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Documenting Endangered Languages (DEL)
data, infrastructure and computational methods

PROGRAM SOLICITATION
NSF 11-554

REPLACES DOCUMENT(S):
NSF 06-577

National Science Foundation

Directorate for Social, Behavioral & Economic Sciences
    Division of Behavioral and Cognitive Sciences

Directorate for Computer & Information Science & Engineering
    Division of Information & Intelligent Systems

Office of Polar Programs
    Division of Arctic Sciences

NATIONAL ENDOWMENT FOR THE HUMANITIES

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

September 20, 2011

September 15, 2012

September 15, Annually Thereafter

REVISION NOTES

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), **NSF 13-1**, was issued on October 4, 2012 and is effective for proposals submitted, or due, on or after January 14, 2013. Please be advised that the guidelines contained in **NSF 13-1** apply to proposals submitted in response to this funding opportunity. Proposers who opt to submit prior to January 14, 2013, must also follow the guidelines contained in **NSF 13-1**.

Please be aware that significant changes have been made to the PAPPG to implement revised merit review criteria based on the National Science Board (NSB) report, National Science Foundation's Merit Review Criteria: Review and Revisions. While the two merit review criteria remain unchanged (Intellectual Merit and Broader Impacts), guidance has been provided to clarify and improve the function of the criteria. Changes will affect the project summary and project description sections of proposals. Annual and final reports also will be affected.

A by-chapter summary of this and other significant changes is provided at the beginning of both the *Grant Proposal Guide* and the *Award & Administration Guide*.

Please note that this program solicitation may contain supplemental proposal preparation guidance and/or guidance that deviates from the guidelines established in the *Grant Proposal Guide*.

This revision of the DEL solicitation includes the following changes:

- PIs and Fellowship applicants are now being asked to propose projects involving one or more of the three emphasis areas that are identified in the Project Description of the solicitation.
- The Smithsonian Institution is no longer a DEL partner and the NSF Directorate for Computer & Information Science & Engineering/Division of Information & Intelligent Systems has been added as a DEL partner.
- The DEL program is now accepting Doctoral Dissertation Research Improvement Grants.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

    Documenting Endangered Languages (DEL)
    data, infrastructure and computational methods

Synopsis of Program:

This funding partnership between the National Science Foundation (NSF) and the National Endowment for the Humanities (NEH) supports projects to develop and advance knowledge concerning endangered human languages. Made urgent by the imminent death of roughly half of the approximately 7000 currently used languages, this effort aims to exploit advances in information technology to build computational infrastructure for endangered language research. The program supports projects that contribute to data management and archiving, and to the development of the next generation of researchers. Funding can support fieldwork and other activities relevant to the digital recording, documenting, and archiving of endangered languages, including the preparation of lexicons, grammars, text samples, and databases. Funding will be available in the form of one- to three-year project grants as well as fellowships for up to twelve months and doctoral dissertation research improvement grants for up to 24 months. Please see the DEL specific page for SBE doctoral dissertation research improvement grants for guidance on submitting this type of proposal.

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.

- Shobhana Chelliah - NSF PD, Program Director, 995 N, telephone: (703) 292-4381, email: schellia@nsf.gov

- Joan Maling - NSF PD, Linguistics Program Director, 995 N, telephone: (703) 292-8046, fax: (703) 292-9068, email: jmaling@nsf.gov

- Anna Kerttula - NSF PD, Arctic Social Sciences Program Director, 755 S, telephone: (703) 292-7432, fax: (703) 292-9082, email: akerttul@nsf.gov

- Tatiana (Tanya) Korelsky - NSF PD, Robust Intelligence Program Director, 1125, telephone: (703) 292-8930, fax: (703) 292-9073, email: tkorelsk@nsf.gov

- Mary Downs - NEH Contact, Senior Program Officer, Preservation & Access, National Endowment for the Humanities, telephone: (202) 606-8456, email: mdowns@neh.gov

- Jane Aikin - NEH Contact, Director, Division of Research Programs, National Endowment for the Humanities, telephone: 202-606-8212, email: jaikin@neh.gov

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

- 47.070 --- Computer and Information Science and Engineering
- 47.075 --- Social Behavioral and Economic Sciences
- 47.078 --- Office of Polar Programs

Award Information

Anticipated Type of Award: Standard and Continuing Grants, Fellowships, and Doctoral Dissertation Research Improvement Grants

Estimated Number of Awards: 18 to 22 including up to 12 Fellowships

Anticipated Funding Amount: $4,100,000 The total is for awards to be made annually (approximately $3.1 million from NSF and $1 million from NEH), pending availability of funds.

