NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

OFFICE OF THE
ASSISTANT DIRECTOR
FOR MATHEMATICAL AND
PHYSICAL SCIENCES

December 20, 2004

Dear Dr. xxx,

Thank you for agreeing to serve on the FY 2005 Committee of Visitors (COV) for the Division of Astronomical Sciences (AST). The COV Review will take place at the NSF in Arlington, Virginia, on Tuesday through Thursday, February 22-24, 2005; we expect to begin early Tuesday morning and conclude by late-afternoon Thursday. The COV is an *ad hoc* subcommittee of the Mathematical and Physical Sciences Advisory Committee (MPSAC). Your appointment to the COV commences February 1, 2005 and ends with the presentation of the COV report to the MPSAC on April 7, 2005.

By NSF policy, each program that awards grants and cooperative agreements must be reviewed at three-year intervals by a COV comprised of qualified external experts. The COV is charged to address and prepare a report on:

- The integrity and efficacy of processes used to solicit, review, recommend, and document proposal actions;
- The quality and significance of the results of the Division's programmatic investments;
- The relationship between award decisions, program goals, and Foundation-wide programs and strategic goals;
- The Division's balance, priorities, and future directions;
- The Division's response to the prior COV report of 2002; and
- Any other issues that the COV feels are relevant to the review.

A more complete description of the charge to the COV is provided as an attachment. The COV report is made available to the public to ensure openness to the research and education community served by the Foundation.

Decisions to award or decline proposals are ultimately based on the informed judgment of NSF staff, using evaluations by qualified reviewers who reflect the breadth and diversity of the proposed activities and the community. Systematic examination by the COV of a wide range of funding decisions provides an independent mechanism for monitoring and evaluating the overall quality of the Division's decisions on proposals, program management and processes, and results.

The review will assess operations of individual programs in AST as well as the Division as a whole for three fiscal years: FY 2002, FY 2003, and FY 2004. The AST programs under review include:

- Research Grants Programs including
    - Astronomy and Astrophysics Research Grants (AAG)
    - Advanced Technologies and Instrumentation (including Major Research Instrumentation) and the Program for Research and Education with Small Telescopes (PREST)

    - Education and Special Programs (including the CAREER and REU programs, Astronomy and Astrophysics Postdoctoral Research Fellowships, and MPS- and NSF-wide programs with an education focus)
    - Particle Astrophysics
    - MPS- and NSF-wide initiatives, such as Information Technology Research (ITR), Approaches to Combat Terrorism (ACT), Math Science Priority Area (MSPA)
- Observatory Facilities including
    - Gemini Observatory
    - National Astronomy and Ionosphere Center (NAIC)
    - National Optical Astronomy Observatory (NOAO)
    - National Radio Astronomy Observatory (NRAO)
    - National Solar Observatory (NSO)
    - University Radio Observatories (UROs)
    - Atacama Large Millimeter Array (ALMA)
- Electromagnetic Spectrum Management

The meeting will begin with introductory sessions that will provide background on the COV process and an overview of the Division's programs and activities by the Division Director, Wayne Van Citters, and Executive Officer, Eileen Friel. These sessions will be followed by presentations of the research grants programs and the facilities. Following these presentations, the COV will have an opportunity to examine program documentation and results and to gather information for their report. The Committee will also be given time for general discussion and conversation with program staff. The last day of the meeting will be spent primarily drafting the report.

The Chair of the COV will finalize and submit the full report by March 14 to allow time for comment and distribution of the report to the full MPSAC prior to their meeting on April 7-8, 2005.

Eileen Friel (703-292-4895, efriel@nsf.gov) will send you an agenda and background information to assist you in conducting this review 2 weeks prior to the meeting. Please feel free to contact Eileen or Wayne if you have questions about the review.

The AST Division Secretary, Terri Smith (703-292-8820, tssmith@nsf.gov), will contact you shortly with information about making travel and hotel arrangements.

Thank you again for your willingness to participate in this important activity.

Sincerely,

Michael S. Turner
Assistant Director

cc: W. Carl Lineberger, Chair, MPSAC
Attachment

Attachment

The COV Core Questions and Reporting Template will be applied to the program portfolio and will address the proposal review process used by the program, program management, and the results of NSF investments. Specific questions to be addressed and reported on are:

a) The integrity and efficiency of processes used to solicit, review, recommend and document proposal actions, including such factors as:
   (1) Selection of an adequate number of highly qualified reviewers who are free from bias and/or conflicts of interest;
   (2) Appropriate use of NSF merit review criteria;
   (3) Documentation related to program officer decisions regarding awards and declines, and the scope, duration and size of projects;
   (4) Balance of awards in terms of subject matter; emerging opportunities; high risk and innovation; size versus number of awards; new investigators; diversity of underrepresented groups; geographic distribution of principal investigators; and
   (5) Overall technical management of the program.

b) The relationships between award decisions, program goals, and Foundation-wide programs and goals;

c) Results, in the forms of outputs and outcomes of NSF investments for the relevant fiscal years, as they relate to the Foundation's current strategic goals and annual performance goals.

d) The significant impacts and advances that have developed since the previous COV review and are demonstrably linked to NSF investments, regardless of when these investments were made. Examples might include new products or processes, or new fields of research whose creation can be traced to the outputs and outcomes of NSF-supported projects over an extended period of time.

e) Response of the program(s) under review to recommendations of the previous COV review.