advisory Committee, the Committee on Light Pollution and Space Debris, and the Committee on the Status of Women in Astronomy;
- Elected M. F. A'Hearn to a four year term on the Publications Board for the period 2001–2004;
- Voted to appoint E. Herbst, J. P. Huchra, J. T. Mariska, F. Melia, and E. T. Vishniac to three year terms (2001-2003) and F. W. Stecher to a one year renewal term, ending 31 December 2001 as Scientific Editors of the *Astrophysical Journal*;
- Directed the Astronomy Education Board (AEB) to form an ad hoc subcommittee to recommend the reorganization of the AAS Education Program. The AEB is to nominate the committee members, with final approval of the slate to be given by the Executive Committee;
- Voted to fill vacancies on the Astronomy Education Board (AEB); and
- Extended the appointment of R. W. Milkey as Executive Officer through 31 December 2004.

2000 AAS Small Research Grants

The following were awarded Small Research Grants (listed by grantee, affiliation and title of research).

- Philip Noel Appleton, Iowa State University, Request for Travel, Accommodation and Publication Expenses for the Northern COLA Project;
- Douglas N. Arion, Carthage College, Spectrograph for High-Resolution Radial Velocity Measurements;
- Timothy Barker, Wheaton College, Department of Astronomy, Spectroscopic Confirmation of Supernovae in the Virgo Cluster;
- James H. Beall, St. John's College, PC Workstation;
- Tony J. Beasley, NRAO, VLBI Measurements of the Parallax and Proper Motion of the Magellanic Clouds;
- Scott C. Chapman, The Observatories of the Carnegie Inst. of Washington, The Counterparts to Sub-mm Luminous Sources;
- Hsiao-Wen Chen, Carnegie Observatories, A Survey of Damped Lyman Alpha Absorbing Galaxies at z<1.6;
- Rhodri Evans, Yerkes Observatory, Research and Education on Light Pollution;
- Thomas E. Harrison, New Mexico State University, The Infrared Ellipsoidal Variations of Soft X-Ray Transients;
- David H. Hough, Trinity U., Active Galaxy Unification: Space VLBI and Phase-referenced VLBA Imaging of Lobe-dominated Quasars;
- Mark W. Jacobs, NMU, Physics Department, Completion of a Small College Observatory;
- Michael D. Joner, Brigham Young University, Improved Absolute Magnitudes for High-Amplitude Delta Scuti Variable Stars;
- John J. Matese, University of Louisiana, Supportive Evidence for a Brown Dwarf Companion to the Sun;
- Chigurupati Murali, U Mass. Amherst, Department of Astronomy, High-velocity Clouds: Probes of the Galactic X-ray Halo;
- Russell L. Palma, Sam Houston State University, Department of Physics, Noble Gases in Interplanetary Dust Particles;
- Yakiv V. Pavlenko, Main Astronomical Observatory (Crimean Astrophysical Observatory, Ukraine), Deuterium Test Realization;
- Rene Plume, SAO, Probing the Formation Processes of Water in the Interstellar Medium and in Comets;
- Lisa A. Prato, UCLA, Dept. of Physics and Astronomy, Funding for Keck II/NASA Observing Run: IR Detection of Low Mass Secondaries;
- Stephen E. Robinson, AAVSO Member, CCD Observations of Optical Transients from Gamma Ray Bursts;
- Yaroslav O. Romanyuk, Main Astronomical Observatory (Crimean Astrophysical Observatory, Ukraine), Renovation of the 50 inch Telescope of the Crimean Astrophysical Observatory;
- Ronald G. Samec, Bob Jones Univ., Department of Physics, Toward a Small Automated Undergraduate Research Observatory: Telescope Mounting/CCD Hardware;
- Wally Scrivens, Milliken Chemical, Composite Polymeric Telescope Mirrors;
- H. Paul Shuch, The SETI League, A Lunar Reflective Beacon for Global Coordinated Radio Astronomy;
- J. Allyn Smith, Department of Physics, Univ. Michigan, Photometry of Southern Hemisphere Clusters in SDSS Filters;
- Philip T. Spickler, Bridgewater College, Sunspot Temperature Structure from Satellite Relative Intensity Data;
- Lisa J. Storrie-Lombardi, SIRTF Science Center, A Survey for z>3 Damped Lyman alpha Absorbers;
- Vladimir Strelnitski, Maria Mitchell Observatory, Optical Monitoring of Unique Variable Objects at the Maria Mitchell Observatory;
- Scott W. Teare, Mount Wilson Observatory, Grism Spectrometer Construction for MWO 2.5m Telescope;
- David Turner, Saint Mary's University, Archival Information of Cepheid Period Changes;
- Michael S. Vogeley, Drexel Univ., Department of Physics, Voids and Void Galaxies;
- P. M. Wallace, Department of Physics and Astronomy, Berry College, A Multiwavelength Study of Unidentified Variable EGRET Sources; and
- Kenneth M Yoss, University of Illinois at Urbana-Champaign, Detection of Metal-poor Stars in the Direction of the North Galactic Pole.

1999 AAS FISCAL REPORT

The accounts of the Society were audited by the firm of Keller Bruner & Company for the year ending 31 December 1999. This audit was conducted in accordance with generally accepted auditing standards, and indicated no material problems while confirming that the AAS was in compliance with the required provisions. This audit also included a closeout examination of the contract accounts at NOAO which supported the editorial office of *The Astrophysical Journal*. This report was accepted by the Council at its meeting on 4 June 2000.

The Society reports its finances in six categories according to the nature of the activities and the source of the revenues. These are outlined by the following notes and tables.

(1) General Programs: This includes the Society's general operations and administration. In addition, the General Fund covers the income and expenses of all Society programs including educational and public policy activities, and meetings. Also under this heading are the general publications handled by the Executive Office, including the *AAS Newsletter*, the *AAS Job Register*, and the *AAS Membership Directory*.

Meetings have continued to grow in both size and scope as more and more astronomers avail themselves of this excellent forum for the dissemination of science. In 1999, the summer (Centennial) meeting, held in Chicago, was the largest summer meeting the AAS has ever held.

(2) Journals: Each of the journals published by the AAS is operated as a distinct cost center. AAS bylaws mandate that each Journal maintain a reserve fund equal or above the level of one-half of the annual operating expenses. For 1999, the *AJ*, the *ApJ*, and the *BAAS* outperformed budget projections and each of the AAS journals maintained reserves above the required level.

(3) Divisions: These comprise the finances of the five AAS Divisions and their related prizes. The Divisions legally fall under the oversight and fiscal responsibility of the AAS Council, but the financial decisions of each Division are made by the Divisional Committee, and the fiscal details are reported directly to the members of the Division. The figures in Table I reflect the sum of all Division funds held both by the Division Treasurers and on their behalf by the Society Treasurer. Most of the fluctuations in their income and expense levels can be attributed to the timing and size of annual meetings and prize awards.

(4) Bequests and Memorials: These include the AAS prizes and other funds established by gifts and bequests to the Society. The timing of the actual awarding of the various prizes causes the fluctuations in expenses between successive fiscal years. In 1999 the AAS began fund raising for two new prizes - the Education Prize and the Instrumentation Prize.

Table I. Statement of Income and Expense for 1998 and 1999

	1998			1999		
	Unrestricted	**Restricted**	**Total**	**Unrestricted**	**Restricted**	**Total**
Revenue						
General programs	$ 1,174,220	-	$ 1,174,220	$ 1,222,801	-	$ 1,222,801
Journals	6,612,770	-	6,612,770	6,128,566	-	6,128,566
Divisions	258,170	$ 28,950	287,120	350,412	4,032	354,444
Bequests and Memorials	59,860	-	59,860	(22,000)	102,744	80,744
Grants and Contracts	306,149	-	306,149	134,421		134,421
Other	72,135	21,866	94,001	70,395	49,429	119,824
Released from restrictions	-	-	-	21,287/[a]	(21,287)/[a]	-
Total revenue	**$ 8,483,304**	**$ 50,816**	**$ 8,534,120**	**$ 7,905,882**	**$ 134,918**	**$ 8,040,800**
Expenses						
General programs	$ 1,332,244	-	$ 1,332,244	$ 1,265,229	-	$ 1,265,229
Journals	6,088,566	-	6,088,566	6,126,916	-	6,126,916
Divisions	164,827	-	164,827	425,713	-	425,713
Bequests and Memorials	39,577	-	39,577	30,940	-	30,940
Grants and Contracts	338,835	-	338,835	149,858	-	149,858
Other	15,771	-	15,771	103,396	-	103,396
Total expenses	**$ 7,979,820**	**-**	**$ 7,979,820**	**$ 8,102,052**	**-**	**$ 8,102,052**
Changes in net assets	**$ 503,484**	**$ 50,816**	**$ 554,300**	**$ (196,170)**	**$ 134,918**	**$ (61,252)**
Net assets, beginning of year	**$ 6,935,310**	**$ 297,483**	**$ 7,232,793**	**$ 7,438,794**	**$ 348,299**	**$ 7,787,093**
Transfers	-	-	-	**(802,615)/[a]**	**802,615/[a]**	
Net assets, end of year	**$ 7,438,794**	**$ 348,299**	**$ 7,787,093**	**$ 6,440,009**	**$ 1,285,832**	**$ 7,725,841**

/[a]: During the year ending 31 December 1999, management determined that certain funds previously classified as unrestricted were better classified as temporarily restricted.

