

ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE)

PROGRAM SOLICITATION NSF 10-593

REPLACES DOCUMENT(S): NSF 09-504



National Science Foundation
Directorate for Education & Human Resources
Division of Human Resource Development
Directorate for Biological Sciences
Directorate for Computer & Information Science & Engineering
Directorate for Engineering
Directorate for Geosciences
Directorate for Mathematical & Physical Sciences
Directorate for Social, Behavioral & Economic Sciences
Office of Cyberinfrastructure
Office of International Science and Engineering
Office of Polar Programs

Letter of Intent Due Date(s) (**required**) (due by 5 p.m. proposer's local time):

October 04, 2010

Partnerships for Adaptation, Implementation and Dissemination

October 03, 2011

Institutional Transformation (IT) and Institutional Transformation Catalyst (IT-Catalyst)

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

November 08, 2010

Partnerships for Adaptation, Implementation and Dissemination

November 07, 2011

Institutional Transformation (IT) and Institutional Transformation Catalyst (IT-Catalyst)

IMPORTANT INFORMATION AND REVISION NOTES

Please be advised that the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) includes guidelines implementing the mentoring provisions of the America COMPETES Act (ACA) (Pub. L. No. 110-69, Aug. 9, 2007.) As specified in the ACA, each proposal that requests funding to support postdoctoral researchers must include a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see the PAPP Guide Part I: *Grant Proposal Guide* Chapter II for further information about the implementation of this requirement).

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers

Synopsis of Program:

The goal of the ADVANCE program is to develop systemic approaches to increase the representation and advancement of women in academic science, technology, engineering and mathematics (STEM) careers, thereby contributing to the development of a more diverse science and engineering workforce. ADVANCE focuses on ensuring that women faculty with earned STEM degrees consider academia as a viable and attractive career option. This program does not support projects to increase or retain the number of women entering into or persisting in STEM doctoral degree programs. Thus, efforts to impact the STEM pipeline are not considered appropriate for the ADVANCE Program.

Creative strategies to realize the ADVANCE program goal are sought from women and men. Members of underrepresented minority groups and individuals with disabilities are especially encouraged to apply. Proposals that address the participation and advancement of academic STEM women from underrepresented minority groups and women with disabilities are particularly encouraged. Further, given the increasing emphasis on international collaborations in many STEM disciplines, and the importance of international recognition to career advancement, proposal components that systemically enhance and provide access to international collaborations are encouraged.

Proposals from community colleges, primarily undergraduate institutions, minority-serving institutions (e.g. Tribal Colleges and Universities, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Native Hawaiian Serving Institutions and Tribal Colleges and Universities), women's colleges, and institutions primarily serving persons with disabilities are encouraged.

In 2011-2012, this program will support the following types of ADVANCE Projects:

Institutional Transformation (IT)

Institutional Transformation awards are expected to include innovative systemic organizational approaches to transform institutions of higher education in ways that will increase the participation and advancement of women in STEM academic careers. These awards support comprehensive programs for institution-wide change. IT projects must include a 5-page research component designed to study the effectiveness of the proposed innovations in order to contribute to the knowledge base informing academic institutional transformation.

Previous or current funding from ADVANCE is not a prerequisite for submitting an IT proposal. *Any* institution meeting the minimum eligibility may apply for an IT award.

Proposals for IT awards from community colleges, primarily undergraduate institutions, minority-serving institutions (e.g. Tribal Colleges and Universities, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Native Hawaiian Serving Institutions), women's colleges, and institutions primarily serving persons with disabilities are strongly encouraged. It is anticipated that there may be significant differences in the issues facing faculty in these institutions, compared to faculty in other types of institutions that will warrant development of unique strategies and/or adaptation of proven strategies in a unique way to achieve ADVANCE Program goals.

Institutional Transformation Catalyst (IT-Catalyst)

IT-Catalyst awards are designed to support historically resource-challenged institutions in efforts to conduct institutional self-assessment activities, such as data collection and analysis and policy review, in order to identify specific issues in the recruitment, retention and promotion of women faculty in STEM academics within an institution of higher education. This type of work is fundamental for institutions that plan to undertake institutional transformation.

The institution's need for external resources to undertake institutional self assessment and policy review will specifically be evaluated using additional ADVANCE merit review criteria. Thus, institutions applying for IT-Catalyst awards are expected to demonstrate institutional need within the proposal. As such, institutions that are particularly encouraged to apply for the ADVANCE IT-Catalyst award include: primarily undergraduate institutions; institutions that have historically received lesser amounts of NSF research funding; minority serving institutions (e.g., Historically Black Colleges and Universities, Hispanic-Serving Institutions, Native Hawaiian Serving Institutions); women's colleges; institutions primarily serving persons with disabilities; and institutions that have a Carnegie classification of master's colleges and universities, baccalaureate colleges, associate colleges or tribal colleges.

Partnerships for Adaptation, Implementation, and Dissemination (PAID)

Partnerships for Adaptation, Implementation, and Dissemination awards may focus on one institution or organization, or they may be a partnership between several institutions and/or organizations. PAID projects can focus on all STEM disciplines, several disciplines, or only one discipline, including the social and behavioral sciences. Projects may have an international, national, regional or local scope. Previous or current funding from ADVANCE is not a prerequisite for submitting a PAID proposal (see additional ADVANCE merit review criteria).

Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- Kelly Mack, Program Director for ADVANCE, 815, telephone: (703) 292-8575, email: kmack@nsf.gov
- Amy Rogers, 815, telephone: (703) 292-5178, email: arogers@nsf.gov
- Patricia Simms, 815, telephone: (703)292-7869, email: psimms@nsf.gov
- J.T. Clark, 815, telephone: (703) 292-8219, email: jtclark@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.041 --- Engineering
- 47.049 --- Mathematical and Physical Sciences
- 47.050 --- Geosciences

- 47.070 --- Computer and Information Science and Engineering
- 47.074 --- Biological Sciences
- 47.075 --- Social Behavioral and Economic Sciences
- 47.076 --- Education and Human Resources
- 47.078 --- Office of Polar Programs
- 47.079 --- Office of International Science and Engineering
- 47.080 --- Office of Cyberinfrastructure
- 47.081 --- Office of Experimental Program to Stimulate Competitive Research

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant or Cooperative Agreement

Estimated Number of Awards: 23 The total number of awards to be made under this Solicitation is estimated to be 23. NSF expects to make: approximately seven (7) Institutional Transformation five-year awards, at various award sizes; up to seven (7) IT-Catalyst awards with durations of up to two years and total budgets not exceeding a maximum of \$200,000 each; and up to nine (9) PAID awards, of various durations, not exceeding a maximum of \$750,000 for 5 years.

Anticipated Funding Amount: \$12,200,000 - Pending availability of funds, NSF anticipates having approximately \$12,200,000 available over the two-year fiscal period, FY 2011-FY2012, for support of the ADVANCE portfolio. Approximately \$5,600,000 will be available for the FY2011 competition and approximately \$6,600,000 will be available for the FY2012 competition.

Eligibility Information

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization: 1

Proposers may submit only one Institutional Transformation proposal or one IT-Catalyst proposal. There is no limit on the number of PAID proposals that can be submitted.

Limit on Number of Proposals per PI:

None Specified

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- Letters of Intent: Submission of Letters of Intent is required. Please see the full text of this solicitation for further information.
- Preliminary Proposal Submission: Not Applicable
- Full Proposals:
 - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
 - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)

B. Budgetary Information

- Cost Sharing Requirements: Cost Sharing is not required under this solicitation.
- Indirect Cost (F&A) Limitations: Not Applicable
- Other Budgetary Limitations: Not Applicable

C. Due Dates

- Letter of Intent Due Date(s) (**required**) (due by 5 p.m. proposer's local time):
 - October 04, 2010
 - Partnerships for Adaptation, Implementation and Dissemination
 - October 03, 2011
 - Institutional Transformation (IT) and Institutional Transformation Catalyst (IT-Catalyst)
- Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):
 - November 08, 2010

November 07, 2011

Institutional Transformation (IT) and Institutional Transformation Catalyst (IT-Catalyst)

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

Award Administration Information

Award Conditions: Additional award conditions apply. Please see the full text of this solicitation for further information.

Reporting Requirements: Additional reporting requirements apply. Please see the full text of this solicitation for further information.

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I. INTRODUCTION

To sustain competitiveness and facilitate continued innovation across all fields of science, technology, engineering, and mathematics (STEM) in the US, all talent the nation has to offer must be utilized. Although women, minorities, and persons with disabilities are an increasing percentage of the overall US workforce, they remain underrepresented in STEM professions. In particular, despite significant advances made in the proportion of women choosing to pursue STEM doctoral degrees, women continue to be significantly underrepresented in almost all STEM academic positions.

Women have earned an increasing percentage of Ph.D.s in STEM disciplines in the US, rising from 17% in 1976 to 46.1% in 2008, yet their representation in academic STEM faculty and administrative positions has not wholly reflected these gains.^{1, 2, 3} The representation of women in academic faculty and administrative positions varies by a number of factors including discipline, rank, type of institution, and type of appointment (i.e., tenure vs. non-tenure track and part time vs. full time), as well as by race and disability status.^{2, 4} Characteristics such as department and institutional climate, structure, organization, salary equity, and culture also impact the representation of women in academic STEM positions.⁵ It is clear that many factors affect women's participation and advancement in academic STEM positions that are external to their ability, interest, and technical skills.

Research on factors that may account for the lower proportion of women in the various ranks of STEM faculties includes the effects of implicit and explicit bias; differential effects on women regarding conflicts between work and family demands; access to international collaborations; unequal access to resources such as laboratory space, salary, and supporting facilities; and underrepresentation of women in academic leadership and decision-making positions.⁵ The cumulative effect of such diverse factors has been to create formidable barriers to the participation and advancement of women in academic STEM careers. Overcoming and eliminating these barriers, as well as addressing emerging challenges such as the increasing emphasis on a globally engaged STEM academic workforce and the increasing interdisciplinarity of STEM research and education, is critical to

support the full participation of women in academic STEM careers.

The full participation of women in academic STEM careers is also important given the pivotal role that faculty members and administrative leadership have as intellectual, professional, personal, and organizational role models that shape the expectations of many prospective scientists and engineers. Persistent underrepresentation of women faculty, especially in leadership positions, may affect all students' critically important relationships with mentors, participation as members of research and education teams, and self-identification as potential researchers.

The ADVANCE program provides support to address these and other identified challenges to increase the participation and advancement of women in academic faculty and leadership positions. ADVANCE is particularly interested in projects that include a focus on underrepresented minority women and women with disabilities, as these populations are even more severely underrepresented in STEM academic careers and different strategies may be required to address their low representation. The ADVANCE Program welcomes creative uses of cyberinfrastructure. In addition, proposal components that systemically enhance and provide access to international collaborations are encouraged.

[1]. Hoffer, T.B., M. Hess, V. Welch, Jr., and K. Williams, 2007. Doctorate Recipients from United States Universities: Summary Report 2006. Chicago: National Opinion Research Center. (The report gives the results of data collected in the Survey of Earned Doctorates, conducted for six federal agencies, NSF, NIH, USED, NEH, USDA, and NASA by NORC.)

[2]. Women, Minorities, and Persons with Disabilities in Science and Engineering, National Science Foundation, 2009.

[3]. Survey of Earned Doctorates, National Science Foundation, 2009.

[4]. Science and Engineering Indicators, National Science Board, 2008. Two volumes. Arlington, VA: National Science Foundation (volume 1, NSB 08-01; volume 2, NSB 08-01A).

