## 2004 APS April Meeting in Denver

The 2004 April Meeting of the American Physical Society will take place in Denver at the Adams Mark Hotel in May. The scientific program features a large number of invited and contributed astrophysics sessions. Sessions of possible interest to DAP members are listed below. The Division reception and business meeting is Monday, 3 May 2004 at 17:30.

### APS and Hubble Space Telescope Servicing Mission Cancellation

As you know, NASA has canceled future servicing missions for the Hubble Space Telescope. In view of the American Astronomical Society’s statement urging NASA to reconsider this decision, the APS Executive Board met to formulate its own statement, and requested input from the DAP Executive Committee.

HST has returned spectacular data that has enriched our science, inspired the next generation of young scientists, and impressed the population at large with the achievements of the NASA astrophysics program. No scientists, least of all astrophysicists, fail to appreciate the value of HST.

Nevertheless, we (the DAP Executive Committee) could not endorse the press release issued by the American Astronomical Society concerning the cancellation of the HST servicing mission, as it called for congressional review of the NASA decision without taking note of the many issues that NASA management had to evaluate in reaching its decision. Whether or not we agree with NASA's decision, we all agree that NASA management solicited advice and then took responsibility for its course of action.

The DAP Executive Committee had a telephone meeting to discuss whether or not we should recommend that the APS Executive Board endorse the position taken by the AAS, its sister society. Although we all agreed with the AAS sentiment regarding the value of HST, we decided that we would recommend against a direct endorsement of the AAS verbiage.

Considering our advice, the APS Executive Board did not endorse the AAS statement, per se. Instead, it drafted the following statement: “The Executive Board of the APS calls on the leadership of NASA to increase the involvement of research scientists in the decision-making processes that strongly affect scientific programs. In this context, the Board urges the NASA Administrator to heed calls for an independent assessment of NASA’s recent decision not to provide a servicing mission to the Hubble Space Telescope. The assessment panel should include research scientists.”

### Election of DAP Executive Committee

We will elect a new Vice-Chair and two At-Large Members of the Executive Committee in the next few weeks. The results will be announced at the April 2004 Meeting in Denver. In this issue you will find the candidates for these positions and their statements. The election will be conducted by online ballot. You will receive email with explicit instructions for voting. Members who have no email address, or whose email ballot is returned, will receive a paper ballot.

### DAP Travel Grants for Students attending the APS April Meeting

The Division can still support a few more travel grants for students to the April Meeting. Late paper abstracts do qualify students for support. To request a travel grant, contact the DAP Chair Elect, Steve Holt at steve.holt@olin.edu. See the November 2003 newsletter for details.

### New APS Fellows

Congratulations to the following new APS Fellows, who were recommended by the Division of Astrophysics:

**Castor, John Irvin**  
Lawrence Livermore National Laboratory  
Citation: For ground-breaking work on radiatively-driven stellar winds, and contributions to the theory of opacities, equations-of-state, and radiation hydrodynamics, including national security applications in high energy-density physics.

**DeYoung, David Spencer**  
National Optical Astronomy Observatory  
Citation: For numerous and important contributions to the theory of extragalactic radio sources, in particular to the understanding of the evolution of astrophysical jets and their interactions with their environment.

**Dodelson, Scott**  
Fermi National Accelerator Laboratory  
Citation: For his fundamental contributions in cosmology, including the theory and analysis of physics models of the early Universe.
Klein, Richard I  
Lawrence Livermore National Laboratory  
Citation: For pioneering contributions in computational astrophysics including star formation, radiatively driven stellar winds, instabilities in supernovae and magnetized neutron stars, and scaled laser experiments simulating strong shock phenomena in the ISM.

Meyer, Stephan S  
University of Chicago  
Citation: For his pioneering use of bolometers to study the anisotropy of the cosmic microwave background and his measurements of CMB anisotropy on scales from 0.1 to 90 degrees.

Wefel, John P  
Louisiana State University  
Citation: For measurements of cosmic ray isotopic and elemental composition and interaction cross sections, and efforts to foster astrophysics-related training, public outreach, and education programs.