(5) Grants and Contracts: Two categories include, respectively, grants from Federal and non-Federal sources:

- The NASA Electronic Publishing grant,
- The NASA Supported AAS Small Research Grant program,
- The AAS Funds used to supplement the Small Research Grants.

(6) Other: This includes the General Operating Reserve and accounts for the Shapley Visiting Lecturer Program, and the Equipment Replacement Fund.

Summary

The overall financial picture for the Society is very good. The General Programs ended up with a net positive balance of approximately $43,000, primarily due to the larger than expected meeting attendance. *The Astrophysical Journal* (including *Supplements*) finished with a slightly positive bottom line, as opposed to the original deficit budget for the year in which the editorial transition took place. *The Astronomical Journal* broke even for the year.

The fund-raising effort for the Second Century Fund was modestly successful, with substantial amounts coming from a few donors, and a slight general increase in overall giving of the membership as a whole. We have managed to raise enough through donations to begin the Second Century Lecture series with three lectures in 2000 and expect to continue with three more in 2001. There is also a sufficient amount in the fund for the Education Prize that it may be awarded for the first time in 2001.

Table I gives a comparative summary of activities and change of net assets of the AAS for 1998 and 1999.

Table II contains a summary of the AAS Balance Sheet as of 31 December 1998 and 31 December 1999.

Table II. Balance Sheet for 31 December 1998/1999

	1998	1999
Total Assets	**$ 9,569,341**	**9,705,063**
Current Assets	2,507,230	2,357,814
Fixed Assets	66,440	68,482
Other Assets	6,995,671	7,278,767
Total Current Liabilities	**$ 1,782,248**	**$ 1,979,222**
Current Liabilities	436,763	464,368
Deferred Revenue	1,345,485	1,514,854
Net Assets	**$ 7,787,093**	**$ 7,725,841**
Unrestricted	7,438,794	6,440,009
Temporarily restricted	28,950	956,241
Permanently restricted	319,349	329,591
Liabilities & Net Assets	**$ 9,569,341**	**$ 9,705,063**

2000 AAS Prize Nomination Form

Please read the full descriptions of the AAS prizes and awards at http://www.aas.org/ or abbreviated information on page 11 of the *2000 AAS Membership Directory*. All nominations are due by **1 October 2000**.

I wish to nominate (Name) _____

of (Institution)_____

for the following prize (check one):

_____Russell Lectureship; _____Warner Prize; _____Pierce Prize; _____Heineman Prize; _____Van Biesbroeck Prize.

Please send to the *Prize Chair* (below) a letter with this form stating upon which major scientific achievements you base your belief that this person is a suitable candidate for the prize. Enclose a curriculum vitae of the nominee, bibliography and abstracts of three papers illustrative of the candidate's merit, and request that three supporting letters also to be sent to the Chair.

Print Your Name_____Signature _____

Phone Number _____Email Address_____

Return this form to the appropriate prize committee chair:

Russell Lectureship
Alex Dalgarno
Harvard-Smithsonian
Center for Astrophysics
60 Garden Street
Cambridge, MA 02138
adalgarno@cfa.harvard.edu

Warner/Pierce Prizes
Riccardo Giovanelli
Cornell University
Dept. of Astronomy
Space Science Building
Ithaca, NY 14853
riccardo@astrosun.tn.cornell.edu

Heineman Prize
John S. Gallagher
University of Wisconsin
Dept. of Astronomy
55343 Sterling
475 N. Charter St.
Madison, WI 53706-1582
jsg@astro.wisc.edu

Van Biesbroeck Prize
Hyron Spinrad
University of California
Astronomy Department
Berkeley, CA 94720-3411
spinrad@bigz.berkeley.edu

COMMITTEE NEWS

Status of Women in Astronomy

Meg Urry, Chair

CSWA Session at the June Rochester Meeting

The CSWA session at the AAS meeting in Rochester was an open discussion of current issues facing women in astronomy. As the new CSWA Chair, I opened the meeting expressing concerns about recent evidence that women are not progressing equally in our professions (see June 2000 *STATUS*).

AAS representatives Bob Milkey (Executive Officer), Kevin Marvel (Associate Executive Officer for Policy Programs), and Arlo Landolt (AAS Secretary) made several points, including:

- The AAS Demographic Survey, for which results on women were reported in the June *STATUS*, will be repeated every two years.
- Greater coordination between the CSWA and other AAS committees (employment, education, minorities, public policy) would be very valuable because of our common interests.
- Interested AAS members can volunteer to serve on AAS committees or to be session chairs at AAS meeting, and women are encouraged to do so (send email to Arlo Landolt at aassec@rouge.phys.lsu.edu).

During subsequent discussion with the audience, several specific issues arose:

Increasing the participation of women in science: Congress has funded efforts through NSF to increase the participation and advancement of women in science. This would be a good issue for coordination with the public policy committee.

Dual career couples: One key issue concerns dual career couples. The problem of getting two jobs in one geographical location affects both men and women, of course, but since women astronomers and physicists are far more likely to be married to other scientists than men, it has a disproportionate effect on women.

In some cases, job sharing (two people sharing one position) has been an effective solution. We will try to describe this, how it works, how often it has been done, and how it is perceived on both sides of the employment equation, in a future issue of *STATUS*.

Kevin Marvel commented that this same issue, dual careers, was being discussed by the Employment Committee, and there is a tentative plan to hold a session at the January 2001 AAS meeting in San Diego. Laura Kay volunteered to work on this with Kevin, on behalf of the CSWA.

There are several useful Web sites addressing dual careers, including:

- A report by physicists Laurie McNeil and Marc Sher at http://www.physics.wm.edu/dualcareer.html.
- A discussion on the American Women in Science (AWIS) site at http://www.awis.org/html/dual_careers.html.

Mentoring: Several people expressed an interest in mentoring, especially for postdocs and junior faculty. Postdocs, in particular, can be isolated. This issue will be discussed with the AAS Committee on Employment.

There were suggestions that we could consider mentor matching at a future AAS meeting, and/or we could explore internet-based matching. The AAS Career Services Website includes a link to http://www.mentornet.net/, a national mentoring network for women in science and engineering.

Committee Composition

Every June, new CSWA members are appointed. The current membership and terms are:

Meg Urry (2000-2003), *Chair*; Beatrice Mueller (1998-2001), Wal Sargent (1998-2001), Regina Schulte-Ladbeck (1998-2001), Lisa Frattare (1999-2002) plus 4 members recently appointed (and still to be confirmed).

Thanks to Priscilla Benson

Many thanks are due Priscilla Benson for her leadership of the CSWA over the past three years, and for continuing to administer *AAS WOMEN* for a few months until we can transition it to STScI. (Until further notice, please continue to correspond with aaswomen@wellesley.edu.)

Goals for Coming Year

Over the next few months, the CSWA will be developing goals and plans for the coming year. We welcome suggestions (send to cmu@stsci.edu) and will try to keep the community apprized of ongoing activities through the *AAS WOMEN* server.

Subscribe - It's Free

Please encourage interested colleagues who have not already done so, to subscribe to *AAS WOMEN* (send email to aaswomen@wellesley.edu) and to the semi-annual newsletter *STATUS* (send email to ssavoy@aas.org).

Employment

Ed Guinan, Chair

Editors Note: The following article is reprinted with permission from the *Christian Science Monitor.* AAS Member Michele Thaller is a regular columnist for the electronic *Christian Science Monitor* at http://www.csmonitor.com. This article appears at http://www.csmonitor.com/atcsmonitor/cybercoverage/thaller/p-062000thallerwomen.html.

Women in Science: A View From the Trenches

Michelle Thaller, Caltech, JPL

Summertime has rolled around again, and lately I've been completely engulfed in that traditional summer ritual, the professional astronomy conference. About every six months (deliberately scheduled to coincide with summer and winter breaks) astronomers from all over the world gather to discuss the year's developments, debate new theories and marvel at new discoveries.

A lot of the real work of astronomy goes on here; collaborations are formed, deals are stuck, rivals are met. These meetings used to thrill me. Of course they were interesting scientifically, but it was also a chance for me to network and flirt, enjoying a chance to show off my social skills. And I had a huge advantage here — I'm female.

Simply being a young and attractive woman got me attention. At first, being a woman in science was a heady experience. I, like many women students, had struggled a bit through my education, but here I was, a newly minted PhD, and everyone's eyes seemed to be on me. I felt very optimistic about my status and chances of success in my chosen profession.

Last week I had a chance to share a meal with a wonderful young woman named Scarlet, an astronomy student at Cornell University. She had come all the way to Rochester, N.Y., (this year's American Astronomical Society meeting) to talk to me about her interest in an astronomy career. We sat down to a lovely meal and talked about everything from surviving physics classes to taking full advantage of the college dating scene.

During our talk, I looked over at this beautiful, talented, energetic young woman who was so ready to take on the challenges of science. I exactly remembered that wonderful feeling of wide-open potential, and I wondered what had happened to it. What had happened to me? I honestly didn't know what to tell Scarlet about a career in science. Part of me wants to be the total cheerleader — you go get 'em girl! You can set this field on fire if you aim high enough and stick to your dreams. But part of me wants to caution her too, tell her about the ongoing struggle I've had in this line of work. Tell her how you never get to rest, never get to fit in, never get to feel like you're good enough.

Let's start by stating the obvious: a career in science is not easy for anyone. Astronomy is a competitive, high-pressure profession. At every step in a typical science career: going from graduate school to a post-doctoral research fellowship, to a tenure-track position, to a full professor, many people are weeded out.