[5]. Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering, The National Academies Press, Washington, D.C., 2007

II. PROGRAM DESCRIPTION

1. Institutional Transformation (IT): five-year, comprehensive, institution-wide, transformational projects

Innovation: IT awards are expected to include innovative, systemic, organizational approaches in order to increase the participation and advancement of women in STEM academic careers. The proposed strategies must be accompanied by a rigorous social science study of the innovation and the IT project activities.

Project Scope: IT projects are expected to be designed to achieve the transformation of all departments or schools of STEM fields within the institution, including the social and behavioral sciences. If an IT proposal focuses on a subset of science and engineering departments, the rationale for such a focus must be included in the proposal. Additionally, proposals that involve activities targeted toward specific populations of women faculty (e.g., women faculty of color, women faculty with disabilities) must include current institutional data on this group, disaggregated by race, ethnicity and/or disability status, as appropriate. Reasons for lack of such baseline data must be explained in the proposal; further justification for the project may be necessary without such baseline data.

ADVANCE projects should focus on activities that encourage the recruitment, retention, and promotion of women faculty and academic administrators in STEM. Complementary activities that enhance the participation of women students and postdoctoral researchers in science and engineering and non-STEM faculty should be supported by the institution.

Project Activities: IT awards provide maximum flexibility to proposing institutions to define and implement systemic organizational approaches to increase the participation of women STEM faculty members; to promote their retention and advancement into the senior and leadership ranks; and to implement the changes necessary to institutionalize those approaches through changes to institutional policies, procedures, and practices. The proposed strategies must be based on and justified by relevant social science research. Both men and women should be involved with the project implementation in order to achieve the program goals; men and women should also be participants in project initiatives, as appropriate. ADVANCE also encourages IT awards that creatively address the underrepresentation of women faculty in meaningful international scholarly activity as a mechanism toward achieving institutional transformation goals. IT awards can include efforts to promote globally engaged researchers and leaders if appropriate for achieving institutional transformation goals. IT awards should create positive, sustainable, and permanent change in academic climates by transforming institutional practices systemically. An explanation of how activities that provide direct financial support to individual faculty will lead to institutional transformation within the period of the award should be included as well as a plan for systematizing and sustaining the activities. Targeted efforts for special groups, such as underrepresented minority women and women with disabilities, are expected to include specific strategies designed for these populations as well as relevant data.

2. IT-Catalyst: two-year, institutional self-assessment projects

Project Scope: IT-Catalyst projects are expected to be designed to assess all departments or schools of STEM fields within the institution, including the social and behavioral sciences. If an IT-Catalyst proposal focuses on a subset of science and engineering departments, the rationale for such a focus must be included in the proposal. Additionally, proposals that involve activities targeted toward specific populations of women faculty (e.g., women faculty of color, women faculty with disabilities) must include current institutional data on this group, disaggregated by race, ethnicity and/or disability status, as appropriate. Reasons for lack of such baseline data must be explained in the proposal; further justification for the project may be necessary without such baseline data.

Project Activities: Institutions that seek to undertake institutional transformation must first understand what transformation is required, which is often informed by data collection and analysis, climate surveys, and review of institutional policies and practices. It is anticipated that a successfully completed IT-Catalyst project can serve as a springboard for embarking on a full-scale institutional transformation.

A wide range of self-assessment activities may be undertaken as part of an IT-Catalyst project: data collection on STEM faculty at the institution with respect to indicators such as salaries, faculty recruitment and retention, faculty applicant pools, tenure and promotion outcomes; identification of resources to assist with recruitment, such as national pool data by discipline; review of institutional policies and their usage regarding work and life issues, climate surveys, and any other tools or indicators that capture

the institution's current culture and environment. Both men and women should be involved with the project implementation in order to achieve the program goals; men and women should also be participants in project initiatives, as appropriate. Based on the results of the IT-Catalyst project, the awardee should be able to determine the most critical institutional transformation needs and formulate specific institutional transformation strategies and goals.

3. Partnerships for Adaptation, Implementation and Dissemination (PAID): one- to five-year projects that support the ADVANCE program goals

Partnerships: Proposals that are designed as partnerships among multiple institutions and/or organizations are encouraged, but a partnership design is not required. Partnerships may, for example, be between an existing ADVANCE awardee and new partners, or between two or more institutions or organizations that have not previously received an ADVANCE award. A PAID proposal with partnerships may be submitted as a collaborative proposal. See the NSF Grant Proposal Guide Chapter II. D. 4. for additional information on collaborative proposals:

http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Partnership proposals should offer a clear rationale for the partnership as well as the value added to and by each partnering institution. Letters of support are required from partners.

Project Scope: PAID projects can focus on all STEM disciplines, several disciplines, or only one discipline, including the social and behavioral sciences. Projects can have an international, national, state or local scope. Projects that have an international focus should provide for long term impact on the capacity of the institution to address the underrepresentation of women faculty in international collaborations, and should include strategies for sustainability of international activity beyond the funded project period. Projects that have national systemic impact across a discipline or set of related disciplines are particularly encouraged. Additionally, proposals that involve activities targeted toward specific populations of women faculty (e.g., women faculty of color, women faculty with disabilities) must include current institutional data on this group, disaggregated by race, ethnicity and/or disability status, as appropriate. Reasons for lack of such baseline data must be explained in the proposal; further justification for the project may be necessary without such baseline data.

Project Activities: A wide range of activities can be undertaken as part of a PAID project. Previous or current funding from ADVANCE is not a prerequisite for submitting a PAID proposal. However, it is expected that the proposed PAID activities will be informed by social science literature, as well as the results of related ADVANCE projects and other non-ADVANCE projects (national and international). Potential project activities may include any of the projects listed below or any combination thereof. These examples should not limit the types of projects that are proposed under PAID.

