

**Minutes of the Meeting of the  
Astronomy and Astrophysics Advisory Committee (AAAC)**

**30 April 2009  
National Science Foundation, Arlington, VA, via teleconference**

<b>Members attending:</b>	Wendy Freedman (Chair) Alycia Weinberger Dan Lester Kim Grist	Bruce Balick Scott Dodelson David Koo Marcia Rieke
<b>Agency personnel:</b>	Craig Foltz, NSF-AST Eileen Friel, NSF-AST Philip Puxley, NSF-AST Elizabeth Pentecost, NSF-AST Nigel Sharp, NSF-AST	Vladimir Papatashvili, NSF-OPP Kathy Turner, DOE-HEP Jon Morse, NASA-HQ Michael Salamon, NASA-HQ Morris Aizenman, NSF-MPS
<b>Others:</b>	Ron Allen, STSci Robert Boyd, McClatchy Newspapers Colin Wynn, NASA-HQ	Allison Trepod, SRI Lamont DiBiasi, SwRI

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**MEETING CONVENED 11:00 AM EDT, 30 APRIL 2009**

The Chair called the meeting to order, and all participants identified themselves.

Elizabeth Pentecost, the AAAC Executive Secretary, reviewed the list of identified Conflicts of Interest (COIs) for the AAAC. There were no changes to the COI list. The list will be updated and distributed at the start of each meeting.

The minutes from the February 18-19, 2009 and March 5, 2009 meetings were approved by the Committee.

Craig Foltz reported on National Science Foundation's (NSF) Division of Astronomical Sciences (AST) activities. Staff changes included the addition of two program officers, Drs. Jeffrey Pier and Donald Terndrup. A search for two rotator positions has been completed and the program officers will arrive in AST in late summer. A search for a permanent program officer has re-started. The search for a new Division Director is ongoing and the position has been re-posted with a closing date of June 15. Clifford Gabriel is the current Acting Deputy Assistant Director in the Mathematical and Physical Sciences Directorate (MPS) and a search for a permanent replacement is near completion. Tony Chan, the MPS Assistant Director, has accepted a position as President of the Hong Kong University of Science and Technology (HKUST).

The FY 2010 budget is embargoed so there were no discussions of the budget. The spending/operations plans for FY 2009 and the American Recovery and Reinvestment Act (ARRA) have been forwarded to Congress and are awaiting approval. ARRA funding priorities include an increase in the success rate for individual investigator awards to > 30%, an increase in

the number of awards for CAREER, postdoctoral fellows, and graduate research fellows, and infrastructure and maintenance at the national observatories. There will be 2 new solicitations, one for the Major Research and Instrumentation (MRI) program and the other for Academic Research Initiative (ARI).

Lester noted that an increase of 30% could precipitate an increase in the number of proposals AST would receive for ARRA funding. Foltz replied that that ARRA funding would only affect proposals already submitted.

The management of the Arecibo Observatory will be competed. The current cooperative agreement with Cornell University to operate the National Astronomy and Ionosphere Center (NAIC) will expire in 2010. A Dear Colleague letter has been issued. The solicitation is being developed for release in Summer 2009 with proposals due 6 months later. Recommendations of the 2006 AST Senior Review are being factored into the planning.

The Atacama Large Millimeter Array (ALMA) project has made good progress. The overall construction cost performance was good but remains slightly behind schedule. Contingency was currently healthy with about 50% of uncommitted budget. Foltz reported that the performance of the Vertex antennas was excellent. The first two antennas (one each from Japan and North America) were accepted and the acceptance review for the second Vertex antenna was scheduled for next week. Ten Vertex antennas have been shipped and the parts for the first European antennas have arrived in Chile. There are now 14 antennas in Chile. All of the receiver cartridges are in the production phase with pre-production units having passed acceptance testing. Three integrated receivers have been delivered to Chile and when installed will enable 3-element interferometry at the mid- and high-sites in 2009.

Foltz reported that the Advanced Technology Solar Telescope (ATST) will be the flagship facility for ground-based solar physics observation and the first large US solar telescope constructed in 30 years. Design and Development (D&D) funding began in 2001 and the project was approved for inclusion in a future budget by the NSB in August 2007. Construction funding (\$9M) was initiated in the FY 2009 Omnibus bill under the Major Research Equipment and Facilities Construction (MREFC) line item. The total cost of the telescope is estimated at \$250-270M. A baseline will be established at the Final Design Review (FDR) in May 2009. The environmental and cultural compliance activities are nearing completion and a final Environmental Impact Statement is due in August 2009 with a record of decision to follow. An approval to spend will be requested in late summer/early fall of 2009. Early science is expected in 2016.