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.
- Unaffiliated Individuals: Scientists, engineers or educators in the U.S. who are U.S. citizens.
- Tribal organizations and other American Indian, Alaska Native, and Hawaiian serving organizations.

PI Limit:

For PROJECT GRANTS: No eligibility limit.

For FELLOWSHIPS: U.S. citizens are eligible to apply for fellowships. Foreign nationals who have been living in the United States or its jurisdictions for at least the three years prior to the proposal deadline are also eligible to apply for fellowships. Applicants can be affiliated with an institution or be an unaffiliated individual. Individuals currently enrolled in a degree-granting program are ineligible to apply.

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI: 1

One proposal per prospective PI

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable

- **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:** Inclusion of voluntary committed cost sharing is prohibited.

- **Indirect Cost (F&A) Limitations:** NEH does not reimburse grantee U.S. academic institutions for the indirect costs associated with fellowship research.

- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

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

    September 20, 2011

    September 15, 2012

    September 15, Annually Thereafter

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

At least half of the world's nearly seven thousand currently used human languages are about to be lost. About three hundred of these languages now have fewer than one hundred native speakers. These endangered languages constitute an irreplaceable treasure, not only for the communities who speak them, but also for scientists and scholars.

- The great variety of these languages represents a vast, largely unmapped terrain on which linguists, anthropologists, and cognitive scientists can chart the full capabilities-and limits-of the human mind.
- Each endangered language embodies unique local knowledge of the cultures and natural systems in the region in which it is spoken.
- These languages are among the few sources of evidence for filling in the record of the human past.

Since the discipline of linguistics is a responsibility both of the National Science Foundation and of the National Endowment for the Humanities, addressing the imminent loss of linguistic knowledge is a major concern and a priority for both agencies.

Recent advances in information technology can magnify the effect of prompt and coordinated fieldwork. These advances make it possible not only to document endangered languages before they fall silent, but also to integrate and analyze that body of knowledge in unprecedented ways. Computerization of speech and universal Internet access is transforming the practice of linguistics in the area of endangered languages.

- Linguists will be able to work from the same data sets rather than from informally collected data.
- The data will be searchable in a large variety of ways. For example, finding ALL occurrences of a particular phoneme in a database will become feasible.
- The recorded sounds of a language will be available. Linguists will be able to check written transcriptions; they will be able to focus more attention on such matters as intonation in syntax.
- Interoperable digital repositories will be created.
- Interoperability will drive the development of a unified ontology for linguistics, eventually replacing inconsistent descriptive terminologies.

The endangered languages belong to highly divergent language families, which often present the most extreme cases of language differentiation.

- This wider range of data will enable linguists to achieve much greater time depth, for example, in using the comparative method to construct proto-languages.
- It will enable linguists to test more precisely claims about linguistic universals and about what humans can learn.
- It will enable computer scientists to test known computational methods and statistical computational tools, and to develop new ones.

A coordinated, sustained, and technologically sophisticated interagency initiative by these U.S. partner agencies is intended to complement efforts already underway elsewhere in the world sponsored by organizations in Germany (http://www.mpi.nl/DOBES) and the UK (http://www.hrelp.org) as well as by UNESCO (http://www.unesco.org/new/en/culture/themes/cultural-diversity/languages-and-multilingualism/endangered-languages/).

II. PROGRAM DESCRIPTION

Documenting Endangered Languages (DEL) is a joint funding program of the National Science Foundation and the National Endowment for the Humanities to develop and advance scientific and scholarly knowledge concerning endangered human languages. Made urgent by the imminent death of roughly half of the approximately 7000 currently used human languages, DEL seeks not only to acquire scientific data that will soon be unobtainable, but to integrate, systematize, and make the resulting linguistic findings widely available by exploiting advances in information technology.