- Adaptation and Implementation: For institutions not currently supported through an ADVANCE Institutional Transformation award, PAID awards could provide support for directed institutional transformation efforts (at a departmental, college, institutional, state, or regional level). PAID adaptation and implementation projects may include original innovative components and/or adapt existing strategies to a new context (such as a community college or minority serving institution) that will make significant contributions to our understanding of institutional transformation. The proposed strategies for adaptation and implementation do not have to be drawn from previous ADVANCE projects. PAID proposals designed to adapt and implement strategies are expected to: provide evidence that the materials, tools and practices have been effective in other situations; explain why they are expected to be effective in the new context; provide a plan to evaluate the results from the activities; and include a process for determining why particular strategies are more effective than others.
- Dissemination: PAID dissemination projects are expected to broaden the impact of systemic approaches to enhance the participation and advancement of women in academic STEM careers and to expand the network of institutions and individuals that are equipped with knowledge about the institutional factors underlying the underrepresentation of women in academic STEM and the effective strategies to overcome these institutional factors. Innovative strategies for dissemination and diffusion are encouraged, particularly those that take advantage of existing organizational infrastructures that can sustain the proposed activities. Dissemination projects should identify the appropriate audiences and dissemination strategies based on the proposed project goals. The materials, tools, and practices to be shared must have been demonstrated to be effective in increasing the participation and advancement of women in academic STEM careers; evidence of the effectiveness of such strategies must be included in the proposal. PAID dissemination projects may include workshops for individuals; however, these workshop proposals must include a clear plan for sustaining the workshops after the ADVANCE project ends (see additional ADVANCE merit review criteria). Examples of workshops include but are not limited to:
 - Training on institutional transformation strategies for various appropriate audiences. For example, approaches to data collection; designing, executing and analyzing climate surveys; or national, international, and/or discipline-specific leadership development.
 - Skill development for STEM faculty, departmental chairs, and other academic leaders. For example, these could focus on career stages and transitions, such as advancing from post-doctoral appointments to tenure-track positions, from associate to full professor, from senior faculty to academic leadership including global leadership roles.
- PAID-Research: PAID-Research awards support investigator-initiated scientific research on gender in the academic STEM workforce. These projects must be grounded in theory and must advance our scientific understanding of women in academia. Thus, PAID-Research proposals must be rigorous social science studies. PAID-Research proposals may be jointly reviewed as appropriate with other NSF research programs such as: the Innovation and Organizational Sciences (IOS) program (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5378&org=SES&from=home); the Science Technology and Society (STS) program (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5324&org=SES&from=home); and the Research on Gender in Science and Engineering (GSE) program (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5475&org=HRD&from=home).

Although proposals to ADVANCE may be jointly reviewed, PAID-Research proposals submitted to ADVANCE must adhere to the proposal deadlines outlined in the ADVANCE solicitation.

III. AWARD INFORMATION

Pending availability of funds, NSF anticipates having approximately, \$12,200,000 available over the two fiscal year periods, FY2011-FY2012, for support of the ADVANCE portfolio.

IV. ELIGIBILITY INFORMATION

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization: 1

Proposers may submit only one Institutional Transformation proposal or one IT-Catalyst proposal. There is no limit on the number of PAID proposals that can be submitted.

Limit on Number of Proposals per PI:

None Specified

Additional Eligibility Info:

Proposals may only be submitted by the following:

Institutional Transformation (IT)

Institutional Transformation proposals may be submitted by non-profit academic institutions of higher education that have educational programs in a field supported by NSF and are in the US, its territories or possessions, or the Commonwealth of Puerto Rico.

Institutions of higher education that have received an NSF ADVANCE Institutional Transformation award are not eligible to apply for another Institutional Transformation award. Organizations that received an IT-Catalyst (formerly IT-Start) award are eligible to apply for an Institutional Transformation award. Any institution meeting the minimum eligibility and review criteria may apply for an IT award. It is not necessary to have had an IT-Start or IT-Catalyst award in order to submit an Institutional Transformation proposal.

Proposals for IT awards from community colleges, primarily undergraduate institutions, minority-serving institutions (e.g. Tribal Colleges and Universities, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Native Hawaiian Serving Institutions), women's colleges, and institutions primarily serving persons with disabilities are strongly encouraged.

IT-Catalyst

IT-Catalyst proposals may be submitted by non-profit academic institutions of higher education that have been historically under-resourced and are designated as community colleges, primarily undergraduate institutions, minority-serving institutions (e.g. Tribal Colleges and Universities, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Native Hawaiian Serving Institutions), women's colleges, and institutions primarily serving persons with disabilities.

Institutions of higher education that do not meet the above criteria or have received an NSF ADVANCE Institutional Transformation or IT-Catalyst (formerly IT-Start) award are not eligible to apply for an additional IT-Catalyst award.

The institution's need for external resources to undertake institutional self assessment and policy review will specifically be evaluated using additional ADVANCE merit review criteria. Institutions applying for IT-Catalyst awards are expected to demonstrate institutional need within the proposal. As such, institutions that are particularly encouraged to apply for the ADVANCE IT-Catalyst award include: primarily undergraduate institutions; institutions that have historically received lesser amounts of NSF research funding; minority serving institutions (e.g., Historically Black Colleges and Universities, Hispanic-Serving Institutions, Native Hawaiian Serving Institutions); women's colleges; institutions primarily serving persons with disabilities; and institutions that have a Carnegie classification of master's colleges and universities, baccalaureate colleges, associate colleges or tribal colleges.

Institutions of higher education that do not meet the above criteria or have received an NSF ADVANCE Institutional Transformation or IT-Catalyst (formerly IT-Start) award are not eligible to apply for an additional IT-Catalyst award.

