ASTROPHYSICS newsletter

The Division of Astrophysics
•
The American Physical Society
•
February 1999

DAP at the Cenntennial and Millennium

Josh Grindlay, Chair, DAP

The upcoming Centennial meeting in Atlanta (see separate summary) promises a rich assortment of talks from many of our members and of course the chance to interact with our colleagues from other branches of physics. In this year of millennium preparations, it also offers us a chance to pause and consider what new directions we might chart for the Division over the coming few years at least (as astrophysicists, with our penchant for orders of magnitude, we are again planning a decade but surely not the next two orders!). Many might agree that astrophysics is increasingly becoming not only relevant to and interactive with most other disciplines in physics but also where much of the most exciting physics is to be found. Our increasingly powerful observational and theoretical tools more than compensate for our physics having to be done from afar; in just the past year key advances have been made in topics as fundamental as accretion onto and relativistic effects near black holes, and the matter-energy content of the universe. Not suprisingly, physics colleagues from other disciplines
keep coming in and further stimulating our field; the influx of particle physicists into gamma-ray astronomy is a recent example. Even the NSF has recognized this trend, with a new astrophysics initiative within the physics division.

So why, then, is the DAP not expanding significantly? There has been modest growth, yes, but not commensurate with the current trends mentioned. Are we competing too much with our AAS and High-Energy Astrophysics Division commitments (many of are joint members)? How can we make DAP sessions, and APS meetings generally, more attractive to our astronomical (and HEAD) colleagues? The contact with other physics disciplines at an APS meeting can expand our astrophysics horizons. At the DAP Business Meeting last year, I began a discussion of how we might design our future meetings since the APS was then urging us to consider moving the Fall. This move has since (at least for now) been abandoned by the APS but we are free to still consider meeting options. At the DAP Executive Committee meeting in Atlanta we shall consider several options for possible change, such as coordinating DAP with HEAD meetings every 3 years. We need your input and ideas. Please email or call any of us, and PLEASE come to the Business Meeting (more exciting than most, we promise!) to share your thoughts. It's time to launch DAP (along with Chandra!) into a new era.

Fellows Nominations

It's time, once again, to consider that desrving DAPer Feollow ro recognition by the APS! The DAP is able to put forth nomination for 8 new Fellows (if our membership were larger we could do more!) each year. The Divions vice chair, Vriginia Trimble, heads the fellowshipc committee. Nomination forms are available from http:// aps.org/felloship/nomination_form.html and should be submitted to APS by the deadline of May 1, 1999. Please consult with colleagues and identify candidates (Fellows are identified in the APS Directory if you wish to check first) and submit (brief) supporting materials.

-Josh Grindlay
Chai, DAP

The deadline for DAP nominations for APS Fellowships is May 1, 1999. Theprocedure for nominating a colleagues for Fellowship is as follows:

1. *Insure nominee is a member of the Society in good standing.*
2. *Obtain signatures of two sponsors who are members of the Society ingood standing.*
3. *Submit signed Nomination Form, Curriculum Vitae, and Supporting*

Letters prior to unit deadline (May 1) as a complete packet to:
Executive Officer
The American Physical Society
One Physics Ellipse
College Park, MD 20740-3844
ATTN: Fellowship Program

Although there is no required number of supporting letters for each nomination, typically 2 - 3 letters from individuals outside the nominee's institution who are familiar with the nominee's work are submitted.

More information and forms can be obtained at http:// www.aps.org/fellowship/index.html Please consult with colleagues and identify candidates (Fellows are identified in the APS Directory if you wish to check first) and submit (brief) supporting materials.

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New APS Fellows

The following distinguished scientists are our Division's new Fellows of the American Physical Society.

J. Richard Bond
"For fundamental contributions to astrophysics and cosmology; in particular for developing the understanding of fluctuations in the cosmic background radiation."

Jack O'Neal Burns
"For fundamental contributions to the observation and numerical modeling of extragalactic jets and clusters of galaxies"

Joan Mary Centrella
"For her original contributions to numerical relativity, cosmology, and astrophysics, in particu8lar for her studies of large-scale structure in the universe and sources of gravitational radiation."

W. Neil Johnson
"In recognition of outstanding contributions to observational gamma-ray astrophysics development of the OSSE instrument, and the understanding of high-energy emission form the Galaxy and Active Galactic Nuclei."