And the cuts are not only made by judging the quality of an astronomer's science, but also how many papers he or she publishes, what kinds of collaborations he or she taps into, and — often most important — how much grant money he or she brings in. It's a profession that favors aggressive, politically astute, independent people. Still, both men and women find this attractive. Do they really have the same chance, if they're willing to play by the same rules?

That's not a simple question to answer. Like it or not, men and women are socialized differently. This really hit me in the face when I began to study physics at Harvard. Now, I am not a shy person. I'm a natural extrovert, and I don't shy away from a good argument (I was a debate champion in high school). But when I got to Harvard, I found the atmosphere of the science classes very hard to handle.

I was often the only woman, or one of a few, in my classes. No problem, I thought. I'd always gotten along well with guys, and in fact had formed much closer friendships with men than women. But I was totally unprepared for the level of aggression in the science classes.

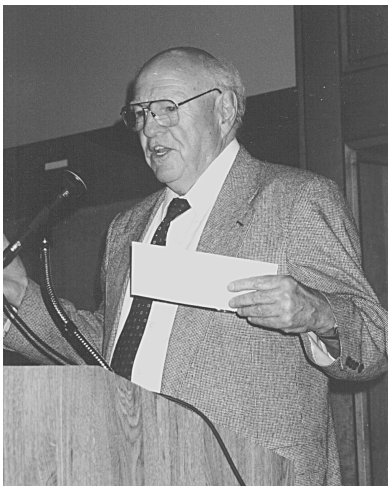
A typical study session involved a bunch of guys standing around a chalkboard yelling at each other. One student would start a problem, while the others would loudly comment that they were going about it all the wrong way and why didn't the group do it their way instead? The guys seemed to relish this rough-and-tumble way of working, but I found when I took the chalk in my hand, I would freeze.

The guys would start their usual taunts, and I just couldn't concentrate. I realize now, and I did to some extent then, that

Continued on page 12

ROCHESTER MEMORIES

About 950 persons attended the June meeting in Rochester, arranged with much help from a Local Organizing Committee led by **Judith Pipher** (U. Rochester). News stories appeared widely in the mass media; you can find links to some of them on the Press Photos page of the AAS website, http:///www.aas.org. Unless otherwise indicated, the following images are all AAS Photos by Richard Dreiser, © 2000 by American Astronomical Society.



D. Harold McNamara (Brigham Young U.) received the George Van Biesbroeck Prize.

On the meeting's last day, local host Judith Pipher smiled in anticipation that it soon would all be over. David Williams (U. Rochester) gave an invited talk on adaptive optics for human vision.

Thomas Bogdan (High Altitude Obs.) traced what happened to Maunder's original sunspots butterfly diagram.

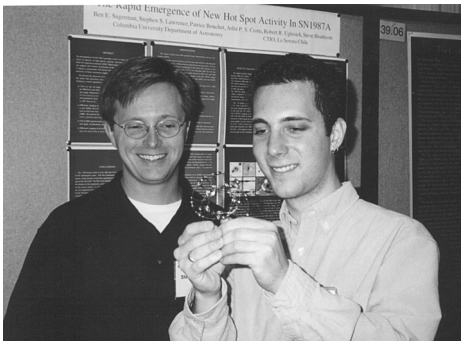
Alexandra Witze (Dallas Morning News) flew to Rochester from an AGU banquet in Washington, DC, where she received the Walter Sullivan Prize. Her coverage of the AAS meeting included a lengthy feature on laser astrophysics, published on 19 June.

Maria Nieto-Santisteban (Space Telescope Science Institute) reported on implications of NGST wavefront errors for faint galaxy photometry, while William Blair (Johns Hopkins U.) presented the Hubble Heritage image of the Crab Nebula.

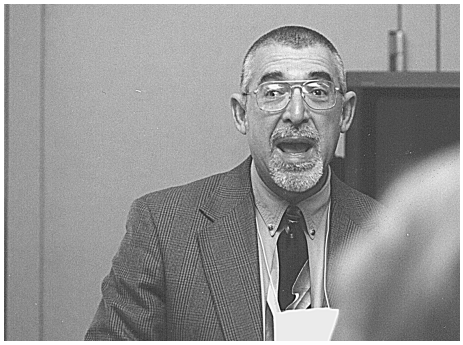
Two proponents of powerful future observatories were John Mather (left, Goddard Space Flight Ctr.), who works on Next Generation Space Telescope, and James Ulvestad (National Radio Astronomy Observatory), one of the brains behind the Expanded Very Large Array.

On an AAS Press Tour at U. Rochester, Linda Rowan (Science Magazine) enjoyed attempts to keep a virtual reality automobile on the road. Most users crashed through buildings.

Photo by Laurence Marschall.



Steve Lawrence (left) and Ben Sugarman (both, Columbia U.) monitored hotspots in the SN1987A system with the CTIO 4-m telescope.

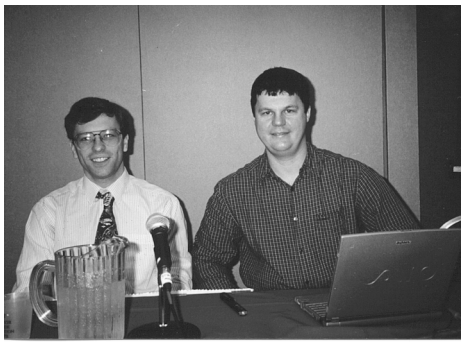


Rex Saffer (Villanova U.) described evidence from HST that stars collide and coalesce at the heart of a globular cluster.

Photo by Steve Maran.

Tyler Nordgren (US Naval Obs.) announced direct measurement of the radius of Polaris with the Navy Prototype Optical Interferometer.

Barbara Ryden (Ohio State U.) investigated the age-shape relation for elliptical galaxies.



Gavin Dalton (left, U. Oxford) and Karl Glazebrook (Johns Hopkins U.) unveiled the largest map of three dimensional structure ever done, from the 2dF survey.

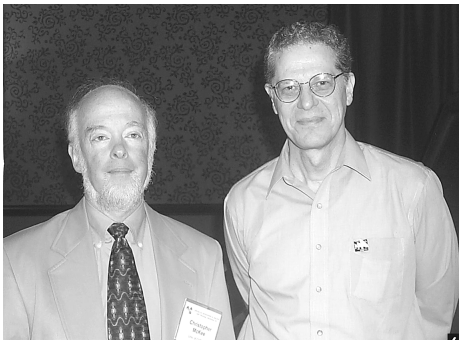
Supermassive black holes consumed the interest of Richard Green (far right, Director, Kitt Peak Natl. Obs.), who organized a topical session, and fellow researchers, (left to right), David Merritt (Rutgers U.), John Kormendy (U. Texas at Austin), Karl Gebhardt (Lick Obs.), Christopher Reynolds (U. Colorado), and Linda Dressel (Space Telescope Science Institute).

Smiling Chandra X-ray observers are left-to-right, Joel Kastner (Rochester Institute of Tech.), George Pavlov (Penn State U.), and Andrew Wilson (U. Maryland). Kastner reported evidence for the colliding winds theory of planetary nebula formation, Pavlov explored the environs of the Vela pulsar, and Wilson investigated the spectacular jet of Pictor A.

Speakers in the topical symposium on laser astrophysics included organizer Adam Frank (right, U. Rochester), Edison Liang (left, Rice U.) and R. Paul Drake (U. Michigan). The three also presented a tutorial Seminar for Science Writers.

The 2000 Beatrice M. Tinsley Prize was won by Charles Alcock (left, Lawrence Livermore National Lab.), here congratulated by AAS President Robert Gehrz.

Loren Acton (left, Montana State U.) received the Hale Prize from Solar Physics Division Committee member John Thomas (U. Rochester).



Decadal Survey Co-Chairs Christopher McKee (left, U. California, Berkeley) and Joseph Taylor (Princeton U.) reported on the Survey recommendations.

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) in collaboration with the Canadian Astronomy Data Centre, Victoria, BC. The list may be accessed at http://cadcwww.hia.nrc.ca/meetings/

AAS and AAS Division Meetings

Division for Planetary Sciences
23–27 October 2000 — Pasadena, CA
Contact: Rosaly Lopes-Gautier (dps2000@lively.jpl.nasa.gov)

High Energy Astrophysics Division
6–11 November 2000 — Honolulu, HI
Contact: John Vallerga (head2K@netcom.com)
http://www.eurekasci.com

197th AAS Meeting (w. AAPT)
7–11 January 2001 — San Diego, CA
Contact: Diana Alexander (diana@aas.org)

*Division for Dynamical Astronomy
Late April 2001 — Houston, TX
Contact: Joe Hahn (hahn@lpi.jsc.nasa.gov)

198th Meeting of the AAS
3–7 June 2001 — Pasadena, CA
Contact: AAS Executive Office (aas@aas.org)

199th Meeting of the AAS
6–10 January 2002 — Washington, DC
Contact: AAS Executive Office (aas@aas.org)

Other Events

*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. Workshop, "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, Magnetism and Cooling of Young Neutron Stars
2–6 October 2000 — Santa Barbara, CA
Contact: Dorene Iverson (dorene@itp.ucsb.edu)
http://www.itp.ucsb.edu/conference/conf2000.html