Partnerships for Adaptation, Implementation and Dissemination (PAID)

Partnerships for Adaptation, Implementation and Dissemination proposals may be submitted by non-profit academic institutions of higher education and state systems of higher education that have educational programs in a field supported by NSF, professional societies and other not-for-profit organizations that support the STEM enterprise. Submitting institutions and organizations, as well as partner institutions and organizations that would receive funds from the NSF grant, must be based in the US, its territories or possessions, or the Commonwealth of Puerto Rico. Partnerships involving industry, government, professional societies and other not-for-profit organizations are encouraged, but not required. Similarly, while NSF funds typically only support the US interest of the activity, partnerships with international entities are encouraged.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent(**required**):

Letters of intent are required for all ADVANCE proposals. Only one letter of intent for an Institutional Transformation (IT) or an IT-Catalyst proposal can be submitted from an Institution of Higher Education (IHE). A separate letter of intent for each different PAID proposal is required even if submitted by one IHE or organization. The letters of intent will be reviewed by the program office.

Project Synopsis: Provide a description of the proposed project. The program office will use this to determine if the proposal is appropriate for submission and if the proposal will need specialized expert review.

Other Comments Input Text Area: List senior project personnel with a brief description of their proposed roles. List partner institutions and organizations, if any, with a brief description of each partner's involvement in the project. Other information such as known conflicts and areas of specialized expertise pertinent for the review process can also be included.

Letter of Intent Preparation Instructions:

When submitting a Letter of Intent through FastLane in response to this Program Solicitation please note the conditions outlined below:

- Sponsored Projects Office (SPO) Submission is not required when submitting Letters of Intent
- Submission of multiple Letters of Intent is allowed

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.
- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.4 of the Grant Proposal Guide provides additional information on collaborative proposals.

1. Institutional Transformation (IT)

Institutional Context and Data

Contextual information on the proposing institution, including a brief institutional profile, is important to explain the potential impact of the proposed project. This information should include a description of current and past activities and initiatives that are related to the proposed project and how these activities will be incorporated into the proposed project initiatives. Although funding for IT projects cannot be requested to replace existing funding for ongoing activities at the institution, the IT project should coordinate with related existing activities; details on the coordination must be provided and letters of commitment may be appropriate.

Comprehensive institutional data on faculty is required in the project description of IT proposals and not as supplementary documents.

Comprehensive institutional data on faculty is required in the project description of IT proposals and not as supplementary documents. Proposals should clearly and coherently present data on the status of women faculty within the institution as it relates to the proposed goals and objectives of the project. When possible, comparisons of such data to national statistics should be made. Proposals that involve activities targeted toward specific populations of women faculty (e.g., women faculty of color, women faculty with disabilities) must include current institutional data on this group, disaggregated by race, ethnicity and/or disability status, as appropriate. Reasons for lack of such baseline data must be explained in the proposal; further justification for the project may be necessary without such baseline data. It is suggested that proposers review the "ADVANCE Indicators Toolkit" for guidance on the types of institutional data that should be included. The toolkit is available at the ADVANCE portal website at <http://www.portal.advance.vt.edu/>.

Other data, such as survey results and analysis, can be included. The data and the data analysis should serve as part of the justification for the proposed IT project and the specific strategies outlined in the proposal. The data should provide the readers a clear understanding of the current status of women at the proposing institution, which will allow the readers to evaluate the impact and feasibility of the proposed project objectives and goals.

Please note that this section should not consume a significant portion of the available fifteen pages for the project description since it is also very important to fully describe the other aspects of the proposal, particularly the proposed activities.

Institutional Commitment and Sustainability

Institutional commitment from key administrative leadership to the proposed project activities and institutional transformation is vital for successful projects and must be demonstrated in the proposal (see additional ADVANCE merit review criteria). Letters of commitment from key administrators and partners are required with IT proposals and should be submitted as supplementary documents. The institutional commitment should also be made clear in the content of the project description.

Institutional support is also demonstrated through commitment to project sustainability. Proposals must include detailed plans to ensure sustainability of the successful efforts past the term of the award (see additional ADVANCE merit review criteria).

Activities Description

Institutional Transformation proposals must clearly state the conceptual framework for the proposed project, identify relevant research findings, and build on existing research and practice. NSF anticipates that publicly available findings from earlier ADVANCE Program awards will be incorporated as appropriate into proposals for institutional transformation, and that research perspectives relevant to the issues ADVANCE seeks to address will be clearly reflected in the design of proposed projects.

Proposals should demonstrate the connection between the conceptual framework, the issues identified through analysis of institutional data, and the proposed plan (including the allocation of resources) so that reviewers will be able to understand what specific issues will be addressed over the course of the project, the assumptions about why those issues exist, and the ways in which the proposed interventions will address those issues. The proposed activities should be linked to specific objectives and goals.

The proposed approach(es) for *innovative* systemic institutional transformation to increase the participation and advancement of women in academic STEM careers must be fully described. The proposal must also describe a rigorous quantitative or qualitative social science study, to be completed during the period of funding, focused on the innovative strategies of the proposed institutional transformation (the scope of the study may include all or a subset of the proposed IT activities). The description should illustrate how the study will contribute to the knowledge base and scientific understanding of institutional transformation (see additional ADVANCE merit review criteria). The results of the study should be expected to be of sufficient significance to merit peer review and publication. It should be clear in the proposal which team members and/or consultants will undertake the study and their relevant qualifications and skills.

IT proposals are required to include a five page supplementary document devoted to the description of the social science study. The supplemental document must include information relevant to the proposed study, such as: 1) the disciplinary and conceptual framework for the study; 2) a discussion of the theory or theories grounding the research and the testable hypotheses; 3) the proposed methods to test the hypotheses; 4) the expected findings; and 5) to what extent the results and data will be disaggregated for multiple characteristics such as race, ethnicity, sexual orientation, disability, foreign-born or foreign-trained, in addition to gender.

Dissemination

One of the objectives of the NSF ADVANCE program is to contribute to the national knowledge base about institutional transformation and organizational change. Therefore, the dissemination and diffusion of knowledge gained about institutional transformation to organizations and institutions that can implement reforms based on what has been learned is encouraged.