Lawrence M. Krauss
"For his original contributions at the interface of particle physics and astrophysics."

Stuart Louis Shapiro
" For his broad contributions to theoretical astrophysics and general relativity, including the physics of black holes, neutron starts, and large N-body dynamical systems, and his pioneering use of supercomputers to explore these areas."

Friedrich K. Thielemann
" For his work at the interface of nuclear physics and astrophysics and the applications to stellar nucleosynthesis, Type Ia and Type II Supernovae, as well as the r- and rp- process."

Claudia Megan Urry
"For pioneering studies of the nature of Active Galactic Nuclei through multi-wavelength observational campaigns and the elucidation of unified models."

Possible Changes to the APS Council

Steve Holt, Astrophysics Division Councilor

The APS Council has seventy-one members. Its meetings are held twice per year, with agenda that are largely devoted to the pro forma approval of decisions that are made elsewhere in smaller meetings. I am the sole formal representative of the Astrophysics Division, but other divisions can have as many as four councilors in acknowledgment of their larger memberships. In addition to division councilors, the council meetings include general councilors, elected officers, APS staff, international guests, and representatives of geographical sections and topical fora.

APS Executive Officer Judy Franz has chartered a small committee to study the subject of making council meetings more (potentially) productive. I am a member of this committee, which is chaired by Ernest Henley.

I have already contacted individuals familiar with the inner workings of other societies like the AAS and AGU for information about their council structure, and the manner in which they share work with executive and standing committees. Any other ideas would be welcome; please send them to me at steve.holt@gsfc.nasa.gov.

The almost certain result of this exercise will be a council that is smaller and more dynamic. Having a single councilor in a smaller council will guarantee that the Astrophysics Division has a somewhat larger proportional voice, and a more active agenda should give that councilor an opportunity to be more proactive on behalf of the division.

Invitation to apply for support of local expenses at the 26th International Cosmic Ray Conference in Salt Lake City.

The local organizing committee of the 26th ICRC has applied to NASA for funds to support the local expenses (hotel, registration etc.) for a number of young scientists who will serve as scientific secretaries to the conference. These positions will be available to scientists who are either American citizens or are employed by U.S. institutions. Selections will be made by a committee appointed by the national organizing committee on the basis of scientific merit in the field of cosmic ray physics with a preference to young scientists (e.g. graduate students and post-docs). The conference will be held August 17th to August 25th 1999 in Salt Lake City, Utah. Note that individuals are responsible for their own transportation costs to and from Salt Lake City.

Letters of application should be sent to:
Professor Jordan A. Goodman
Department of Physics
University of Maryland
College Park, Maryland 20742-4111
Atten: ICRC 99

Applications must be received by April 1, 1999. Applications should include:
1. A brief vita and list of relevant publications
2. Reasons for attendance and copies of abstracts submitted to the conference
3. List of grant, contract and institutional support available to applicant and an explanation of the reason this support is needed

Awards will be announced in early May (contingent on the award by NASA).

DAP Sessions for the Centennial Meeting

March 20-26, 1999

Session BC16. DAP: **Gamma Ray Bursts**.
Sunday afternoon, 14:00, Room 264W, GWCC
Chair: Chryssa Kouveliotou

14.00 BC16.01
The History and Observed Properties of Gamma-Ray Bursts
Gerald J. Fishman (NASA / Marshall Space Flight Center)

14:36 BC16.02 **Gamma Ray Burst Afterglow Observations.**
van Paradijs (University of Amsterdam)

15.12 BC16.03
Gamma-Ray Bursts and Supernovae from Collapsed Stars
Stan Woosley (Astronomy Department, UCSC)

15:48 BC16.04
Gamma-Ray Burst Afterglows: Fire from Relativistic Supernovae
Ralph Wijers (Dept. of Physics and Astronomy, SUNY at Stony Brook)

16:24 BC16.05
Tracing the Early Universe with Gamma Ray Burst Observations
Dieter Hartmann (Clemson University)

Session EB22. DAP: **The Cosmological Constants.**
Monday morning, 10:30, Room 313E, GWCC
Chair: Robert Kirshner

10:30 EB22.01 **The Cosmological Constant**
Sean Carroll (Institute for Theoretical Physics, University of California, Santa Barbara)