*The 3-D Helioscope at Solar Maximum
3–6 October 2000 — Noorwijk, The Netherlands
Contact: R. G. Marsden (rmarsden@estec.esa.nl)

*Modes of Star Formation
9–13 October 2000 — Heidelberg, Germany
Contact: Eva K. Grebel (grebel@mpia-hd.mpg.de)
http://www.mpia-hd.mpg.de/~modes

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

*One Hundred Years of the Quantum
29–30 October 2000 — Tacoma, WA
Contact: Alan Thorndike (thorndike@ups.edu)
http://www.ups.edu/physics/maxplanck

*Academia-Industry Outreach Workshop and Industrial Physics Forum
5–7 November 2000 — San Diego, CA
Contact: Liz Dart (ldart@aip.org)
http://www.aip.org/aip/corporate/general/meeting.html

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

*NATO ASI: "Astrophysical Sources of High-Energy Particles, a course dedicated to David N. Schramm"
11–21 November 2000 — Erice, Italy
Contact: John P. Wefel (wefel@phunds.phys.lsu.edu)

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, Morroco
Contact: Benkhaldoun Zouhair (zouhair@unice.fr)
http://www.eso.org/iau_site2000

*RADHEP-2000. First Internat'l Workshop on the Radio Detection of High Energy Particles
11–18 November 2000 — Los Angeles, CA
Contact: An-Chi Kao (kao@physics.ucla.edu)

*Emission Lines from Jet Flows
13–17 November 2000 — Isla Mujeres, Mexico
Contact: Luc Binette (jet2000@astroscu.unam.mx)
http://www.astroscu.unam.mx/jet2000

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)

*The Inspiration of Astronomical Phenomena, Third Conference
31 December 2000–6 January 2001 — Palermo, Italy
Contact: Salvatore Serio (insap3@oapa.astropa.unipa.it)
http://ethel.as.arizona.edu/~white/insap

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

*Magnetic Fields Across the H-R Diagram
15–19 January 2001 — Santiago, Chile
Contact: Gauthier Mathys (magfield@eso.org)
http://www.eso.org/magfields2001

*Washington Area Astronomers Meeting
22 February 2001 — Greenbelt, MD
Contact: George Kaplan (gkaplan@usno.navy.mil)
http://aa.usno.navy.mil/waa

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://iacs.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

32nd Lunar and Planetary Science Conference
12–16 March 2001 — Houston, TX
Contact: LeBecca Simmons (simmons@lpi.usra.edu)
http://www.lpi.usra.edu

*European Geophysical Society XXVI General Assembly
2–6 April 2001 — Vienna, Austria
Contact: EGS Office (egs@copernicus.org)

6th Compton Symposium, "Gamma-Ray Astrophysics 2001"
4–6 April 2001 — Baltimore, MD
Contact: Sandra L. Barnes (barnes@grossc.gsfc.nasa.gov)
http://cossc.gsfc.nasa.gov/meetings/Gamma2001

*Annual Meeting, Canadian Astronomical Society
26–29 May 2001 — Hamilton, ONT, Canada
Contact: William Harris (harris@physics.mcmaster.ca)
http://casca2001.mcmaster.ca

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

*The 12th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun
30 July–-3 August 2001 — Boulder, CO
Contact: Thomas R. Ayres (cs12@casa.colorado.edu)

*34th COSPAR Scientific Assembly
1 October 2002 — Houston, TX
Contact: COSPAR Secretariat (COSPAR@paris7.jussieu.fr)

ANNOUNCEMENTS

CSO Call for Proposals due 31 October 2000

The Caltech Submillimeter Observatory (CSO) encourages observing participation by astronomers from both U.S. and non-US institutions. Complete instructions for application and information about available instruments, including new receivers, can be found at http://www.submm.caltech.edu/cso/cso-call.html. Applications for observing time between 1 February 2001 through 31 July 2001 are due by mail **31 October 2000**. Applications will be reviewed by an outside peer group.

Call for Nominations: Henry Draper Medal

The National Academy of Sciences is accepting nominations for the Henry Draper Medal, a prize of $15,000 given every four years for an original investigation in astronomical physics. The investigation or its completed publication should have occurred since the last award, which was presented in 1997.

Nominations will be accepted through **1 September 2000**. For more information contact National Academy of Sciences, Awards Program, Room NAS 185, 2101 Constitution Avenue, NW, Washington, DC 20418, Tel: 202-334-1602, Fax: 202-334-1682, awards@nas.edu, http://national-academies.org/nas/awards.

Haystack Observatory Undergraduate Research

Haystack Observatory has been developing a program in undergraduate research and education using radio astronomy, with NSF support. The program provides opportunities for faculty to incorporate radio astronomy into their course curricula, and allows students to conduct research experiments using the Haystack 37-m radio telescope. Haystack has allocated time on the telescope for this purpose, and the telescope can be operated and monitored remotely. Supporting materials such as radio astronomy fundamentals, information about telescope hardware and software, ideas on how to incorporate the telescope into course curricula, and suggestions for projects can be found on our web site at http://www.haystack.mit.edu/ under "Undergraduate Research." Faculty interested in using the telescope for a class project, a classroom demonstration, or an individual research project by an undergraduate student are welcome to send in a paragraph stating the nature of the project and the amount of telescope time required to Dr. Preethi Pratap at ppratap@haystack.mit.edu.

New: Solar System Exploration Newsletter

Dr. Carl Pilcher, Science Director for Exploration of the Solar System in NASA's Office of Space Science, announces the first issue of the new *Solar System Exploration Newsletter*. It is online at http://sse.jpl.nasa.gov/results/newsletter/newslet.html in pdf format. The newsletter will be published several times a year to keep the planetary science community informed about activities and plans at NASA Headquarters. The first issue discusses the Congressional budget status, the Mars reports and replanning efforts, and education and public outreach. Feedback is invited; contact cpilcher@hq.nasa.gov or Ronald.S.Saunders@jpl.nasa.gov.

Continued on page 19

A VIEW FROM THE TRENCHES
Continued from page 7

the guys didn't mean anything personal by this. It wasn't because I was a woman — they attacked anyone who happened to be doing the physics problem. But like a typical female in a science class, I shrunk to the back of the classroom and never said another word the entire semester.

One high-minded professor had noticed that all his female students (including me) were hiding in the back of the room and not raising their hands, so he specifically sat us all in the front row and individually asked us questions about the lessons, whether or not we raised our hands. I dropped the class.

I still feel pretty bad about this. I think that if I was stronger, more confident and assertive, I wouldn't have had those problems. After all, none of it was directed at me as a woman. And things are so much better for women in science now than in the past, where women were often turned away from observatories because there weren't any women's rest rooms (true!).

But the basic problems still exist in me today. I don't really know how to fit in with the guys, or more to the point, get them to accept me. I try really hard. I've gotten used to (although it still hurts) combative questions about my worth as a scientist, getting no praise from my superiors, and having no one at work remotely interested in chatting about my personal life.

The last point is more painful than you'd think. Women routinely talk about their lives as a way of reinforcing bonds between them. When someone asks about your house or your husband, you feel they approve of you. Without that, I can't help but feel that my workplace is rather cold. And there are also a thousand and one small stabs at my ego: routinely being mistaken for a secretary, being called "Michelle" in a meeting where everyone else is addressed as "Doctor," and generally being dismissed and ignored by the big boys. But I should be able to deal with all that, shouldn't I?

In the end, being a scientist, I know never to believe anecdotal evidence. I may think it's grindingly tough to stay in science, but another person may point out that women actually get special preference and support. What do the actual facts say? I made some effort to find out whether my problems were all in my head, or whether there were real statistics to back my experiences up. I found an article by Meg Urry in a publication called *STATUS*, which is put out by the American Astronomical Society to address the special issues women face in astronomy and physics.

Here are the facts, according to Urry: Only about 5 percent of full professors or the equivalent rank of research astronomers are women. This makes some sense, because when those women were in graduate school in the 60's, almost no women went into science. The small percentage isn't really any proof of discrimination, once the women got their feet in the door.

So what's happening today with students fresh out of school? The good news is that almost 25 percent of astronomy graduate students today are women. That's a huge improvement from the past, but unfortunately, the number of women in science takes a real beating right after graduate school. Women in grad school have only a 26 percent chance of landing that first job after they get their PhD's, as opposed to a 43 percent chance for their male colleagues.

The trend continues for each level of promotion. As Urry puts it, "... the progress of women lags behind at all levels. Women are less likely to be hired, are less likely to be given tenure, and spend longer time at lower levels than their male colleagues." To make matters worse, this lag is happening at a time when the field of astronomy is expanding, well, astronomically. In the last five years, the number of assistant professorships has increased by 50 percent, and full professorships by 20 percent. What the heck is going on? I feel that I have never been deliberately discriminated against. I was never told that "girls can't do science." I was never sexually harassed by a professor, or had so much as an honestly unkind word from a co-worker.

But I've learned that when professors consider who will eventually replace them and take over the reins of science, it's far easier to see young versions of themselves in the cocky, aggressive male students than the quiet, strangely different young women. I've seen this happen over and over, and I'm getting tired of constantly having to prove them wrong about me, constantly having to argue for my worth.

I could never regret the wonderful career this has been. I love this job, and I love the way it's forced me to grow. But think hard about this, Scarlet. You may never, not for a moment, be allowed to feel like you really belong.