The proposal must include a detailed dissemination plan outline that details plans to develop and maintain an ADVANCE Program website and demonstrates that the proposer is aware of appropriate channels for sharing results from the project, such as specific peer-reviewed journals and publications, web sites and professional association conferences. Simply making materials, tools, research, and practices available to others is not effective diffusion and dissemination. Rather, an effort to teach and/or train individuals and groups how to adopt or adapt the information is expected as well.

Project Management

Institutional Transformation proposals must include a management plan and timeline including anticipated milestones and detailing how project activities will be organized and implemented. The timeline should include the project's major activities and milestones (including project evaluation) and identify the individual(s) responsible for completing each activity. A project organizational chart that illustrates how the project fits into the institution's hierarchy may be included.

The project responsibilities and level of effort on the project must be clearly described for the institutional transformation team (PIs and other key personnel, including those for whom no funding is requested). The institutional transformation team must include appropriate social science expertise. This expertise should be utilized both in the implementation of the strategies and the proposed social science study of the institutional transformation project.

IT projects are required to have an Internal Steering Committee or Internal Advisory Committee to help manage the project implementation, resolve project issues, and ensure that the project is on track for meeting project goals. The size the committee should be manageable, and the roles and responsibilities of the committee should be described. The composition of the committee will depend on the design of the project - members could include STEM faculty, institutional staff who provide faculty services that are included in the project, and representatives of offices that will provide information or other resources to the project. This committee should meet frequently throughout the project.

IT projects are required to have an External Advisory Committee, with members who can advise the institutional transformation team on the implementation of the project and progress toward project goals. Members could include social science experts in areas relevant to the project activities and leaders from other institutions of higher education. The External Advisory Committee role is distinct from the external evaluation of the project.

Project Evaluation

It is required that each project include a formative and summative evaluation plan. The evaluation plan should refer to the objectives, goals, and baseline data presented within the description of the proposed project activities. The formative evaluation should include benchmarks and indicators of progress that demonstrate the proposers' understanding of the essential quantitative and qualitative indicators for assessing the project's implementation processes. The summative evaluation should assess whether the overall project goals were achieved, and should also identify any unexpected results. Additional information about project evaluation is available at <http://www.nsf.gov/pubs/2002/nsf02057/start.htm>.

Because the collection and reporting of the ADVANCE indicator toolkit data alone are not sufficient for project evaluation, IT projects will have both an internal and external evaluation component because of the size and complexity of the project; the proposal must include an evaluation plan outline. The internal evaluation, which will provide primarily formative project evaluation, may be done by an individual at the institution that is not involved in the day-to-day implementation of the project. The external evaluation component should be done by an external individual that is not an employee of the institution and has not been involved in the design or implementation of the project. The internal and external evaluation components must be well-coordinated in order to minimize duplicative work and effort with regard to data collection and analysis. Although only an evaluation plan outline is required for an IT proposal, IT projects will be required to submit a complete evaluation plan if awarded.

Supplementary Documents

Only letters of commitment and the five-page supplementary document devoted to the description of the social science study's theoretical foundation and methodologies can be submitted as supplementary documents in IT proposals.

In addition, each proposal that requests funding to support postdoctoral researchers must include, as a one page supplementary document, a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see Chapter II of the NSF GPG for further information about this requirement).

2. IT-Catalyst

Institutional Context and Data

Contextual information on the proposing institution is important for the reviewers to understand the potential impact of and the need for the project. This information should include a description of current and past activities and initiatives that are related to the proposed project, with a description of how these activities will be incorporated into the proposed IT-Catalyst activities.

Comprehensive institutional data on faculty are not expected in IT-Catalyst proposals, since data-gathering may be a proposed activity in the IT-Catalyst project. However, basic data on faculty should be included in order to demonstrate the need and potential impact of the proposed project. Proposals that involve activities targeted toward specific populations of women faculty (e.g., women faculty of color, women faculty with disabilities) must include current institutional data on this group, disaggregated by race, ethnicity and/or disability status, as appropriate. Reasons for lack of such baseline data must be explained in the proposal; further justification for the project may be necessary without such baseline data.

This section should not consume a significant portion of the available fifteen pages for the project description since it is also very important to fully describe the other aspects of the proposal, particularly the proposed activities.

Institutional Commitment

Institutional commitment from key administrative leadership to the proposed project activities and institutional transformation is vital for successful projects and must be demonstrated in the proposal (see additional ADVANCE merit review criteria). Letters of commitment from key administrators and partners are required with IT-Catalyst proposals and should be submitted as supplementary documents. The institutional commitment should also be made clear in the content of the project description.

Self-Assessment Activities Description

Activities within an IT-Catalyst project should involve a broad range of faculty (junior and senior, male and female, chairs and administrators) to increase awareness of the issues on campus and to increase the number of faculty and administrators invested in the project. Such involvement may contribute to the design and improve the success of subsequent institutional transformation. Involvement of external parties with expertise in institutional change and data-gathering may also be useful. Potential IT-Catalyst activities include, but are not limited to:

Collect Institutional Information

- Collection of institutional faculty data disaggregated by department, rank, gender, disability, race and ethnicity. Review the "ADVANCE Indicators Toolkit" for guidance on the type of data that are valuable for self-assessment. The toolkit is available at the ADVANCE portal website at <http://www.portal.advance.vt.edu/>.
- Faculty surveys (climate, salary, etc.) as appropriate. Projects should avoid implementing many different surveys in a short time to avoid issues such as survey burn out, and use existing survey data whenever possible.
- Identification and collection of relevant institutional policies and procedures.

Analyze and Synthesize Institutional Information

- Analyze the institutional faculty data and surveys in order to determine areas of need.
- Perform a preliminary review of relevant institutional policies and procedures to determine if changes may be needed and identify the process for making such changes.

Build Institutional Buy-in

- Invite experts to campus to discuss relevant topics such as implicit bias, work/life balance, and other particularly relevant gender equity issues with key stake holders such as: chairs, deans, and faculty.
- Hold town hall-like meetings for faculty to encourage discussion of the issues and collect their input.
- Report to institutional leadership throughout the project period or otherwise involve them (e.g., a leadership advisory board that meets a few times during the project period).

