Minutes of the Meeting of the National Astronomy and Astrophysics Advisory Committee

2-3 October 2002

Members attending: Dr. Robert Gehrz (Chair)
Dr. Alan Dressler
Dr. James A. Klimchuk
Dr. Bradley Peterson
Dr. Catherine A. Pilachowski
Dr. Abhijit Saha

MEETING CONVENED 9:00 AM, 2 OCTOBER 2002

Representatives from NSF, Dr. Wayne Van Citters, and NASA, Dr. Guenter Riegler, welcomed members of the committee. There was initial discussion of the appropriate scope of the committee's activities. Astronomy, astrophysics, solar physics, and planetary astronomy are clearly of relevance. Dr. Klimchuk questioned whether ionospheric and atmospheric physics should also be under the purview of this committee. The committee deferred further discussion on the committee's scope until later in the meeting.

David Radzanowski, of the Office of Management and Budget, offered comments on the origin of and expectations for the committee. He reviewed the recommendations of the Committee on the Management of Research in Astronomy and Astrophysics (COMRAA) which led to the formation of the NAAAC. The committee is expected to play a role in identifying areas where the agencies are coordinating activities well and where more effort is needed, and in developing an integrated strategy for astronomy and astrophysics. He thanked the committee members for their willingness to serve and indicated that both the OMB and the Office of Science and Technology Policy (OSTP) would be interested in the committee's efforts.

Dr. Van Citters reviewed the history of the formation of the committee and outlined its charter as derived from the COMRAA report and recommendations. Dr. Riegler noted that some committee members are drawn from existing NASA advisory subcommittees to serve as liaisons to the NASA advisory structure, and are expected to report regularly at their respective advisory committee meetings.

The committee received clarification on several issues: the different advisory structures in the two agencies and this committee's role with respect to existing committees and the different contexts and process by which agency and office strategic plans were developed.

Representatives from each of the agencies provided programmatic overviews. Dr. Guenter Riegler discussed the basic organizational and programmatic structure of NASA's Office of Space Science, including NASA's charter; Dr. Paul Hertz presented the activities of the Astronomy and Physics Division; Dr. David Bohlin discussed the Sun-Earth Connection Division; Dr. Michael Meyer gave an overview of activities in the Solar System Exploration Division.

Dr. Claude Canizares, available by videoconference, and member of COMRAA, offered a perspective on the formation and goals of the NAAAC. Discussion focused on the very different advisory structures in the two agencies, and the desire to provide a closer and more seamless collaboration between the two agencies and a coordinated approach to the goals of the NRC's decadal survey Astronomy and Astrophysics in the New Millennium.

Dr. Wayne Van Citters presented an overview of NSF's Division of Astronomical Sciences and its programmatic activities and relationship of the Division's strategic planning with the Foundation.

Representatives from both agencies presented for discussion examples of areas of cooperation between NSF and NASA, reviewing both past and present activities. Among activities highlighted were the 2 Micron All Sky Survey (2MASS), the Antarctic Meteorite Program, the Comparative Planetary Atmospheres joint grant program, the Life in Extreme Environments (LExEn) program, the Astrobiology Science and Technology for Exploring Planets (ASTEP) program, the Sloan Digital Sky Survey (SDSS), support for the NASA Infrared Telescope Facility (IRTF), the collaborative observing programs that provide complementary ground-based data and space-based data, development of the Advanced Technology Solar Telescope (ATST), long-duration ballooning activities supported through an MOU between NSF and NASA, education and public outreach, and a variety of cooperative efforts in space and atmospheric sciences.

Several areas of previous or continuing collaboration were highlighted as special opportunities for the future including development and support of the National Virtual Observatory, a revitalization of the Nearby Stars (NStars) joint grants program, which ran for one year in FY2001, and the planned finalization of a new MOU for long-duration ballooning. Several new areas of cooperation were presented as future possibilities, including an initiative in laboratory astrophysics recognized as a need in the Decadal survey and a recent NASA workshop, a program to support gravitational wave modeling needed for the interpretation of LIGO data and the planning of LISA, technology development particularly in the area of detectors and active and adaptive optics, student training in instrumentation, and public education and outreach. The recommendations in the recently published report "From Quarks to the Cosmos", produced by the NRC's Committee on the Physics of the Universe, provide additional opportunities for future collaboration between NSF, NASA, and the Department of Energy.