Principal Investigators (PIs) and Applicants for Fellowships (Applicants) may propose projects involving one or more of the following three emphasis areas:

1. Language Description

to conduct fieldwork to record in digital audio and video format one or more endangered languages; to carry out the early stages of language documentation including transcription and annotation; to carry out later stages of documentation including the preparation of lexicons, grammars, text samples, and databases; to conduct initial analysis of findings in the light of current linguistic theory.

2. Infrastructure

to digitize and otherwise preserve and provide wider access to such documentary materials, including previously collected materials and those concerned with languages which have recently died and are related to currently endangered languages; to create other infrastructure, including workshops and conferences to make the problem of endangered languages more widely understood and more effectively addressed.

3. Computational Methods

to further develop standards and databases to make this documentation of a certain language or languages widely available in consistent, archiveable, interoperable, and Web-based formats; to develop computational tools for endangered languages, which present an additional challenge for statistical tools (taggers, grammar induction tools, parsers, etc.) since they do not have the large corpora for training and testing the models used to develop those tools; to develop new approaches to building computational tools for endangered languages, based on deeper knowledge of linguistics, language typology and families, which require collaboration between theoretical and field linguists and computational linguists (computer scientists).

Accomplishing the goals of the DEL program may require multidisciplinary research teams and comprehensive, interdisciplinary approaches across the sciences, engineering, education, and humanities, as appropriate. Interdisciplinary research combining the expertise of scientists expands the rewards of language documentation. In each emphasis area, DEL encourages collaboration across academic disciplines and /or communities. For example, a DEL project might pair linguists with computer scientists, geographers, anthropologists, educators and others as appropriate. Examples of community collaborations might include scholars working in well-defined partnerships with native speaker communities. DEL also encourages investigators to include in their projects innovative plans for training native speakers in descriptive linguistics and new technologies which support the documentation of endangered languages. The DEL program is also interested in contributing to a new generation of scholars through targeted supplements, which support both graduate and undergraduate research experience. DEL gives high priority to projects that involve actually recording in digital audio and video format endangered languages before they become extinct.

Proposed projects may range from a single investigator working for six months to a team of investigators working for three years.

Documentation is a key complement to language revitalization efforts, but DEL does not support other aspects of projects to revive or expand the actual use of endangered languages. Tribal groups interested in the full range of language revitalization activities should also contact the Native Language Program of the Administration for Native Americans in the Administration for Children & Families of the U.S. Department of Health and Human Services (http://www.acf.hhs.gov/programs/ana/programs/native-language-preservation-maintenance).

Roles of the Partner Agencies

All DEL proposals will be accepted and processed by means of either the NSF FastLane system or Grants.gov. All DEL proposals will receive ad hoc and then panel review within the NSF review process. Reviewers will be chosen jointly by NSF and NEH staff. Proposers will be asked to address, and reviewers asked to apply, the two NSF merit review criteria, Intellectual Merit and Broader Impacts.

The estimated number of awards to be funded by NSF and NEH is 18 to 22. All the fellowships will be funded by NEH (approximately 12) and two to four project grants will also be funded and administered by NEH. Proposers of the projects identified for NEH funding will be instructed on how to submit documentation to NEH in order to process the award and their proposal will be withdrawn from FastLane. All other DEL awards will be funded and administered by NSF.

III. AWARD INFORMATION

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds. However, it is expected that about $4.1 million in funding will be available annually (approximately $3.1 million from NSF and approximately $1 million from NEH).

At least half of the available funding will be awarded to projects involving fieldwork.

Funding will be available not only in the form of standard and continuing grants, but also as fellowships and doctoral dissertation research improvement grants.

Award Size and Duration

Approximately 8-12 Standard or Continuing Grants ranging from $12,000 to $150,000 per year for one to three years.

Approximately 12 Fellowships of $4,200 per month for awards lasting from six to twelve months; the maximum stipend is $50,400 for a twelve-month tenure period.