Identify and Adapt Institutional Transformation Strategies

- Establish defined and documented connections to visit current or past ADVANCE IT grantees to learn about strategies that have been implemented and/or bring in consultants to provide recommendations on possible strategies.
- In consultation with key stakeholders, identify and adapt potential transformation strategies that will address the areas of need identified in the analysis of data and other institutional information.

Project Management

IT-Catalyst proposals must include a management plan and timeline that detail how project activities will be organized and implemented. The timeline should include the major project activities and benchmarks (including project evaluation) and identify the individual(s) responsible for completing each activity. The project responsibilities and level of effort must be clearly described for all key project personnel, including those for whom funding is not requested.

IT-Catalyst projects are encouraged to incorporate an Internal Steering Committee or Internal Advisory Committee to help manage the project implementation, resolve project issues, and ensure that the project is on track for meeting project goals. The size of the committee should be manageable and the roles and responsibilities of the committee should be described. The composition will depend on the scope of the project - members could include STEM faculty, institutional staff that provide faculty services which are included in the project, and representatives of offices that will provide information or other resources to the project. This committee should meet frequently throughout the project.

Project Evaluation

The evaluation of the IT-Catalyst project must focus on evaluation of the self-assessment process. The data collection and analysis activities that are part of the self-assessment activities are not equivalent to and do not replace project evaluation. The evaluation should measure the success of the self-assessment activities and progress toward the goals outlined in the proposal. Evaluation of the IT-Catalyst project does not need to be done by an external evaluator if it can be demonstrated that an institutional office or qualified faculty can provide an objective internal evaluation. Additional information about project evaluation is available at <http://www.nsf.gov/pubs/2002/nsf02057/start.htm>.

Supplementary Documents

Only letters of commitment can be submitted as supplementary documents in the IT-Catalyst proposal.

In addition, each proposal that requests funding to support postdoctoral researchers must include, as a one page supplementary document, a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see Chapter II of the NSF GPG for further information about this requirement).

3. Partnerships for Adaptation, Implementation, and Dissemination (PAID)

Context and Data

Contextual information on the proposing institutions and organizations is important to demonstrate the potential impact of the proposed project. This information should include a description of current and past activities and initiatives that are related to the proposed project and how these activities will be incorporated into the proposed project initiatives, including how they inform the proposed activities. Although funding for PAID projects cannot be requested to replace existing funding for ongoing activities, the PAID project should coordinate with any existing activities; details on the coordination must be provided and letters of commitment may be appropriate.

Relevant data to support the justification for the need for the proposed project is required in PAID proposals. Project-related data should be provided for all partners if a partnership is proposed. The data should provide the readers a clear understanding of the current status of the proposing institution(s) and/or organization(s), which will allow the readers to evaluate the impact and feasibility of the proposed project objectives and goals. Proposals that involve activities targeted toward specific populations of women faculty (e.g., women faculty of color, women faculty with disabilities) must include current institutional data on this group, disaggregated by race, ethnicity and/or disability status, as appropriate. Reasons for lack of such baseline data must be explained in the proposal; further justification for the project may be necessary without such baseline data.

This section should not consume a significant portion of the available fifteen pages for the project description since it is very important to fully describe the proposed activities.

Commitment and Sustainability

Commitment from key stakeholders to the proposed PAID project is vital for successful implementation and sustainability (see additional ADVANCE merit review criteria). Letters of commitment from institutional and organizational leadership and other decision making bodies such as advisory boards or committees may be appropriate to include in PAID proposals and should be submitted as supplementary documents.

Institutional support is also demonstrated through commitment to project sustainability. Proposals must include detailed plans to ensure sustainability of the successful efforts past the term of the award (see additional ADVANCE merit review criteria).

Activities Description

A wide range of activities can be undertaken as part of a PAID project. Activities of various and multiple scales are welcome, however, the requested budget should be appropriately scaled to the potential impact, size and complexity of the proposal. PAID project activities must be informed by publicly available findings from earlier ADVANCE projects, other related projects, and by relevant social science literature.

Strong PAID project proposals will be based on a conceptual framework that is linked to the proposed strategies and project objectives and goals. The description of the project should inform the reviewers about the specific issues that will be addressed over the course of the project, the understanding about why those issues exist, and the ways in which the proposed project will address these issues. All PAID projects *may* include research components. The following section provides guidance specific to PAID-Research projects.

Additional Guidance for PAID-Research Projects

PAID-Research projects must be grounded in theory and must advance our scientific understanding of issues related to women's retention and advancement in STEM academic careers. PAID-Research proposals must be rigorous studies grounded in social science theory and literature. The results of the study should be expected to be of sufficient significance to merit peer review and publication. It should be clear in the proposal which team members and/or consultants will undertake the study and their relevant qualifications and skills.

Levels of analysis in PAID-Research projects may include, but are not limited to individuals, groups and institutional types. Disciplinary perspectives may include, but are not limited to the social, behavioral and economic sciences, higher education administration, computer and information sciences, decision and management sciences, and complexity sciences. Research methods may span a broad variety of qualitative and quantitative methods, including (but not limited to) archival analyses, surveys, simulation studies, experiments, organizational ethnographies, comparative case studies, and network analyses.

A PAID-Research proposal must include information relevant to the study, such as: 1) the research question; 2) the disciplinary and conceptual framework for the study; 3) a discussion of the theory or theories grounding the research and the testable hypotheses; 4) the proposed methods to test the hypotheses; 5) the expected findings; and 6) to what extent the results and data will be disaggregated for multiple characteristics such as race, ethnicity, sexual orientation, disability, foreign-born or foreign-trained, in addition to gender.