11:00 EB22.02 **Cosmological Background Radiation**
Max Tegmark (Institute for Advanced Studies)

11:30 EB22.03 **Omega**
Michael Strauss (Princeton University)

12:00 EB22.04 **The Hubble Constant**
Robert Kennicutt (University of Arizona)

12:30 EB22.05 **The Age and Fate of the Universe**
John Huchra (Harvard-Smithsonian Center for Astrophysics)

Session EB01. DAP: Solar System, Extrasolar Planets.
Monday morning, 10:30, Room 201E, GWCC
Chair: Scott Smith
10 Contributed papers 10:30 to 12:30

Session FB10. DAP: **Galaxy Formation and Cosmology II.**
Monday afternoon, 13:15, Room 217E, GWCC
Chair: Michael Catanese
10 Contributed Papers 13:15 to 15:15

Session IA02. DAP: **Centennial Symposium: Unsolved Problems in Astrophysics.**
Tuesday morning, 08:00, Ballroom II & III, GWCC
Chair: Robert Wilson

08:00 IA02.01 **The Nature of Extrasolar Planets**
Geoffrey Marcy (San Francisco State University and University of California, Berkeley)

08:36 IA02.02 **Black Holes and Relativistic Jets**
Roger D. Blandford (California Institute of Technology)

09:12 IA02.03 **Origin of the High-energy Cosmic Radiation**
Thomas K. Gaisser (Bartol Research Institute, University of Delaware)

09:48 IA02.04 **Dark Matter**
Michael S. Turner (The University of Chicago)

Session JB21. CSWP / DAP: **Patching the Pipeline: Issues and Actions.**
Tuesday morning, 10:30, Room 312E, GWCC
Chair: Marjorie Olmstead

10:30 JB21.01 **The Status of Women in Astronomy, 1899-1949: Opportunity versus Drudgery**
Barbara Welther (Harvard-Smithsonian Center for Astrophysics)

11:06 JB21.02 **The Baltimore Charter and its Impact**
Meg Urry (Space Telescope Science Institute)

11:42 JB21.03
The Two-Body Problem: Dual-Career Issues and Solutions
Laurie McNeil (Univ. of North Carolina at Chapel Hill)

12:18 JB21.04 **Weather Report: The Climate for Women in Physics**
Priscilla Auchincloss (University of Rochester)

Session JB23. DAMOP, DAP:
AMO Physics for Astronomy in the New Millennium.
Tuesday morning, 10:30, Room 314E, GWCC
Chair: Kate Kirby
10:30 JB23.01

Atomic data needs for astrophysical X-rayspectroscopy
Steven M. Kahn (Columbia University)

11:06 JB23.02 **The Growth of Molecular Complexity in the Universe**
Alexander Dalgarno (Harvard-Smithsonian Center for Astrophysics)

11:42 JB23.03
Infrared Spectroscopy of Gas-phase and Solid-state Species in Space
Ewine F. van Dishoeck (Leiden Observatory, P.O. Box 9513, 2300 RA
Leiden, The Netherlands)

12:18 JB23.04 **Atomic physics and space astronomy for the next decade**
David Leckrone (NASA Goddard Space Flight Center)

Session LB01. DAP: **Cosmic Rays I: ACE Results.**
Tuesday afternoon, 13:15, Room 201E, GWCC
Chair: Frank Jones
7 Contributed Papers 13:15 to 14:39

DAP BUSINESS MEETING
Tuesday afternoon, 15:00, Room 201E, GWCC
Wine and Cheese reception.

Session: OB01. DAP.
Technological Advances as Drivers of Progress in Astrophysics.
Wednesday Morning, 08:00. Room 201E, GWCC.
Chair: Sam Scheber

I**ntroduction: New Ideas, People, and Instruments as the Drivers ofAstronomical Discovery**
Virginia Trimble (Physics Dept. U. California, Irvine; Astronomy
Dept. U. Maryland)

08:36 OB01.02 **Looking Backward While Leaping Forward: Optical Technologies and Discoveries**
Judith Cohen (Palomar Observatory, California Institute of Technology)

09:12 OB01.03 **High Resolution Radio Imaging in Astrophysics**
Kenneth Kellermann (National Radio Astronomy Observatory)