Professional-Amateur Collaboration Working Group

Janet A. Mattei, American Association of Variable Star Observers, Chair, jmattei@aavso.org

Amateurs and Professionals Team up in Rochester

Janet A. Mattei; Michael Richmond, Rochester Institute of Technology; Terry Oswalt, National Science Foundation, WGPAC member.

The recently formed Working Group on Professional-Amateur Collaboration (WGPAC) conducted its first scientific sessions and a Town Meeting at the AAS summer meeting in Rochester, New York. Topics on collaborations ranged from the very near (the Moon), to the very far (gamma-ray bursts). About 60 professional and amateur astronomers discussed the fruitful results of amateur-professional collaboration and focused on the enormous potential that exists within the amateur community for future cooperation in astronomical work.

The oral session, chaired by **Michael Richmond**, who works closely with amateur astronomers, featured five talks given by professional-amateur teams that had been collaborating either one-to-one or through organizations.

The one-to-one team of **Brian Marsden** and **Warren Offutt** described the relatively new field of Trans-Neptunian Objects (TNOs), the second of which (after Pluto) was discovered in 1992. In the past decade, almost three hundred of these distant members of the Solar System have been found. Since they are all very faint, well below twentieth magnitude, one might not expect amateurs to be able to contribute to their study. However, as Warren Offutt has shown, it is not impossible. By using his 24-inch telescope at a dark site, he was able to track down the TNO called 1998 XY_{95} during a period when its orbit was in danger of being lost. His observations were crucial in showing that this object is a member of a group of TNOs having very high orbital inclinations, which hints at the dynamical evolution of the outer Solar System.

David Dunham, President of the International Occultation Timing Association (IOTA), described the decades of close association between amateurs and professional observatories in studying the Moon. Occultations of bright stars by the Moon provide a twofold opportunity: one can gain information about lunar topography by watching a star wink in and out as it passes behind valleys and mountains at the limb of the Moon; or one can search for close stellar companions by measuring at high speed the decrease in a star's light as the Moon occults it. Advances in commercial video cameras have made it very easy for amateurs to contribute high-quality data to such projects. In the past year, video images of the Moon made by amateurs during the Leonid meteor shower revealed several impacts of meteors on the lunar surface, opening a new door in the study of meteors and their parent bodies.

The next presentation, by **William Alexander**, took us out of the Solar System and into the disk of our Milky Way Galaxy. He is one of the few amateurs who had the opportunity use the Hubble Space Telescope (HST) under the HST Amateur Program. His research involved obtaining high resolution UV spectra along the line of sight towards lamda Andromedae and epsilon Indi to study the deuterium-to-hydrogen ratio — important to more fully understand Big Bang nucleosynthesis. This unique opportunity led to a very successful partnership between Alexander and **Jeff Linsky** and **Brian Wood** (University of Colorado). By measuring very carefully the absorption lines in the spectra of these stars, they were able to separate the components into those due to normal hydrogen and deuterium. Since the ratio of deuterium to normal hydrogen is set in part by the conditions existing during the first few minutes after the Big Bang, this work sheds light on the fundamental parameters of our universe.

Paul Boltwood, an amateur who works beneath the dark skies of Ontario, Canada, moved the discussion far beyond the Milky Way to talk about his work on blazars. He discussed the challenges in measuring the brightness of blazars, particularly with the precision required as part of his collaboration with **Albert Sadun** at University of Colorado. He also discussed the challenges faced in ten years of pro-am collaborations, where mutual respect and trust are essential. The amateur has to understand the large amount of work and the quality required for the collaborative project. The professional needs to give sufficient credit for the amateur's contribution. Both parties need to understand fully what is involved.

Often, when pro-am collaborations are coordinated by an organization, there is the advantage that the organization leader (usually a professional), is responsible for coordinating the project and for making sure that both parties are clear about the goals, expectations, and needs for obtaining maximum results from the collaboration. **Janet Mattei**, Director of the American Association of Variable Star Observers (AAVSO), discussed the many ways that amateur astronomers, through the AAVSO, have, in collaboration with professionals, provided crucial data for variable star research with space satellites, such as the HST, EUVE, RXTE, and FUSE. These critical data are often used to point a satellite, like the EUVE or the HST to a cataclysmic variable in eruption, or to correlate multi-wavelength data obtained with instruments aboard these and other satellites. AAVSO member **Gene Hanson** described his discovery of a recent outburst of U Geminorum with his 12-inch reflector one night and the agonizing wait for confirmation from other observers the next day — which didn't come — and his great relief the next night, when he was finally able to confirm the event himself. His observations triggered Target of Opportunity observations with the EUVE and RXTE satellites that gathered an important set of EUV and x-ray data about the boundary layer between the accretion disk and the white dwarf.

Pro-am collaborators (from l. to r.): front row: Paul Boltwood (speaker, amateur astronomer), Gene A. Hanson (speaker, amateur astronomer), William R. Alexander (speaker, amateur astronomer), Janet A. Stevens (Astronomical League, WGPAC member), Catherine A. Pilachowski (speaker, National Optical Astronomical Observatory), Janet A. Mattei (speaker, American Association of Variable Star Observers, WGPAC chair).

Back row: Michael W. Castelaz (speaker, East Tennessee State University), David W. Dunham (speaker, International Occultation Timing Association, WGPAC member), Bohdan Paczynski (speaker, Princeton University), William Aquino (speaker, amateur astronomer), Terry D. Oswalt (National Science Foundation, WGPAC member).

Photo by Richard Dreiser, ©American Astronomical Society

Pro-am collaborations were further highlighted in an all-day poster session on Professional-Amateur Observational Programs: The collaborative program between **Doug West** (an amateur), **David Alexander** (Wichita State University), and his students yielded multicolor photometric and spectroscopic observations of late type stars and compared the data with model stellar atmosphere calculations. The goal was to understand the chemical and physical processes that occur in the atmospheres of these stars and to define a chemical sequence among Asymptotic Giant Branch stars. **Joe Patterson** (Columbia University) collaborated with a cadre of amateur astronomers who have backyard telescopes and CCD cameras. The amateurs monitored cataclysmic variables over intervals of weeks to months. They obtained data on important parameters of these compact binary systems, such as the spin of the white dwarf, the binary orbital period, and the disk precession period. **Janet and Bert Stevens** reported on the activities of the Astronomical League (AL), the largest amateur astronomical organization in the world. Members of the AL have had very fruitful pro-am collaborations in the observations of minor planets. **S. McLaughlin** and her collaborators recommended future pro-am collaboration for observing Comet 9P/Tempel 1 with the forthcoming Deep Impact mission. Oral presentations were expanded in poster form by Boltwood, **Paczynski**, and the AAVSO by **Elizabeth Waagen** et al.

During lunch, over 50 amateur and professional astronomers convened at a special Town Meeting on pro-am collaboration, organized by the WGPAC and chaired by **Terry Oswalt**, Program Director for Stellar Astronomy and Astrophysics at the National Science Foundation, and member of the WGAPC.

Continued on page 15

EDUCATION NEWS

The Professional Master's Degree: Alternatives for Astronomy Graduates

Sheila Tobias, Education Consultant

Too often, students with interests other than research are discouraged from graduate study in the sciences and mathematics. Some are directed into law, medicine, or business (for which they are very competitive); but except for medicine, these choices remove them from their first love, science.

This picture is about to change. New graduate school options, namely professional MS degrees in the sciences or mathematics, are being offered in hopes of keeping more science and mathematics students in the pipeline by offering them preparation for more careers than just in research.

The degree programs, some self-funded, some part of a Sloan Foundation initiative, one an entirely new graduate school in biotechnology (the Keck Graduate Institute) in Southern California, are generally two years in duration (including an internship). They involve further work in the student's major, along with science (or mathematics) electives. What's especially new is that the programs also offer study in areas such as financial management, micro- and macro-economics, regulatory affairs, and intellectual property rights, and provide on- and off-the-job opportunities to further develop computer skills, negotiation and consensus-building skills, and the skills needed to communicate about science to non-specialists.

The Sloan Foundation, a long-term supporter of science and technology research, education, and public understanding, wants to encourage a new type of "science-trained professional," by way of a master's program for work outside academia. The Foundation's Initiative, launched in 1997, follows on the recommendations contained in the 1997 AAS report, "Examination of Graduate Education in Astronomy," (*Bulletin of the AAS*, 29, 1426). Indeed, the kind of training astronomy students bring to the table — experience with computer modeling, handling large data sets, participation in large and managerially complex projects and instrumentation — especially suits them for the kinds of careers envisioned by the new professional master's degree.

Some of the new master's programs focus on emerging fields, such as bioinformatics, human-computer interaction, geospatial information systems, and environmental monitoring. Others build on one area of expertise in order to develop new applications, such as physics of modeling and simulation, computational sciences, and industrial microbiology. Still others incorporate business applications more explicitly, as in biotech management, or physics with business applications. Except in mathematics, only the general GRE is required for admission and there is ample opportunity to make up for missed courses, so that graduates in astronomy can enroll in a wide variety of programs, depending on interest.

There is increasing evidence that the "knowledge economy" will require professionals who are essentially cross-trained in the sciences and other fields. That's why the self-contained (terminal) MS degree in "science plus" is likely to be as highly valued in business, industry, consulting, and the public sector as the MBA and law degrees are today. Further information about the new programs and details as to the application process can be found on the web at http://www.sciencemasters.com.