Weinberger asked why ATST needed to be reviewed by the decadal survey. Foltz replied that there were some in the community that felt since ATST had not started construction, it needed to be reviewed again and prioritized.

Vladimir Papatashvili, NSF Office of Polar Programs (OPP), gave a brief report on IceCube and the South Pole Telescope (SPT). IceCube was doing well. There are now 59 configured strings and a deep core array was being added to the basic array. SPT was making good observations.

Jon Morse reported on the National Aeronautics and Space Administration (NASA) activities. NASA and NSF are finalizing the agreement for the Antarctic balloon program; the Memorandum of Agreement (MOA) was in the front office at NASA. First light images with Kepler, launched in March 2009, have been received. Transition to science operations will be soon. There are 2 shuttles on the launch pad with the Servicing Mission 4 (SM4) ready for launch May 12 (the launch may be moved to May 11). There have been launch vehicle and

payload issues with the Herschel-Planck mission but it is slated for launch on May 14 on the Ariane vehicle. The Wide-field Infrared Survey Explorer (WISE), a MIDEX mission, is expected to be launched in November 2009. The payload has been shipped and will be integrated with the spacecraft. The Agency is committed to the 70% confidence level for the James Webb Space Telescope (JWST) which is part of the FY 2010 budget release. There are a significant number of deliveries now for JWST. The Stratospheric Observatory for Infrared Astronomy (SOFIA) has hired Eric Young as the Science Mission Operations Manager. The open door flight test will occur in summer 2009.

NASA was pursuing discussions with the European Space Agency (ESA) on combining a dark energy mission. ESA has decided to continue to pursue a parallel path for its own dark energy mission, Euclid, for the time being. NASA will continue to have discussions with ESA on future joint missions.

Balick asked about the funding profile for JWST. Morse replied that the budget and schedule reflected the confirmation review and the 70% confidence level for the 2010 budget. The Agency was committed to launch in 2014.

Balick asked about the status on the search for a new NASA Administrator. Morse replied that there was a mixture of candidates that Congress was not pleased with and other candidates who were initially considered before but were no longer being considered. The process was ongoing.

Kathy Turner reported on the DOE activities. DOE receives input from a variety of committees and advisory bodies, specifically the High Energy Physics Advisory Panel (HEPAP), the AAAC, the National Academy of Sciences, etc. The U.S historically has been the leader in high energy physics research and remained the leader at the beginning of this decade.

DOE has had budgetary challenges. The FY 2008 budget of \$689M was a 8.4% reduction compared to the FY 2007 budget. This resulted in staff reductions at the Stanford Linear Accelerator Center (SLAC), a work stoppage on NOvA, a rescheduling of the B-Factory work schedule and minimal support for the International Linear Collider (ILC).

DOE has developed a new strategic plan for U.S. high energy physics with NSF and the HEPAP P5 panel with realistic and robust funding scenarios and scientific discoveries.

DOE dealt with the FY 2008 funding reduction and most of the serious impacts were mitigated; the core activities were protected. DOE received supplemental funding at the end of FY 2008 which helped to mitigate the impact of the 6-month continuing resolution. The FY 2009 appropriation of \$795M will restore the program to the FY 2007 level. ARRA funding of > \$200M will accelerate and enhance research and infrastructure projects. The non-accelerator physics program supports research and facility operations at the Cosmic and Intensity Frontiers using measurements of radiation or particles from non-particle accelerator sources. The research program supports 35 universities and 5 national laboratories.

DOE has requested that HEPAP initiate a Particle Astrophysics Scientific Assessment Group (PASAG) to explore in further detail the opportunities and scientific challenges available at the Cosmic Frontier. Dr. Steve Ritz is chair of the group. The decadal survey is well underway. There are overlapping scientific opportunities of interest to DOE. A Global Science Forum study on astroparticle physics was established in October 2008. The study will last 2 years with 2 phases, Phase 1 devoted to laying out the world-wide scope of astroparticle physics, and Phase 2

developed to developing a plan for a coordinated path forward with a consensus global roadmap for astroparticle physics.

The Chair noted that there will be a Task Force report update at the October AAAC meeting.

Morris Aizenman, MPS Senior Science Associate, gave a brief update on the AST Division Director search in. A re-advertisement of the position has been posted on the NSF web site, the American Astronomical Society (AAS) *Job Register*, *Physics Today*, and *Science*. The deadline for applications is June 15. Aizenman encouraged AAAC members to provide names for consideration.

The Chair reminded the committee that five members were due to rotate off in June 2009, and that the agency representatives would welcome suggestions for consideration of new members.

**MEETING ADJOURNED AT 12:45 PM EDT, 30 APRIL 2009**