09:48 OB01.04 **How Computer Technology Has Changed Astrophysics**
David Arnett (Univ. of Arizona)

10:24 OB01.05 **How Technology Has Shaped X-Ray Astronomy**
Herbert Gursky (Naval Research Laboratory)

Session PP01. Session V. **DAP Poster Session**
Wednesday morning , Exhibit Hall 10:00 +

Session QA02. DPF / DNP / DAP: **Centennial Symposium: Neutrinos.**
Wednesday morning, 11:00, Ballroom II & III, GWCC
Chair: Peter Rosen

11:00 QA02.01 **Atmospheric Neutrinos**
Yoji Totsuka (University of Tokyo)

11:36 QA02.02 **Radiochemical Solar Neutrino Experiments** Raymond Davis (Department of Physics and Astronomy, University of Pennsylvania)
12:12 QA02.03 **New Excitement in the Theory of Supernova Explosions**
Adam Burrows (University of Arizona, Department of Astronomy)

12:48 QA02.04 **The Big Picture**
Wick C. Haxton (University of Washington)

Session QB01. DAP: **High Energy Astrophysics.**
Wednesday morning, 11:00, Room 201E, GWCC
Chair: Donald Kniffen
13 Contributed Papers

Session SB01. DAP: **Cosmic Rays III: New Approaches, Future Detectors.**
Wednesday afternoon, 14:00, Room 201E, GWCC
Chair: David Bertsch
13 Contributed Papers 14:00 to 16:36

Session UB02. DAP / DNP / DPF: **Great Observatories.**
Thursday morning, 08:00, Room 202E, GWCC
Chair: Kevin Lesko

08.00 UB02.01
The Hubble Space Telescope and the future of Astronomy from space
Steven Beckwith (Space Telescope Science Institute)

08:36 UB02.02 30
Years of High-Energy Gamma-Ray Astronomy: What have we learned?
Donald Kniffen (Hampden-Sydney College)

09:12 UB02.03
The Ultra High Energy Cosmic Ray in Fluorescence: Results from the Fly's eye and HiRes Experiments
Pierre Sokolsky (High Energy Astrophysics Institute, Physics Dept. Univ. of Utah, Salt Lake City, Utah), HiRes Collaboration

09:48 UB02.04 **The Sudbury Neutrino Observatory**
Hamish Robertson (University of Washington)

10:24 UB02.05
Initial Results from the AMANDA High Energy Neutrino Detector
Steven Barwick (University of California - Irvine)

Session UB01. DAP:
Cosmology I: Dark Matter, Early Universe, and Alternative Models.
Thursday morning, 08:00, Room 201E, GWCC
Chair: Sean Carroll
10 Contributed papers 08:00 to 10:00

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DAP Election 1999

It's time again to elect new officers and members-at-large for the Executive Committee. The candidates for member at-large of the executive committee and for vice chair have provided their statements below. Please review them, and vote on the enclosed ballot! DEADLINE: March 18, 1999 ballots must be received

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For Vice Chair

W .Robert Binns

WASHINGTON UNIVERSITY IN ST. LOUIS

BIOGRAPHICAL INFORMATION:

Dr. Binns is Research Professor of Physics at Washington University in St. Louis. He obtained his Ph.D. at Colorado State University in 1969. Since that time his research has been primarily in cosmic ray astrophysics and, in addition, since 1997, in gamma-ray astronomy. His cosmic ray work is directed at experimental studies of the elemental and isotopic composition of heavy cosmic rays. He and the Washington University cosmic ray group have developed scintillating fiber detectors, which have wide applicationss in precision measurements of charged particle trajectory and shower development. He is a co-investigator on the Cosmic Ray Isotope Spectrometer (CRIS) experiment aboard the NASA Advanced Composition Explorer (ACE) satellite that was launched in August, 1997, which is aimed at an understanding of the sources of cosmic rays, their propagation through the galaxy, and the injection and acceleration of particles to cosmic ray energies. He is actively involved in balloon-borne and possible future satellite experiments aimed at the measurement of the elemental abundances of elements with Z330. He was a co-investigator on the Heavy Nuclei Experiment, which was flown aboard the NASA High-Energy Astronomy Observatory (HEAO-3) spacecraft. In gamma-ray astronomy, he is a co-investigator on the FiberGlast instrument, which is being studied, for possible use as a space-borne telescope for gamma rays with energies up to several hundred GeV.