Information on Career Trajectories of Graduate Students

Ed Guinan, for the Committee on Employment; Bruce Partridge, for the Astronomy Education Board; and Marcia Rieke, for the Committee on Astronomy and Public Policy

Some time ago, two of us wrote to remind your department and all others awarding Masters and PhD degrees in astronomy to place information about the subsequent career trajectories of your students on the Web. The initial request for this information was dated 12 June 1998, and there was a follow-up request in 1999. (A copy of the original request can be found at http://www.aas.org/education/DeptChair.html). The letter on the Web site provides detail on the information we want. We also offered to provide a link from the AAS Web site to your site providing these data. We now have that mechanism arranged. We will list on the AAS Web site by the end of August the URL for each department which has prepared the statistics and information requested.

We will do our best to find the appropriate area on your Web site, but if we cannot, we will describe your department situation as "no information available" or "only partial information available at [*your URL*]." If you believe that listing your department this way is incorrect, please contact aased@aas.org. Better yet, send along the URL of the Web site that contains the appropriate data for your department.

Thanks to the NSF: New Scholarships for High School Astronomers

This year, the AAS teamed up with the Astronomical Society of the Pacific (ASP) and International Amateur-Professional Photoelectric Photometry (IAPPP) to initiate a new scholarship program for high school student researchers in astronomy. Since 1991 the AAS and ASP have presented the Bart and Priscilla Bok Awards and the IAPPP has presented the Richard D. Lines Award at the annual Intel International Science and Engineering Fair (ISEF). With a new grant from the National Science Foundation (NSF), administered by the AAS on behalf of all three organizations, these special awards are now college scholarships comparable in value to the ISEF Grand Awards in each exhibit division. The new Bok and Lines Scholarship Awards were presented for the first time during the 7–12 May 2000 ISEF in Detroit, Michigan.

Francis Boulva, 17, from College Jean-de-Brebeuf, a high school in Montreal, Canada, won the $5,000 AAS-ASP Bok First Place Scholarship Award for his project "Cosmic Bubbles: Improving H-I Shell Detection Around Massive Stars." Boulva developed a computer program to identify neutral hydrogen (H-I) bubbles based upon an assumed model of spherical expanding shells. His technique successfully identified bubbles

Terry Oswalt of NSF (left) presents 2000 AAS-ASP Bok Scholarship Awards to Francis Boulva (middle) of Montreal, Canada and to Daniel Alan Perley of Socorro, NM at the 2000 ISEF.
Photo by Focus One.

Home-schooled Susannah Lazar of Baton Rouge LA with her 2000 Lines-winning project.
Photo by Focus One.

around 7 of 25 massive 'B-type' stars in radio data collected by a Canadian radio telescope. He plans to extend the technique to the analysis of X-ray observations. Boulva's teacher/sponsor was **Louis Bourgeois**.

Daniel Alan Perley, 17, from Socorro High School, in Socorro, NM, won the $3,000 AAS-ASP Bok Second Place Scholarship Award for his project "Dynamic Formation of Tidal Structure in Interacting Galaxies as Determined by Newtonian Model Computer Simulations, Phase II." Perley computed 166 different N-body simulations of interacting galaxies, varying basic parameters such as galactic mass ratio, fraction of dark matter content and spiral structure. He showed that his computed models favorably compare to H-I radio maps of several types of peculiar galaxies obtained at the NSF Very Large Array. Perley's teacher/sponsor was **Mariann Patterson.**

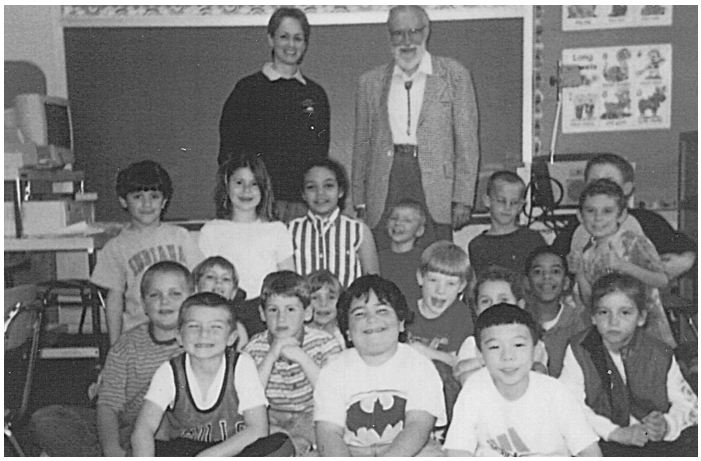
Susannah Cathleen Lazar, 15, a home-schooled student from Baton Rouge, LA, won the $3,000 IAPPP Richard D. Lines Scholarship Award for her project, "Asteroid Photometry of Devosa (337), Gisela (352), Nike (307), and Gordonia (305)." Using data collected with a small telescope at Louisiana State University, Lazar determined the light curves and rotation rates for four minor planets. Three of these objects had no prior light curve data. Lazar used 337 Devosa to verify her period search techniques by comparing her data to literature values. Lazar's teacher/sponsor was her father, **Peter Lazar III**.

In addition to the scholarship awards, each of the three awardees' sponsoring school science programs received a donation of $1,000. The winning students were invited to publish papers describing their projects in the *IAPPP Communications.* The judging team consisted of **Terry Oswalt** of the National Science Foundation and **Karen Bjorkman** of the University of Toledo.

PRO-AM COLLABORATION
Continued from page 13

William Aquino, from the Buffalo Astronomical Association, described how he and several other amateurs have made optical observations of gamma ray burst afterglows. He proved that amateurs can undertake projects which involve short lead-time response to space-based discoveries, provided they are "plugged into" the right programs, and seek the necessary skills and equipment. He pointed out that collaborating professionals need to consider the constraints that amateurs have, such as day-time work obligations, the need for technical instruction, and professionals need to credit amateur work properly.

Michael Castelaz, from East Tennessee State University, described how pro-am collaborations occur when forming or participating in university consortia like the Southeastern Association for Research in Astronomy (SARA). Such partnerships pool technical and financial resources; they facilitate access to public facilities, many of which are underfunded, understaffed, and/or threatened with outright closure. Mike also stressed the need for better communications between amateurs and professionals through web resources such as the International Small Telescope Cooperative (ISTeC), and publications like the IAPPP Communications which target small facilities and collaborative projects.



AAS Past-Treasurer Frank Edmondson (standing) with the First Grade of the Rogers School in Bloomington, Indiana.

They had been learning about the Solar System and I talked about asteroids using a dozen transparencies. I also gave the children a handout to take home describing the "name-a-star scam." Ten days later I received eighteen large handmade postcards. Watercolor drawings of planets and comets were on one side. The other side was a written message about what they were studying, and a "thank you for teaching our class." One of the students, Julia Riggert, whose idea it was to ask me to teach, is a neighbor. The teacher recently asked Julia's mother, "Do you think he'd be willing to do it again next year?"

Bohdan Paczynski, from Princeton University, argued that telescope size is not a hindrance to cutting-edge research by amateurs. He described an automated survey using a three-inch telescope that has already discovered several thousand new variable stars! This project suggests that together, amateurs and professionals could continuously monitor the *entire* night sky. Achieving this goal and processing the monumental amount of data will require standardized hardware and software, an often noted need in pro-am collaboration discussions.

Caty Pilachowski from Kitt Peak National Observatory described an amateur astronomer's collaboration with KPNO astronomers to build and to observe with a medium resolution spectrograph. Spectroscopy is the single most important tool of the astronomer, yet amateurs seldom attempt it. There was strong agreement that spectroscopy should be the next major area of pro-am collaboration. It was suggested that the WGAPC organize a workshop on the subject.

A consensus on three subjects emerged from the Town Meeting:

- access to existing small telescopes by both amateurs and professionals should be improved, and that standardization and automation are the keys to facilitating more collaborative projects;
- amateurs have special needs for training, travel support, and equipment that are not currently being met by astronomical societies or funding agencies;
- new areas ripe for collaborations were identified : videography of rapid time-scale events such as occultations; astrometry of minor planets and comets; and stellar spectroscopic variability studies.

Please send any ideas on further pro-am collaborations and activities to WGPAC Chair Janet A. Mattei, jmattei@aavso.org.

DIVISION NEWS

HIGH ENERGY ASTROPHYSICS

Paul Hertz, Secretary

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). 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.

Missions Featured in Decadal Survey

The recommendations of the Astronomy and Astrophysics Survey Committee, *aka* the McKee-Taylor Report, were made public on 18 May. Joe Taylor and Chris McKee also reported on the Committee's priorities for the coming decade at a special session of the Rochester AAS meeting. Missions of interest to HEAD members were given high priorities in several categories. These missions included the Constellation-X (major initiative), GLAST, LISA, EXIST, and VERITAS (moderate initiatives), and ACCESS (small initiative). The text of the report is available at http://www.nap.edu/books/0309070317/html/.

HISTORICAL ASTRONOMY

Virginia Trimble, Chair, vtrimble@astro.umd.edu

HAD hopes you will get involved in any or all of the following activities, even if you are not a member!

Winter 2001: San Diego Meeting

On Sunday, 7 January, there will be a visit to the Zinner collection of historical astronomy books and other items at San Diego State University as well as talks about the influence on astronomical progress of major errors (like the giant and dwarf theory of stellar evolution, the assumption of the transparency of space, etc) and a wide range of other topics. These will continue on Monday, 8 January, with the Division business meeting at noon. You can present a talk or poster in a HAD session as well as one in a regular AAS meeting session. Please get in touch with the Division Chair if you would like to participate in the tour, talk about an "astronomical boner," or give a talk or poster on some other historical topic. The formal abstract deadline is the regular AAS one.

