

- The *Guide to Programs* provides background information about all of the Foundation's activities in education and research. The *Guide to Programs* is available on the Web at <http://www.nsf.gov/pubsys/ods/getpub.cfm?gp>.
- The *Grant Proposal Guide* (GPG) provides guidance for the preparation and submission of proposals to NSF. Some NSF programs have *Program Solicitations* that modify the general provisions of the GPG, and, in such cases, the guidelines provided in the solicitation must be followed. The GPG is available on the Web at <http://www.nsf.gov/pubsys/ods/getpub.cfm?gpg>.
- Each *Program Solicitation or Announcement* describes the program and indicates the exact format for the preparation of the proposal and the criteria for evaluation.
- NSF has published the *2002 User-Friendly Handbook for Project Evaluation* (NSF 02-057), *FOOTPRINTS: Strategies for Non-Traditional Program Evaluation* (NSF 95-41), and *User-Friendly Handbook for Mixed Method Evaluations* (NSF 97-153) that proposers may wish to obtain. There are also two online evaluation resources that proposers may wish to explore: the *Online Education Resource Library* (<http://oerl.sri.com>) and the *Field-tested Learning Assessment Guide* (FLAG) (<http://www.flaguide.org>).

Information specific to undergraduate programs can be found on DUE's Web site at <http://www.ehr.nsf.gov/ehr/duel/>. You may also contact DUE by e-mail ([undergrad@nsf.gov](mailto:undergrad@nsf.gov)) or by phone (703-292-8670). Information about DUE funded projects can be found at <http://www.ehr.nsf.gov/ehr/duel/awards/>.

## Review Process

NSF awards grants on a competitive basis. In selecting proposals to be supported, NSF is assisted by reviewers who are scientists, technologists, engineers, mathematicians, and educators in related disciplines. These reviewers are drawn primarily from two- and four-year colleges and universities, secondary schools, industry, foundations, and professional societies and associations, as appropriate for the program being reviewed. The reviewers are chosen based on their demonstrated ability to assess the merits of a proposal based on the criteria for evaluation shown in the next section. Faculty writing proposals are advised to contact NSF Program Directors to learn the general demographics of the reviewers for the program for which they are submitting proposals.

The majority of proposals submitted to DUE are considered by panels of peer reviewers. The purpose of the review is to provide NSF with a written critique and an individual rating from each reviewer as well as a summary analysis by the panel. In DUE, each panelist writes his or her own review for all proposals assigned to the panel. Reviewers are asked to provide a detailed evaluation of both the merits and the shortcomings of each proposal and to provide a rating. The panel then convenes as a group to discuss the proposals. This gives each reviewer

the benefit of an informed discussion upon which to base a decision. Following these discussions, panelists complete their individual reviews and one panel member writes a summary of the discussion for each proposal. Reviews are used by NSF Program Directors to inform funding decisions; and anonymous copies are made available to all proposers.

Reviewers are charged with safeguarding the confidentiality of proposals and are asked not to copy, quote, or otherwise use material from any proposal. Reviews are not disclosed to persons outside NSF except to the principal investigator. At the end of the review process, the principal investigator can access via FastLane the written verbatim reviews with the reviewers' names and affiliations omitted. Reviews are provided whether the proposal is funded or not. All reviews are confidential. NSF releases abstracts and other information about funded proposals only.

## Criteria for Evaluation

Proposals to NSF are evaluated for merit on the basis of two general criteria: intellectual merit and broader impacts. These criteria are described in Chapter III, Section A, of the *Grant Proposal Guide*. These criteria, as they relate to education, are defined below. In addition to the suggestions listed in the "Advice to Proposal Writers" section, special attention should be paid to the criteria and questions specified below. Reviewers are asked to comment on the quality of the proposal with respect to each of these two criteria. Some programs include additional criteria. See the applicable *Program Solicitation* for this information.

### I. Intellectual Merit

**What is the intellectual merit of the proposed activity?** How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources? Typical questions raised in the review process of proposals submitted to DUE programs include:

- Does the project address a major challenge facing STEM undergraduate education?
- Are the goals and objectives, and the plans and procedures for achieving them, innovative, well-developed, worthwhile, and realistic?
- Does the project have potential for improving student learning of important principles of science, technology, engineering, or mathematics?
- Is the project informed by research in teaching and learning, current pedagogical issues, what others have done, and relevant literature?