Charles Dermer

NAVAL RESEARCH LABORATORY

BIOGRAPHICAL INFORMATION:

Chuck Dermer received his Ph.D. from the UC San Diego physics department in 1984 on theoretical studies of relativistic plasmas. He subsequently held postdoctoral and research scientist positions at government labs (NASA/GSFC, LLNL) and universities (Berkeley SSL, Rice U) before joining NRL in 1992 as a supervisory astrophysicist. He was a DAP/APS executive committee member-at-large from 1996-1998, and an executive committee member of the High Energy Astrophysics Division of the American Astronomical Society from 1995-1997. He has also served on numerous NASA review committees and organizing committees for scientific workshops and conferences. He volunteered to oversee the development of the DAP exhibit at the March 1999 APS Centennial meeting in Atlanta, Georgia (http://osse-www.nrl.navy.mil/dap-aps).

RESEARCH INTERESTS:

My primary expertise is in astrophysical radiation processes, which I've used to model gamma-ray bursts, active galaxies, cosmic rays, compact objects, the Sun, and the interstellar medium. Candidate's Statement: The principle role of the Division of Astrophysics is to channel knowledge between the astronomy and physics communities. The DAP does this by organizing invited and contributed sessions which highlight the latest astronomical research with the goal of stimulating the development of new computational and physical methods. The reverse flow is just as important: to expose astronomers to physics research that is relevant to the interpretation of astronomical data. As vice-chair, my irst priority will be to help organize sessions that are educational and edifying, and which attract the interest of physicists. As in the past, we must encourage the DAP membership to propose sessions highlighting the most important new astronomy. My second priority will be to increase the DAP membership. One way to do this is by increasing the services provided to the members. It has become apparent to me that within a few years most scientists will have personal web sites. This decentralization and expansion of information comes with a price: the atomization of knowledge. The K-12 Education and Outreach Sites, however useful, do not bridge the gap from astronomy fundamentals to the highly specialized information found on scientists' web sites. My goal, if elected, is to develop a DAP Public Outreach site on a wide variety of topics in astronomy, at the level of presentations made in typical scientific colloquia. Links will be made from the DAP site to web sites of DAP members. The success of this project depends not only on DAP membership involvement, but on the assistance of the NASA Education and Public Outreach office, which has already provided support to me for the development of the DAP/APS Centennial exhibit.

Finally, the DAP must be frankly honest about the employment situation, both for students entering the field and for recent Ph.D. At the same time, it should seek to increase federal astronomical funding by playing a more active role in the legislative process through public education, media outreach, advocacy, and direct lobbying. In particular, we should actively support implementation of S. 2217, the Federal Research Investment Act.

For Member-at-Large

Michael L. Cherry

LOUISIANA STATE UNIVERSITY

BIOGRAPHICAL INFORMATION:
Michael Cherry is a Professor in the Physics and Astronomy Dept. at Louisiana State University. I received my Ph.D. from the University of Chicago in 1978, spent three years as a postdoc at the University of New Hampshire, and was on the faculty at the University of Pennsylvania (1980-1988) before moving to LSU in 1988.

RESEARCH INTERESTS:
I have been involved in experiments in a number of areas of high energy and particle astrophysics. I have worked on the development of transition radiation detectors for cosmic ray measurements, and on measurements of the high energy cosmic ray spectrum using underground muons and balloon-borne detectors; on measurements of nucleus-nucleus interactions of interest to nuclear physics and high energy cosmic rays; on the SAGE experiment to measure the flux of proton-proton fusion neutrinos from the sun; on the SMM gamma ray experiment and the development of fast CCDs and high resolution detectors for hard X-ray and gamma ray astronomy; and currently on planning and design efforts for the future GLAST and ACCESS space missions. I have also been involved in efforts in Louisiana to expand the state's research infrastructure, to aise the level of science at minority institutions, and to increase the number of students able to get hands-on experience in research laboratories.