The Committee discussed several of these areas of cooperation further, such as technology development and the training of instrumentalists. They entered into extensive discussion about the roles of NSF and NASA vis a vis the ground-based and space-based domains that have been perceived as appropriate to each agency.

The Committee members volunteered several other areas of potential coordination between the agencies. For example, the complementarity of the ATST and the Solar Dynamics Observatory (SDO) would provide greater scientific impact if the two observatories were phased such that ATST were available during the operation of SDO. The timely development of ground-based archives is necessary to maximize the scientific potential of the NVO. NASA's experience with the archiving of space-based data may be of great benefit in the effort to bring ground-based archives to a similar state of readiness for incorporation in the NVO.

The Committee asked for more information about the status of the NStars activity, in particular the state of the database developed by NASA, and plans for its future. They suggested that a presentation on NStars be an agenda item at the next meeting.

The Committee noted that while they were unaware of many of these connections and areas of cooperation between the agencies, there was need to go beyond individual examples to a larger strategic vision for collaborations.

Dr. Wayne Van Citters reviewed some of the challenges facing efforts at collaboration, such as differing agency cultures, differing budget processes, different approaches to long range planning and advisory structures, a lack of parity in budget and the size of organizations, differences in merit review processes and requirements, asymmetric eligibility for proposers, and coordinating programs with different goals.

While many of these have been overcome in individual instances, they present ongoing challenges the agencies face in any effort at coordination of activities or collaborative programs. Members of the committee discussed also the impact of differences in mission vision on collaborative activities.

The Committee reviewed the day's discussions and outlined the points that would feature in their report. They expressed the desire to hear in more detail from other offices and programs in NSF that sponsored astronomy and astrophysics-related activities, such as the Office of Polar Programs, the Physics Division, and the Atmospheric Sciences Division, and to receive reports from the advisory committees for each agency. They also requested copies of reports produced recently by NRC committees, such as the Quarks to the Cosmos report, the Solar System Exploration report.

The Committee set the date of the next meeting for 8-9 April, 2003.

MEETING ADJOURNED AT 5:00 PM, 2 OCTOBER 2002

MEETING RECONVENED AT 8:30 AM, 3 OCTOBER 2002

Committee discussion of the content of the report continued. They identified the main areas of collaboration to stress in their report of the meeting: the development of the Large Synoptic Survey Telescope (LSST), a coordinated program of support for gravitational wave modeling, and the phasing of the ATST and SDO. The Committee discussed at length the need for a more flexible approach to the traditional dichotomy of space-based and ground-based activities as the appropriate domains of NASA and NSF, respectively. They also noted the need for the community and the agencies to develop a broader view of collaboration.

The Committee discussed the scope of their purview, questioning how far it should go in the consideration of atmospheric physics, in particular. The next meeting should include presentations by both agencies that will help the committee appreciate and define their appropriate domain.

They also discussed the relation of their activities to those of the existing advisory committees for both agencies, and possible joint membership across the most relevant advisory committees and their own.

Action items:

1. Date of next meeting is 8-9 April 2003.

2. NSF to send committee members copies of the NSF Strategic Plan

3. NSF to send committee members copies of the NRC reports "Astronomy and Astrophysics in the New Millennium", "Connecting Quarks with the Cosmos" (the Turner committee report), "Decadal Survey for Solar and Space Physics", and "New Frontiers in the Solar System".

4. NASA and NSF to arrange for a reporting of the NASA SSAC and NSF MPS AC activities and priorities at the April 2003 NAAAC meeting

5. NSF to investigate enlisting a member of the MPS AC for service on the NAAAC.

6. NSF and NASA to arrange for the following agenda items for the April 2003 NAAAC meeting:

- Reports from the NSF Division of Atmospheric Sciences, Division of Physics and Office of Polar Programs

- Presentation on the status and plans for the NStars project

- Presentations on reports from relevant NAS/NRC survey committees by representatives from those committees, e.g. Astronomy and Astrophysics Survey Committee, Committee on the Physics of the Universe, Solar and Space Physics Survey Committee, and Solar System Exploration Survey Committee

7. NAAAC to arrange for an agenda item for April 2003 meeting on development of NAAAC long range vision statement with input from the NAS reports and NSF and NASA long-range plans. NAAAC to formulate a statement on challenges.

MEETING ADJOURNED AT 12:00 PM, 3 OCTOBER 2002