Fellowship Nominations

Members of the Division of Astrophysics are encouraged to submit nominations of DAP members for Fellowship in the APS. The number of new Fellows elected per year is limited to one-half percent of the current membership, and is apportioned according to Division membership. Every year, our division has the opportunity to recommend 6 or 7 APS members for Fellowship. On surveying the current list of DAP members, the Executive Committee noted that there are a number of deserving individuals who have not yet been nominated, so please consider your colleagues and organize a nomination on their behalf.

If you would like to recommend a member for Fellowship, please do so by filling out the nomination form that can be found, along with related information, at www.aps.org/fellowship/

Please submit complete nominations by May 1 to:
   Executive Officer  
   American Physical Society  
   One Physics Ellipse  
   College Park, MD 20740-3844  
   ATTN: Fellowship Program

Unsuccessful nominations are automatically reconsidered once by the Fellowship Committee (additional supporting letters are still welcome.) After a second year, nominations must be resubmitted.

Meeting Announcements:

BEYOND EINSTEIN: FROM THE BIG BANG TO BLACK HOLES

Stanford University, 12-15 May 2004  
Sponsored by NASA, DOE, SLAC and hosted by KIPAC.

This meeting will focus on the NASA Beyond Einstein Program, with particular emphasis on recent results on Black Holes, Dark Energy, and the Early Universe. The science capabilities and implementation plans for the Constellation-X and LISA observatories will be reviewed. Possible implementation plans for Einstein Probe missions to survey Black Holes, study Dark Energy, and test theories for the Early Universe will be discussed.

The meeting will include both invited reviews and contributed papers. For more information and registration please visit the web site: http://www-conf.slac.stanford.edu/einstein/default.htm

Saturday 15 May is available for private mission team meetings at SLAC.

WIDE-FIELD IMAGING FROM SPACE

Lawrence Berkeley National Laboratory, Berkeley, California, May 16-18 2004.

The conference will address the scientific opportunities afforded by a wide-field optical and near-IR imager in space.

Conference Motivation: Optical and near-infrared imaging from space would take a major step forward with the launch of wide-field instruments possessing sensitivities comparable to ACS or NICMOS on HST but covering hundreds of times the area. Such instruments would likely be carried on proposed missions to study the dark energy of the Universe. While the prime goal of such a mission would be the investigation of the equation of state of the universe, a significant fraction of the mission could be devoted to wide-field surveys proposed by community members, and could therefore open up entirely new classes of astronomical surveys. It is hoped that this conference may provide feedback that will help insure that proposed instruments will perform well both on the prime mission and on more general wide-field surveys. Talks will therefore span a large range of scientific issues. Complementary surveys from ground and space will also be discussed.

For more information see: http://widefield.lbl.gov

Join APS Sections and Topical Groups

We urge all of our division members to consider joining sections, forums and topical groups relevant to you. Membership is free for sections and forums, and very inexpensive ($7) for topical groups. There are benefits beyond the obvious ones of the meetings, newsletters, and lobbying efforts of the units. Your membership benefits the units and, indirectly, astrophysics.

The geographical sections are funded entirely by APS in proportion to the number of members. It takes seconds to register for free online and help your section. The topical groups (e.g., Plasma Astrophysics, and Gravitation) are funded through their dues, but are awarded invited sessions at APS meetings and APS Fellowship Nominations in proportion their membership.