CANDIDATE'S STATEMENT:
Astrophysics has a unique and key role to play in areas involving the levels of research funding, the training of future scientists and non-scientists, and the interest of the general public in science. The excitement generated by new results in astrophysics is a tool we need to use constantly to motivate students, to fascinate the public, to demonstrate the importance of spin-off technology, and to justify the work we do and the resources needed for a productive science establishment. We need to continue to organize excellent programs at meetings by choosing topics and speakers who will appeal to a large cross section of APS members, and especially young scientists. We need to use the excitement of our field in outreach efforts to the general public, and in particular teachers and students. We also need to recognize the increasing interdisciplinary nature of much of our research, and work to insure that funding does not fall between the cracks of traditional agency boundaries.

Brenda Dingus

UNIVERSITY OF UTAH

BIOGRAPHICAL INFORMATION:
Brenda Dingus received her Ph.D. from the University of Maryland followed by a USRA scientist, both at NASA Goddard Space Flight Center. In 1996, she became an assistant professor at the University of Utah in Salt Lake City. Her research interests center on gamma-ray astronomy. At NASA she studied gamma-ray bursts with EGRET on the Compton Gamma-Ray Observatory. She is currently working on Milagro, an extensive air shower detector for TeV gamma rays, and is looking forward to involvement in the upcoming construction of new detectors both on the ground and in space. Her service experience includes member of the Executive Committee of the 4 Corners Section of the American Physical Society, editor of the proceedings of International Cosmic Ray Conference August 1999, member of the Compton Gamma-Ray Observatory Users Group, and member of the GLAST Science Facility Team.

CANDIDATE STATEMENT:
At last year's April APS meeting, I attended the DAP business meeting and learned of several interesting issues. For example, the annual meeting may change venues due to rescheduling or elimination of the April APS meeting. I believe the annual meeting is an important way for physicists to meet others in different fields and will work to make sure the meeting coincides with other divisions such as the DPF. Also, the DAP has sufficient funds to consider an annual prize for a young scientist. I would like the DAP to consider other means of supporting young scientists, such as small grants to topical meetings for reduced student registrations. Smaller topical meetings are also important to the vitality of the many fields contained within the DAP. If elected, I will work on these and other issues facing the DAP.

Claudia Megan Urry

BIOGRAPHICAL INFORMATION:
Current position: Astronomer and Head of the Science Program Selection Office, Space Telescope Science Institute. Past year: sabbatical visitor at the Brera Observatory of Milan and the Johns Hopkins University (JHU). Prior positions: postdoctoral fellow at MIT; Ph.D. 1984 from JHU, working at Goddard Space Flight Center. Research areas include high-energy astrophysics, multiwavelength spectra and variability of active galaxies, unified schemes. Related service includes: NASA Space Science Advisory Council; HEAMOWG (High Energy Astrophysics advisory group to NASA); Executive Committee of the High Energy Astrophysics Division of the AAS; AAS Nominating Committee; AAS Committee on the Status of Women in Astronomy; NRC / NAS Task Group on Space Astronomy and Astrophysics; Executive Committee, Astrophysics Division of the APS; plus assorted Users' Committees, Peer Review panels, and advisory committees.

CANDIDATE'S STATEMENT:
Like other professional organizations, the APS is a critical participant in the nation's debate on the future of science, and the Astrophysics Division provides an important link between the smaller field of astronomy and the larger, more visible community of physicists. I support an activist role for an Astrophysics Division Executive Committee that is aware of the critical issues facing the profession and is forward thinking and inventive. The two most important challenges we as scientist's face are: (1) forging a robust connection to the public through education and public outreach, and (2) enhancing diversity of thought in the profession. This last point refers to the tendency, exaggerated in times of reduced government support for science, to restrict opportunity to students passing through a few top institutions. This filters out people from unusual backgrounds (often including women and minorities) who can provide unorthodox and stimulating ideas.

Gaurang B. Yodh

PROFESSOR OF PHYSICS, UNIVERSITY OF CALIFORNIA IRVINE
IRVINE, CA.

BIOGRAPHICAL INFORMATION:
Ph.D. University of Chicago. He was on the faculties of Stanford University(1954-56), Tata Institute of Fundamental Research(1956-58), Carnegie Institute of Technology(1958-61), University of Maryland(1961-1987) and is currently at University of California Irvine since 1988. He also served as a program officer at the National Science Foundation in Elementary Particle Physics(1978-80), a Visiting professor at University of Arizona(1966-67) and as a Visiting scientist at NASA / GSFC for a year. He is a fellow of the APS(1968) and AAAS(1995). He received the Distinguished Scholar Teacher award of the University of Maryland in 1981. He has chaired several NASA Cosmic Physics Review panels, he was a member of the executive committee of Division of Particles and Fields and has served as an Associate editor to Physical Review D. Research Interests: Very High energy gamma ray astronomy(Cygnus and Milagro), studies of cosmic ray composition at high energies, high-energy neutrino astronomy(AMANDA) and particle physics from cosmic rays.