Obituaries

The Division continues to be responsible for coordinating these for all deceased members, past members, and major prize winners. Please take a look at the necrology on page 2, and, if you knew one of these people and would be willing to help, contact Barbara Welther (bwelther@cfa.harvard.edu), the Chair-elect/Obituary Editor. (Writers are also still needed for **Robert Light** and **Thomas Ogburn**, who died some time ago.)

The Doggett Prize

HAD awards a biennial prize, named in honor of the late Leroy Doggett of US Naval Observatory (a past division chair), for outstanding work in historical astronomy, broadly defined. This can be either a single major contribution or a body of work over many years. The most recent Doggett Lecturer was **Owen Gingerich** of the Harvard Smithsonian Center for Astrophysics, who spoke on "The Copernican Revolution Revisited." Nominations, including a letter explaining what the person has done and why it is important plus something like a CV, are welcome at any time. Please send them to the HAD Chair.

Archaeo- and Ethno-Astronomy

Many of the Division founders were people working in these areas, but not much attention has been paid to them recently. If you would be interested in participating in a working group or committee on the subject, please contact the HAD Chair. Such a group might arrange sessions for the Division and regular AAS meetings, contribute write-ups of interesting work to the newsletter, and so forth.

Other Committees and Division Membership

People willing to do things are always wanted, and if you aren't now being HAD, AAS members can join for a mere additional $6 per year. To join HAD, contact Sharon Savoy in the Executive Office (ssavoy@aas.org).

APPOINTMENTS

Kudritzki to Head Hawaii's Institute for Astronomy

After a three year search, the University of Hawaii has selected Dr. **Rolf-Peter Kudritzki** to direct the Institute for Astronomy. Kudritzki is expected to take up his position on 2 October 2000.

Dr. Kudritzki is currently Professor of Astronomy and Director of the Institut für Astronomie und Astrophysik at the University of Munich. He has been a member and chair of the Visiting Committee for the Space Telescope Science Institute, he is chair of the European Southern Observatory Visiting Committee, and was elected this year to the Board of Directors of the Association of Universities for Research in Astronomy (AURA).

Kudritzki's recent research has focused on hot massive stars. For the past ten years, he has been involved in the development of telescopes and telescope instrumentation. In 1990, he and his group in Munich joined a team of colleagues from the University of Texas at Austin, Pennsylvania State University, Stanford University and the University of Göttingen, to design and construct a low-cost segmented optical telescope, which became the Hobby*Eberly Telescope.

Kudritzki holds a diploma in Physics and a PhD in Astronomy from the Techniche Universität Berlin.

NEWS FROM NSF

NSF Town Meeting at Rochester

Kevin Marvel, Associate Executive Officer for Policy Programs

The NSF Town meeting, a regular event at AAS meetings, was well-attended and a number of exciting changes for the NSF-AST division were presented to attendees.

Dr. **Hugh Van Horn**, Division Director, led off the session by presenting the construction status of the various division projects. The GBT mechanical work is complete and the adjustment of the numerous reflector panels is underway. Gemini North will begin regular science observations sometime this summer and Gemini South construction is ahead of schedule and on budget. ALMA obtained another year of design and development funding and plans are to move it into construction in FY 2002. (*Public Policy note: Strong support from the astronomical community for the ALMA project will be vital to ensure it is funded completely.*)

In division staff news, there have been some staff changes (*see article below*). Dr. Van Horn will be taking a year of sabbatical leave and then return to NSF in another capacity. He plans to write a book on white dwarfs during his well-deserved year of absence. Replacing him will be Dr. **Wayne Van Citters**, who will serve as acting director for one year as the search for a new director is made.

Dr. Van Citters and Dr. Friel presented some further news regarding the restructuring of the grants program. This includes a uniform deadline (**25 September**) for most of the individual investigator grant programs. These include the Extragalactic, Galactic, Stellar, and Planetary Astronomy programs as well as the Research at Undergraduate Institutions program. Other programs, such as CAREER, Research Experience for Undergraduates, etc. and agency-wide programs such as the Professional Opportunities for Women in Research and Education (POWRE), still have independent deadlines.

Dr. Van Citters and Dr. Friel also announced that the restructuring of the grant program would include enhanced opportunities for collaborative review with other disciplines to enable cross-disciplinary activities more efficiently. They also expressed that the restructuring would give the division greater flexibility to be more responsive to the rapidly evolving research environment.

Also of note was the announcement of a new postdoctoral program, which would allow postdocs to locate at any institution of their choosing to pursue research funded by the NSF. Details were not yet available, but should be posted soon at the division web page at http://www.nsf.gov/mps/ast.

Staff Changes in the NSF Division of Astronomical Sciences

Robert A. Eisenstein, Assistant Director for Mathematical and Physical Sciences

Many AAS members are already aware that there were two major changes in the leadership of the Division of Astronomical Sciences earlier this year. On 3 April, Dr. **Morris L. Aizenman** accepted a position as Senior Science Associate with my staff in the Office of the Assistant Director for Mathematical and Physical Sciences (MPS). Dr. Aizenman has served with distinction for many years in the Astronomy Division as Program Director, Section Head, and most recently as Executive Officer. I would like to take this opportunity to thank him for his many contributions to US astronomy in his various roles at NSF.

I am very pleased that Dr. **Eileen Friel** agreed to return to NSF as the new Executive Officer. She had recently spent a three-year term at NSF, first as Program Director for Stellar Astronomy and Astrophysics, then as Acting Program Director for Planetary Astronomy and for Galactic Astronomy, and as Acting Coordinator for the entire Research Grants Unit. She also served with distinction on several MPS-wide working groups. We all look forward to working with her again now that she has returned in this key position for the Division.

On 17 June 2000, Dr. **Hugh Van Horn** stepped down as Director of the Division of Astronomical Sciences after serving with distinction in that capacity for seven years. He has begun a year-long sabbatical leave as Visiting Investigator in the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. During his tenure he made many important contributions to the Division, most notably by the recruitment of several outstanding new staff members to carry forward the Division's business. His time also saw the completion of the Gemini North telescope, while Gemini South and the Green Bank Radio telescopes are also nearing completion. Dr. Van Horn also lead the development of a Divisional Strategic Plan for the medium-term future, and convened a Portfolio Allocation Review panel to assess the status of the Division's investments and plans. I would like to take this opportunity to thank him for his many contributions to US astronomy. I have asked Dr. Van Horn to take on the position of Senior Science Advisor for the MPS Directorate when he returns to NSF at the conclusion of his sabbatical.

While the search for a permanent Division Director is carried out, I have asked Dr. **G. Wayne Van Citters** to assume the position of Acting Division Director. Over the past 20 years, Dr. Van Citters has served as Program Director for the Advanced Technologies and Instrumentation Program, as Coordinator of the Optical and Infrared Facilities Unit, and for the past eight years as Staff Associate for the Gemini 8-Meter Telescopes project. With this background and experience, both within NSF and the astronomical community, I believe he will bring a great deal of insight and a valuable perspective to bear on the challenges facing the Division of Astronomical Sciences.

Given the pace of discovery and the dynamic state of development and planning that is outlined in the recently-released report of the Astronomy and Astrophysics Survey Committee, I believe that the Astronomy Division should not simply mark time while the search for a permanent division director proceeds. Wayne and Eileen are determined to move forward with ideas and changes to strengthen astronomy and its connections to other closely related fields, especially to astrophysics and to education. I fully endorse their activist approach. I know also that they are intent on obtaining community input and support in order to achieve the best possible outcomes. I hope that you will join with them in the months ahead to plan for the future of your important and fascinating science.

NEWS FROM NASA

NASA Town Meeting at Rochester

Kevin Marvel, Associate Executive Officer for Policy Programs

At the Rochester meeting, **Guenter Riegler** presented news from the NASA Office of Space Science, mainly announcing the plans for the senior review of the Supporting Research and Technology program (SR&T), which provides grant funding for supporting research (like grants to individual researchers) and technology development. The review will take place during 2001 and lead to funding recommendations for the program for the FY 2002 budget (*for details, the NASA White Paper is printed below*). This review will be repeated every three years. The hope is that the SR&T program can be made stronger through this process and that supportable justification for increased funding for the SR&T program can then be presented to Congress and the American people.

Reviewing NASA's Supporting Research and Technology Program

Guenter Riegler, Director, Research Program Management Division, Office of Space Science

Introduction

The attainment of the long-range strategic goals of NASA's Office of Space Science (OSS) requires a constant synergistic interplay between theory, technology and instrument development, and analysis of data from space science missions. This is enabled in large measure through the Supporting Research and Technology (SR&T) program, a broad portfolio of space science activities that provides a variety of types of input that is critical to the achievement of OSS goals.

Until recently the OSS SR&T program consisted of roughly 40 separate program elements distributed across the disciplines of astrophysics, space physics, and planetary research. To ensure that the SR&T program is making the most effective possible contribution to the OSS goals, selection priorities for individual SR&T subdisciplines will be more explicitly determined by the *relevance to the science goals and objectives identified in the Space Science Enterprise Strategic Plan.* Furthermore, OSS will be instituting a triennial review of the program. The process for this review is described below.