More members in groups of interest to you result in more talks and more Fellows in your area. Further, the existence of the topical groups depends on their maintaining a membership threshold. There are several good reasons to join, and no good reasons not to.
2004 Election: Candidate Statements

Candidates for Vice-Chair

James Ryan
University of New Hampshire

I received my B.S. degree in Physics and Mathematics from the University of California, Riverside in 1970. In 1973 I received my M.S. degree in Applied Physics from the University of California, San Diego under the guidance of W. Ian Axford, writing my thesis on the theoretical modeling of the dynamics of heavy ions in the solar wind (Ryan and Axford, 1975, J. Geophys.). In 1978 I received my Ph.D. in Physics from the University of California, Riverside under the supervision of R. Stephen White. There I measured the directional intensities of atmospheric and cosmic diffuse gamma rays for my thesis work (Ryan et al., 1979, J. Geophys. Res.). From 1978 to 1982 at the University of New Hampshire I was a Co-Investigator on the Gamma-Ray Spectrometer experiment on the Solar Maximum Mission. From 1982 to 1988 I was a Co-Investigator on the COMPTEL experiment on the Compton Gamma Ray Observatory and from 1988 until 2000 I was a Co-Principal Investigator on COMPTEL. I was appointed to the rank of Research Assistant Professor in 1984 and Full Professor in 1997 in the Physics Department at UNH. I supervised nine M.S. theses and ten Ph.D. theses and currently supervise two Ph.D. students. I belong to the American Geophysical Union (since 1973), American Astronomical Society (since 1982), American Physical Society (since 1993), SPIE Society for Optical Engineers (since 1995), IEEE (since 1998) and the Sigma Xi Research Society (since 1989). My research interests include solar gamma-ray and neutron spectroscopy, gamma-ray astronomy (MeV and ground-level TeV with Milagro), solar and atmospheric cosmic rays, particle acceleration theory, particle-detection instrument development and LIDAR sensing of the atmosphere.

Statement:
I have been privileged to have a career in astrophysics and to experience the great changes in the field that have occurred over the last thirty years. What started out as a small collection of scientists with limited access to space has evolved into a vibrant community encompassing researchers from applied solar physics to fundamental string theory, placing it firmly in the main stream of astronomical research. This evolution has occurred because of significant technological advances and the generosity of funding agencies. Our community’s continuing self-evaluation has motivated the various directions our science has taken. That homegrown criticism and review has, to date, been appreciated by those that generate and control the funding. The period of change is not over. We should expect more scientific surprises as we explore the Universe with new instruments, new ideas and new perspectives. In some areas, the funding of astrophysics will keep pace with our ability to produce new instruments, new ideas and new perspectives. However, in other areas the situation is not as good. In particular, the new exploration direction of NASA is being undertaken with little advice or consent from the astrophysics community. Although we pursue our science at the pleasure of governmental agencies, those in positions of influence should have access to the guidance, motivated by healthy peer evaluation that we can provide. Fully informed decisions are then possible when setting objectives and priorities at a national level. As the Vice Chair I will work toward continuing the integration of astrophysics into the main stream of astronomy and, even though we are not political creatures by choice, I will work toward ensuring that our experience and scientific motivations are heard and understood by funding agencies and politicians so that a fair and open debate can be conducted on the future course of astronomy and astrophysics.

David J. Thompson
NASA - Goddard Space Flight Center

Dave Thompson received his PhD in physics from the University of Maryland. He has worked for just over 30 years at NASA Goddard Space Flight Center, concentrating in high-energy gamma-ray astrophysics (SAS-2, EGRET, GLAST). He is an enthusiastic supporter of multiwavelength studies, and one of his roles in the GLAST Large Area Telescope is Multiwavelength Coordinator. He is a member of the AAS, APS, and the Goddard Speakers Bureau, and he chairs the Goddard Scientific Colloquium Committee.

Statement:
Astrophysics is a field of excitement, promise - and just a bit of foreboding. Ground-based and space-based instrumentation continue to make dramatic advances in opening and expanding windows on the Universe. Observations are undergirded by new ideas like Dark Energy and increasing connections between particle physics and astrophysics. The public shows great enthusiasm for these discoveries and their interpretation. In many respects, it is a perfect time to be an astrophysicist. Nevertheless, our dependence on government funding makes me a bit nervous as I see shifts in direction within our funding agencies. The Division of Astrophysics has two important roles in maximizing our present success to help assure our future:
Within the scientific community, DAP needs to continue being a bridge to other areas of physics and other areas of research like astronomy, helping to encourage synergistic programs; and (2) In outreach to the public, through our meetings, publications, and personal contact, DAP strengthens our greatest asset - public interest in what astrophysicists are doing. These areas are already part of the DAP program. I would see my role in DAP leadership as helping to continue a successful strategy.