Project Management

PAID proposals must include a management plan and timeline that detail how project activities will be organized and implemented. The timeline should include the major activities (including project evaluation) and projected benchmarks and identify the individual(s) that will be responsible for completing each activity. The project responsibilities and level of effort on the project must be clearly described for all key personnel, including those for whom funding is not requested.

PAID projects may incorporate an Internal Steering Committee or Internal Advisory Committee to help manage the project implementation, resolve project issues, and ensure that the project is on track for meeting project goals. The size of the committee should be manageable and the roles and responsibilities of the committee should be described. The composition will depend on the design of the project - members could include STEM faculty, institutional staff who provide faculty services that are included in the project, and representatives of offices that will provide information or other resources to the project. This committee should meet frequently throughout the project.

PAID projects may also elect to include an External Advisory Committee composed of members who will advise the PAID project team on the implementation of the project and progress toward project goals. Members might include social science experts in areas relevant to the project activities, representatives of key stakeholder groups, and leaders from other organizations and institutions of higher education.

Project Evaluation

It is required that each project include a formative and summative evaluation plan. The evaluation plan should refer to the objectives, goals, and baseline data already presented within the description of the proposed project activities. The formative evaluation should include benchmarks and indicators of progress that demonstrate the proposers' understanding of the essential quantitative and qualitative indicators for assessing the project's implementation processes. The summative evaluation should assess whether the project achieved the overall project goals as well as identify any unexpected results. The collection and reporting of project-related data and participant's evaluations of activities alone are not sufficient for project evaluation. Additional information about project evaluation is available at <http://www.nsf.gov/pubs/2002/nsf02057/start.htm>.

Supplementary Documents

Only letters of commitment can be submitted as supplementary documents in PAID proposals.

In addition, each proposal that requests funding to support postdoctoral researchers must include, as a one page supplementary document, a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see Chapter II of the NSF GPG for further information about this requirement).

B. Budgetary Information

Cost Sharing: Cost sharing is not required under this solicitation.

C. Due Dates

- Letter of Intent Due Date(s) (**required**) (due by 5 p.m. proposer's local time):
 - October 04, 2010
Partnerships for Adaptation, Implementation and Dissemination
 - October 03, 2011
Institutional Transformation (IT) and Institutional Transformation Catalyst (IT-Catalyst)
- Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):
 - November 08, 2010
Partnerships for Adaptation, Implementation and Dissemination
 - November 07, 2011
Institutional Transformation (IT) and Institutional Transformation Catalyst (IT-Catalyst)

D. FastLane/Grants.gov Requirements

- For Proposals Submitted Via FastLane:

Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are available at: <https://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: <https://www.fastlane.nsf.gov/fastlane.jsp>.

- For Proposals Submitted Via Grants.gov:

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: http://www07.grants.gov/applicants/app_help_reso.jsp. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program where they will be reviewed if they meet NSF proposal preparation requirements. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal.

A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgements.

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, original, or potentially transformative concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>.

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

Additional Solicitation Specific Review Criteria

The ADVANCE additional merit review criteria include:

Institutional Transformation:

- How significant will the contribution of the study of the proposed innovative components and other IT activities be to the institutional transformation knowledge base?
- How strong are the indicators of institutional readiness for institutional transformation and commitment to the project activities and goals?
- How well are the proposed activities linked to the institutional context and data?
- How well is the relevant social science literature incorporated into the design of the proposed innovative components and other IT activities?
- How strong is the proposed plan for sustainability?
- How likely is it that the institution will successfully implement the proposed institutionally transformative activities?

IT-Catalyst:

- Has the institution adequately demonstrated its history of being under-resourced and its current need for external resources to conduct institutional self assessment?
- How strong is the explanation of institutional need for external support to undertake the proposed activities?
- How strong are the indicators of institutional commitment to the project activities and goals?

Partnerships for Adaptation, Implementation and Dissemination (PAID):

For proposers not previously funded by ADVANCE (not applicable to PAID-Research projects):

- How well did the proposer demonstrate the effectiveness and/or lessons learned of the strategies and methods chosen to be adapted and/or disseminated?
- How well did the proposer establish the significance of adapting the strategies and methods to the proposed context(s)?
- How strong is the proposed plan for sustainability?

For proposers previously funded through ADVANCE (not applicable to PAID-Research projects):

- How well did the proposer demonstrate the effectiveness and/or lessons learned of the strategies and methods chosen to be adapted and/or disseminated particularly from the previous ADVANCE project?
- Does the proposed project build on the previous ADVANCE project in significantly different and important ways?
- How strong is the proposed plan for sustainability?

NSF staff also will give careful consideration to the following in making funding decisions:

Integration of Research and Education

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (GC-1); * or Research Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the *NSF Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

Special Award Conditions: Institutional Transformation awards will be made as cooperative agreements. There will be a site visit in the third year of Institutional Transformation awards. The purpose of the review is to conduct an in depth evaluation of performance, assess progress toward goals, provide advice and recommendations for enhancing project performance, and to determine continuation of support for the project.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through FastLane, for preparation and submission of annual and final project reports. Such reports provide information on activities and findings, project participants (individual and organizational), publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

Additional Reporting Requirements: Institutional Transformation awardees will be required to submit quarterly interim reports in addition to the standard NSF reporting requirements. This reporting requirement will be included in the cooperative agreement that is binding between the awardee institution and the NSF. PAID and IT-Catalyst awardees will have the standard NSF reporting requirements.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Kelly Mack, Program Director for ADVANCE, 815, telephone: (703) 292-8575, email: kmack@nsf.gov
- Amy Rogers, 815, telephone: (703) 292-5178, email: arogers@nsf.gov
- Patricia Simms, 815, telephone: (703)292-7869, email: psimms@nsf.gov
- J.T. Clark, 815, telephone: (703) 292-8219, email: jtclark@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.
- Victoria Smoot, 815, telephone: (703) 292-4677, email: vsmoot@nsf.gov

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, National Science Foundation Update is a free e-mail subscription service designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the [NSF web site](#).

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at <http://www.grants.gov>.

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