CANDIDATE'S STATEMENT:
Astrophysical research is truly interdisciplinary and consequently does not fit into traditionally defined fields. We need to continually highlight the importance of resources and expertise of scientists working with the wide range of ground and space based instruments that are operating, under construction or being proposed. We must strive to increase young physicists' and astronomers' awareness of the exciting opportunities that exist. I would strive for maintaining excellence of carefully designed programs for invited talks at the Spring Meeting. These can provide a venue for bringing together researchers from wide ranging fields and funding agency representatives to foster continued growth of astrophysics. Division of Astrophysics members should be encouraged to get involved in efforts to popularize support public understanding of science so that excitement of this interdisciplinary research can result in sustained funding.

NRC Astronomy and Astrophysics Survey:

Particle and Gravitational Wave Astrophysics Panel

As part of the decennial Astronomy and Astrophysics Survey Committee (AASC) review process, this Panel is charged to consider a broad range of topics in particle astrophysics and gravitational wave astronomy. These include dark matter, ground-based gamma-ray astronomy, cosmic-ray experiments in space and from balloons, studies of ultra-high energy cosmic rays, solar and supernova neutrinos, high energy neutrino astronomy and astrophysical aspects of gravitational waves. The Panel is charged to draft a report to the AASC on scientific opportunities and priorities within these fields by August 31, 1999. This report will be used by the AASC as it develops priorities for the next decade in Astronomy and Astrophysics. Scientists with proposals or science concepts for major projects that would be ready to start in the next decade are invited to bring them to the attention of the Panel. This may be done by sending an e-mail message to the Panel Chair, gaisser@bartol.udel.edu, with a copy to the Panel e-mail box, particle@nas.edu. A more general discussion forum for astronomy and astrophysics in association with the AASC process is available on the American Astronomical Society (AAS) web page at http://www.aas.org/decadal.

The first open meeting of the Panel will be March 25/26 in connection with the Centennial APS meeting in Atlanta. There will be a second open meeting of the panel in the Chicago area in late May or early June in association with the Inner Space / Outer Space Meeting (May 25-29 at Fermilab) and the Chicago meeting of the AAS (May 31-June 3). Further information about the panel and its activities, including panel membership and e-mail addresses, is available on the web at http://www.nas.edu/bpa/projects/astrosurvey/particle.

DAP Sessions for Centennial Meeting
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Session VB05. DAP: **Apker and Goeppert-Mayer Award Session.**
Thursday morning, 11:00, Room 205E, GWCC
Chair: Neil Gehrels

11:00 VB05.01 1998 **Apker Award Recipient: Mass of the Milky Way and Dwarf Spheroidal Stream Membership.**
R. Bell (California Institute of Technology)

11:36 VB05.02 Goeppert-Mayer Award Recipient: **Observing the Fastest Moving Stars in Our Galaxy: Evidence of a Supermassive Black Hole at the Center of the Milky Way**
Andrea M. Ghez (U.C.L.A.)

12:12 VB05.03
Particle Acceleration and Radiation in Gamma Ray Bursts
Charles Dermer (Naval Research Laboratory)

12:48 VB05.04 **Young Pulsars, Fast and Slow: The Story from Supernova Remnant Observations**
Patrick Slane (Harvard-Smithsonian Center for Astrophysics)

Session VB10. DAP:
Cosmic Rays II: Balloon-Borne Instrument Results.
Thursday morning, 11:00, Room 217E, GWCC
Chair: Miriam Foreman
10 Contributed Papers 11:00 to 13:00

Session WB01. DAP: **Astrophysical Objects.**
Thursday afternoon, 14:00, Room 201E, GWCC
Chair: Trevor Weekes
13 Contributed papers 14.00 to 16.36

American Physical Society
One Physics Ellipse
College Park, MD 20740-3844