Candidates for the Executive Committee (at large)

John Beacom  
Fermilab

John Beacom is the David N. Schramm Fellow in the Theoretical Astrophysics Group at Fermilab, a position he has held since 2000. From 1997-2000, he was a Sherman Fairchild Postdoctoral Scholar in theoretical physics at Caltech. His Ph.D. degree in physics is from the University of Wisconsin in Madison (1997), and his B.S. degrees in physics and mathematics are from the University of Kansas in Lawrence (1991). His research interests are at the intersections of astrophysics, cosmology, particle physics, and nuclear physics, especially involving neutrinos. Beacom is co-chair of the working group on astrophysics and cosmology in the APS Neutrino Study (see the Fall 2003 DAP newsletter). He was co-chair of the organizing committee for Cosmo-02 (International Workshop on Particle Physics and the Early Universe), has organized several other workshops, and is active in education and public outreach.

Statement:
This new century will be one of most exciting ever in astrophysics. Besides the fantastic progress individually in astronomy, cosmology, and particle/nuclear physics, the most exciting prospects are for the synthesis of these different views of the universe and its evolving contents. Sorting out these confrontations will require the expertise of the above fields and beyond, and cooperation and cross-disciplinary interactions will be essential. Working in an astrophysics and cosmology group, in a particle physics laboratory, and with strong connections to the nuclear physics community too, I am well aware of the broad and deep interest in all of these fields in making new connections to the exciting research in the others, in particular to astrophysics, where there is so much new data. This is a tremendous opportunity for the DAP and our field, and if elected, I would give my strong support to DAP efforts along these lines.

Steven Boggs  
University of California, Berkeley

Steven Boggs received his BS in Physics, summa cum laude, from the University of Illinois, Urbana/Champaign in 1991. He received his PhD from Berkeley in 1998, where he held a NASA graduate student research fellowship. As a student he led two Antarctic balloon flights of the HIREGS gamma-ray telescope, a direct predecessor to the RHESSI and INTEGRAL satellite missions active today. Boggs was a Millikan Postdoctoral Fellow in experimental physics at the California Institute of Technology before returning to join the Berkeley Physics Department as an assistant professor in January 2001. He is the principal investigator for the Nuclear Compton Telescope, a balloon-borne gamma-ray spectrometer, polarimeter, and imager. Boggs is also co-investigator for the SPI instrument on INTEGRAL, and is leading the NASA concept study team for the Advanced Compton Telescope, a mission designed to explore nucleosynthesis and nuclear physics under the extreme conditions at the heart of Type Ia supernovae. He serves as Associate Director for the California Space Institute, Assistant Director for Berkeley's Space Sciences Laboratory, and as a member of the NASA Astronomy and Physics Working Group.

Statement:
Astrophysics today stands as one of the fundamental cornerstones of physics, while strongly impacting research in more traditional areas of physics (particle, nuclear, condensed matter), as well as chemistry, biology, and geology. As astronomy becomes more focused on extragalactic objects, the traditional lines between astronomy and physics continue to blur. Given the fundamental physical importance of astrophysical research, and the high public visibility of the results, the astrophysics community has an important obligation to both pose the most interesting questions for the future, and to educate the next generation of researchers to address these questions. A glaring flaw in the physics community remains the low numbers of women and minorities that reach graduate school, much less establish professional careers in physics. Given the high public profile of much of the research it encompasses, the Division of Astrophysics can play a crucial role in attracting women and minorities to the field of physics. I would work through the DAP to help increase the visibility of women and minorities in the APS and at meetings, and increase support for undergraduate and graduate students to participate in the broader physics community at early stages of their education. By demonstrating to students the diversity of the physics community, and the importance this diversity plays in...
addressing new questions, physics could increasingly draw from the entire pool of the brightest and the best scientists of the future.