Overview of NASA's Space Science SR&T Program

NASA's Space Science SR&T program supports more than 2,000 awards for a total of ~ $210M in Fiscal Year 2000 (FY00). Activities supported by the program range from theory and modeling, through laboratory-based research, to the development and validation of new instruments

As a step towards clarifying the role of the various SR&T program elements, the previous set of 40 individual SR&T elements has recently been grouped into 9 science "clusters" (*see table below*) consisting of related science or functional programs, and managed by the same Discipline Scientists in NASA's Office of Space Science Research Division.

SR & T Review Process

In order to ensure that the SR&T program is making the most effective possible contribution to our goals, OSS will convene a review, called the "SR&T Senior Review," the first of which will be held in June or July 2001. Reviews will follow at three-year intervals after this, with the second review planned for mid-CY04. At the review, reports on each Cluster will be presented that describe the content of the cluster, its relevance to the goals in the most recent Space Science Enterprise Strategic Plan, highlights of a few recent significant accomplishments, and previews of ongoing efforts. These reports will be reviewed by a panel consisting of active researchers with recent research efforts in two or more of the science clusters, who will have been selected for their breadth and impartiality, rather than as

Table: Science Cluster Names and Program Content

Cross-Theme Theory and Data Analysis Programs	(a) Sun-Earth Connection (SEC) Theory Program, SEC Guest Investigator Program; (b) Astrophysics Theory Program, Astrophysics Data Program, and Long-Term Space Astrophysics Research Program
Solar and Heliospheric Sciences	Heliospheric Physics, Solar Physics SR&T, and Solar Low Cost Access to Space
Geospace Sciences	Magnetospheric Physics; Ionospheric, Thermospheric, Mesospheric Physics; Geospace Low Cost Access to Space
Origin and Evolution of Solar System Bodies	Cosmochemistry, Planetary Geology and Geophysics, Origins of Solar Systems, Mars Data Analysis Program (DAP), Lunar DAP
Planetary Systems Science	Planetary Astronomy, Near-Earth Objects, Planetary Atmospheres incl. Suborbital Research, Observatory Support, Jupiter DAP
Astrobiology and Planetary Instrumentation	Exobiology, Astrobiology, Planetary Instrument Definition, Planetary Instrument Upgrade, Planetary Protection
Astrophysics	Infrared/Radio/Interferometry Astronomy; UV, Visible and Gravitational Astrophysics; Space Astrophysics Detectors, and Suborbital Research
High Energy Astrophysics	X-Ray, Gamma-Ray, and Cosmic Ray Astrophysics (incl. instrumentation, laboratory and suborbital research)
Information Systems	Applied Information System Research

advocates for any specific SR&T cluster. Panel members will be asked to address three questions:

- Is the current science cluster structure optimal for attaining the long-term strategic goals of the Space Science? Are cross-disciplinary research areas adequately accessible?
- What is the science quality and productivity of each science cluster, and to what degree does each cluster support or enable the strategic coals of the Space Science Enterprise?, and
- Judging by the priorities in the strategic plan, is the current funding distribution across the nine science clusters the right one, or would the review panel recommend changes?

The Office of Space Science will take the recommendations of the Senior Review panel into account in determining the changes, if any, to be made in the SR&T program structure, and in formulating budget plans for the SR&T programs for Fiscal Year 2002 and beyond. Using a combination of the traditional annual reviews of a portion of each program element, and this new triennial review of the overall SR&T program, we expect to maintain a productive and responsive SR&T program that is at the same time clearly focused on the achievement of the long range strategic goals of the Space Science Enterprise.

GENERAL NEWS

New Decadal Survey

Christopher F. McKee (UC Berkeley) and Joseph H. Taylor, Jr. (Princeton), Co-Chairs

Each decade for the past half century, the astronomy and astrophysics community has set out its priorities for the coming decade. The priorities are determined by the Astronomy and Astrophysics Survey Committee, which is established under the auspices of the National Academy of Sciences. In determining scientific priorities, the committee consults extensively with the community. Historically, reports of the committee have been extremely successful: for example, the Field report, released in 1982, recommended AXAF, the VLBA, and FUSE; the Bahcall report (1991) recommended SIRTF, the Gemini telescopes, the Millimeter Array, and SOFIA, among other initiatives.

The most recent committee, chaired by Christopher F. McKee (UC Berkeley) and Joseph H. Taylor, Jr. (Princeton), has just released its report. Entitled "Astronomy and Astrophysics in the New Millennium," the report affirms the importance of completing key recommendations of the Bahcall committee, and recommends an ambitious set of projects for the coming decade. The highest priority is the Next Generation Space Telescope. High priority is also given to a 30m ground-based optical/infrared telescope, the Constellation X-ray Observatory, an instrumentation program for ground-based telescopes, and development of a National Virtual Observatory that would provide wide access to astronomical data archives. In addition, the report makes a number of recommendations on education and on policy issues. An unedited version of the report can be found by searching under "astronomy" at http://www.nap.edu/. The final version of the report will be available this Fall. In the past, the astronomical community has united behind the consensus recommendations of the Astronomy and Astrophysics Survey Committee, and such support is essential if the current recommendations are to be realized.

ASP NEWS

Havlen Retires, ASP Names James White Director

James C. White II has been named executive director of the Astronomical Society of the Pacific (ASP) by the Society's Board of Directors, effective 16 July. The previous executive director for the past seven and a half years, Dr. **Robert J. Havlen**, announced his resignation on 18 April. As executive director, White will manage the organization, developing new initiatives and overseeing the Society's diverse activities in astronomy education and outreach.

White has been editor of the Society's *Mercury* magazine and its teachers' newsletter, "The Universe in the Classroom," for the past three years. Until accepting the executive director position, he had also served as assistant and later associate professor of astronomy at Middle Tennessee State University for seven years.

White was born in 1962 in Fayetteville, Tennessee. A San Francisco resident, he received his bachelor's degree in physics from Birmingham-Southern College in Birmingham, Alabama, and holds a doctorate in astronomy from Indiana University, Bloomington.

ANNOUNCEMENTS

Continued from page 11

Hubble Space Telescope Cycle 10 Call for Proposals

Release Date: **14 June 2000**
Proposal Deadline: **8 September 2000**

NASA and The Space Telescope Science Institute are pleased to announce the Cycle 10 Call for Proposals for astronomical observations and archival research utilizing the Hubble Space Telescope (HST). Participation in this program is open to all categories of organizations, both domestic and foreign, including educational institutions, profit and nonprofit organizations, NASA Centers, and other Government agencies. This solicitation will be open from 14 June 2000 through 8 September 2000 8:00pm EDT, and proposals may be submitted throughout this period. Specific guidelines for proposal preparation are available electronically from the Space Telescope Science Institute's World-Wide Web site at the Cycle 10 Announcement Web Page at http://www.stsci.edu/ftp/proposer/cycle10/announce.html.

All programmatic and/or technical information is available at the web site or you can contact the STScI Help Desk, email help@stsci.edu, Tel: 410-338-1082.

The submission of proposals for this Cycle is entirely electronic. The Scientific Instruments offered are the Advanced Camera for Surveys, the Fine Guidance Sensor, the Near Infrared Camera and Multi-Object Spectrometer, the Space Telescope Imaging Spectrograph, and the Wide Field Planetary Camera 2. However, proposers should check the Cycle 10 Announcement Web Page in the period leading up to the proposal deadline for updates on the anticipated details of Servicing Mission SM3B, which will affect the details of Cycle 10. Results of the selection will be announced in mid to late December 2000.

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ANNOUNCEMENTS
Continued from page 19

Call for NRAO Observing Proposals

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

Instrument	Deadline	Observing Period	Note
VLA	2000 Oct 1	2001 Feb—2001 May	B config/max baseline 11km
	2001 Feb 1	2001 Jun—2001 Sep	C config/max baseline 3 km
VLBA	2000 Oct 1	2001 Feb—2001 May	
	2001 Feb 1	2001 Jun—2001 Sep	

There is no call for proposals to the 12 Meter Telescope as it was closed in 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 October 2000** for the sessions in Feb 2001 and May/Jun 2001. Further information on NRAO instruments and proposal submission routes is available from the NRAO home page at http://www.nrao.edu.

NSO Observing Proposals

****Note change in deadline for 4th quarter 2000****

The current deadline for submitting observing proposals to the National Solar Observatory is **15 August 2000**, for the fourth quarter of 2000. Forms and information are available from the NSO Telescope Allocation Committee at P.O. Box 62, Sunspot, NM 88349 for Sacramento Peak facilities (sp@sunspot.noao.edu) or P.O. Box 26732, Tucson, AZ 85726 for Kitt Peak facilities (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. Users' Manuals are available at http://www.sunspot.noao.edu/telescopes.html for the SP facilities and http://www.nso.noao.edu/nsokp/nsokp.html for the KP facilities.

Theodore Dunham, Jr. Grants in Astronomy

The Fund for Astrophysical Research invites applications for the award of small research grants in astronomy. Applications must be received by **2 October 2000**. Notification of awards will be made and funds will be disbursed in December. For detailed guidelines and application procedures, visit http://www.fdncenter.org/grantmaker/fundastro.

Van Biesbroeck Nominations Requested Early

Hyron Spinrad, chair of the AAS George Van Biesbroeck Prize Award Committee, requests the submission of prize nominations well before the 1 October deadline and preferably before **1 September 2000.** See the AAS website for past prize recipients, and *Newsletter* page 5 for prize nomination form. Nominations should be sent to him at spinrad@bigz.berkeley.edu.