William Paciesas  
University of Alabama, Huntsville


Statement:  
Most of the issues and concerns that affect our work as astrophysicists today are shared in a broader context with all physicists. Thus it is essential to have astrophysicists participate in all of the activities of the APS: scientific communications, meetings, public outreach, international affairs, etc. Within today's busy world many astrophysicists have difficulty finding time for such activities. In particular, it is often inconvenient to participate in broad meetings such as those the APS organizes. As a member of the executive committee, I would look for ways to improve this situation, such as conducting more focused symposia in connection with the major APS meetings.

Yong Zhong Qian  
University of Minnesota

Yong Zhong Qian is an Associate Professor of Physics at the School of Physics and Astronomy, University of Minnesota. He received his PhD in physics from the University of California, San Diego in 1993. Qian was a Research Associate at the National Institute for Nuclear Theory, University of Washington from 1993 to 1995, a David W. Morrisroe Fellow in Theoretical Physics at Caltech from 1995 to 1998, and a J. Robert Oppenheimer Fellow in the Theoretical Division, Los Alamos National Laboratory from 1998 to 1999. He was an Assistant Professor of Physics at the University of Minnesota from 1999 to 2003. Qian is a Department of Energy Outstanding Junior Investigator from 2000 to 2004. He has been active in the communities of nuclear astrophysics and cosmology as co-organizer of the Working Group on Data Needs for Supernova Explosions at the Town Meeting on Opportunities in Nuclear Astrophysics, University of Notre Dame (1999), co-convener of the Working Group on Solar Neutrinos and Neutrino Astrophysics at the Town Meeting on "Astrophysics, Neutrino Physics, Symmetries, and Ultra-Cold Neutrons," Oakland, California (2000), co-chair of the Local Organizing Committee for the Workshop on "Low Z at Low z and High z: Early Chemical Evolution," Minneapolis, Minnesota (2002), member of the Scientific Advisory Committee for the Workshop on "First Stars II," Penn State University, University Park (2003), and co-organizer of the First Argonne/MSU/JINA/INT RIA Workshop on "The r-Process: The Astrophysical Origin of the Heavy Elements and Related Rare Isotope Accelerator Physics," National Institute for Nuclear Theory, University of Washington (2004).

Statement:  
We are being confronted with a number of exciting results in physics and astrophysics, such as neutrino oscillations, gamma-ray bursters associated with supernovae, an accelerating universe with dark matter and dark energy, and a hot, reionized, and chemically enriched intergalactic medium at the end of the dark age of the universe. Interaction between physicists and astrophysicists would greatly facilitate the understanding of these results. For example, the dynamics and nucleosynthesis of supernovae depend crucially on neutrino physics. The Division of Astrophysics has been instrumental in bringing physicists and astrophysicists together by participating in the annual APS meeting in April. As a member-at-large of the Executive Committee, I will strongly support the Division's efforts in organizing programs on timely topics of great interest to both the physics and astrophysics communities. I will also advocate the role of such programs in attracting students to interdisciplinary research.

2004 April Meeting Program

For this coming May the DAP has continued its tradition of collaboration with other APS Divisions in constructing a program of invited sessions that spans many interests of our members, and builds on present, and possible future collaboration with other physicists. We have a rich variety of astrophysics and related sessions scheduled (listed below.) There are also a wide variety of great physics and education topics covered as well.

Please check the APS April Meeting website for further details as they develop: http://www.aps.org/meet/APR04/. There you can also schedule your own list of talks and events to attend.

Astrophysics Sessions

SATURDAY MORNING, 1 MAY 2004, 10:45

Kratz, Hallin, Beers, Fuller. Plaza D, Adam's Mark Hotel.
Chair: Bruce R. Barrett, University of Arizona.

**Session B3.** DAP/DPP: Magnetic Reconnection in the Universe and the Lab. Zweibel, Scudder, Egedal, Longcope, Shay. Plaza E, Chair: Amitava Bhattacharjee, University of New Hampshire.


**SATURDAY AFTERNOON, 1 MAY 2004, 14:30**

**Session D3.** DAP: The Discovery of Black Holes. Israel, Blaes, Melia, McClintock, Miller. Plaza E, Chair: Virginia Trimble, University of California Irvine.

**SUNDAY MORNING, 2 MAY 2004, 10:45**

**Session J3.** DAP: Precision Cosmology. Staggs, Knox, Filippenko, Hoekstra, Eisenstein, Hui. Plaza E, Chair: Josh Frieman, Fermilab/University of Chicago.

**Session J7.** DAP: Cosmic Rays. Governor's Square 16, Chair: Frank Jones, NASA.

**Session J8.** DNP: Nuclear Astrophysics. Governor's Square 17, Chair: Uwe Greife, Colorado School of Mines.

**Session J9.** DAP: Gravitational Waves. Governor's Square 12, Chair: Peter Bender, Joint Institute for Laboratory Astrophysics.

**SUNDAY AFTERNOON, 2 MAY 2004, 14:30**

**Session L3.** DAP/DCOMP: Computational Challenges in Astrophysics. Gnedin, Wandelt, Khokhlov, De Villiers. Plaza E, Chair: Susan Lamb, University of Illinois at Urbana Champaign.

**Session L9.** DAP/TGG: Gravitational Wave Sources for Space-Based Detectors. Stebbins, Phinney, Hughes, Milosavljevic. Governor's Square 12, Chair: Thomas Prince, Caltech.

**MONDAY MORNING, 3 MAY 2004, 10:45**

**Session R2.** DNP/DAP: Nuclei in the Sun and Galaxy Through Gamma-Ray Vision. Diehl, Lin, Bardayan, D'Auria. Plaza D, Chair: Jeff Blackmon, Oak Ridge National Laboratory.

**MONDAY AFTERNOON, 3 MAY 2004, 14:30**

**Session S2.** DNP: Division of Nuclear Physics Prize Session. Bertsch, Steiner, Haxton, Glashausser. Plaza D, Chair: A. Baha Balantekin, University of Wisconsin.

**Session S3.** DAP/FHP: The Sun as a Physics Laboratory. Holman, Murphy, Landi, Yamada, Duvall. Plaza E, Chair: Carol Jo Crannell, NASA Goddard Space Flight Center.

**Session S7.** DAP: Neutrinos and WIMPS. Governor's Square 16, Chair: Patricia Hansen, University of Delaware.

**Session S10.** DAP: New Gamma-Ray Missions/GRBs. Governor's Square 11, Adam's Mark Hotel.

**MONDAY AFTERNOON, 3 MAY 2004, 17:30**

**Session T10.** DAP: DAP Business Meeting. Governor's Square 11, Adam's Mark Hotel.

**TUESDAY MORNING, 4 MAY 2004, 08:00**

**Session V3.** DAP/DBP: Relativistic Jets and Supermassive Black Holes. Schwartz, Tavecchio, Dermer, Meier, Ng. Plaza E, Chair: Rita Sambruna, George Mason University.


**Session V9.** TGG/GPMFC: Results of Observations from the LIGO Scientific Collaboration. Riles, Shawhan, Sutton, Landry, Fritschel. Governor's Square 12, Chair: Peter Saulson, Syracuse University.
Session V13. DAP: Alternate Redshift Interpretations/Other. Plaza Court 2, Chair: Jerry W. Jensen, ATK.

TUESDAY MORNING, 4 MAY 2004, 11:00


Session W10. DAP: Cosmology and Extra-Galactic Astrophysics. Governor's Square 11, Chair: Grant Mathews, University of Notre Dame.

Future Newsletters
If you have items of general interest to DAP members, consider submitting them to the Secretary-Treasurer for upcoming newsletters (next is November 2004.) We will be happy to publish meeting announcements or letters.

APS/DAP on the WWW
http://photon.phys.clemson.edu/dap/