Special Fellowship Conditions

A Fellowship award of $4,200 per month will support a six-to twelve-month full-time individual tenure. Proposers should request tenure periods that suit their schedules and the needs of their projects. A request for a shorter tenure period will not improve chances of receiving an award. The earliest that Fellows may begin their fellowship tenure is June 1, nine months after the proposal deadline date. For proposals submitted for the September 15, 2011 deadline, that date would be June 1, 2012. The latest that Fellows may begin their fellowship tenure is September 1, twenty-three months after the proposal deadline date. For proposals submitted for the September 15, 2011 deadline, that date would be September 1, 2013. Recipients must complete their fellowship tenure within two years of the beginning of the fellowship tenure. An award recipient must work full-time on the project and may not accept a teaching assignment or undertake any other major activity.

Time devoted to the project may be divided into no more than two separate periods of no less than three months each.

Fellowship proposals may be submitted not only by individuals but also by two persons working together on a single project. Both of them must be eligible to submit proposals for fellowships under this program solicitation; see "PI Eligibility Limit" in Section III above. In dual proposals, both the unifying purpose of the project and contributions to be made by each proposer must be clear. Awards will not be made for parallel but unintegrated projects. All fellowships will be awarded to individuals, so two persons working together on a single project must each submit a separate proposal.

Fellowships awarded under this program are not intended to support pre-Ph.D. course work or completion of a degree.

All fellowships will be awarded and administered by the National Endowment for the Humanities.

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.
- Unaffiliated Individuals: Scientists, engineers or educators in the U.S. who are U.S. citizens.
- Tribal organizations and other American Indian, Alaska Native, and Hawaiian serving organizations.

PI Limit:

For PROJECT GRANTS: No eligibility limit.

For FELLOWSHIPS: U.S. citizens are eligible to apply for fellowships. Foreign nationals who have been living in the United States or its jurisdictions for at least the three years prior to the proposal deadline are also eligible to apply for fellowships. Applicants can be affiliated with an institution or be an unaffiliated individual. Individuals currently enrolled in a degree-granting program are ineligible to apply.

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI: 1

One proposal per prospective PI

Additional Eligibility Info:

For-profit organizations are not eligible to apply to this program. However, personnel in for-profit organizations may participate as co-investigators.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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.

The following information supplements the GPG standard proposal preparation guidelines.

The Title of the proposed project should identify the specific language(s) it concerns by using the three-letter SIL codes, if possible. See http://www.ethnologue.com/codes/. Do not use more than three SIL codes.

The Summary of the proposed project should restate the Project Title, including the language code(s), and identify the most general family(ies) to which the specific language(s) belong. Indicate if this matter is in question. See http://linguistlist.org/forms/langs/find-a-language-or-family.html.

The Project Summary should briefly describe the proposed project goals and objectives, and the research question or hypothesis to be addressed. In addition to the Data Management Plan required of all NSF proposal submissions, the Project Summary should also designate the location where the data will eventually be archived. The NSF review criteria (Intellectual Merit and Broader Impacts) should be addressed in separate paragraphs.

The Project Description should not exceed 15 pages. Included within this limit is a maximum of five pages detailing the results of work supported in the past five years by NSF or NEH, if any. Also included should be brief sample materials (i.e.. entries, records, or database results for specific queries) that illustrate the content and presentation of any final product.

In general, the Project Description should indicate the work to be undertaken, the methodologies to be employed, the schedule

according to which the work will be carried out, and the roles and qualifications of the project participants. The two NSF merit review criteria should be addressed explicitly and separately.

In addressing the intellectual merit criterion, including the relevant considerations in Section VI.A. (below), discuss also the degree of endangerment of the language(s) to be documented and the urgency of the need for documentation. Describe the level, quality, and accessibility of any existing documentation of the language(s). Discuss any special linguistic, historical, cognitive, cultural, or social significance of the language(s).

The Project Description should discuss plans for archiving recordings, field notes, and processed documentary materials in a stable environment. Simply placing materials on a CD or a Web site will not in and of itself guarantee sustainable archiving. In discussing methods to be employed in recording, documenting, and archiving the endangered language(s), include reference to current statements of best practices (e.g. Bird and Simons, 2003; E-MELD; "Methodology and Standards" statements of the NEH Preservation and Access Division).

Discuss aspects of the project that will ensure interoperability with related materials.

In addressing the broader impacts criterion, including the relevant considerations in Section VI. A. (below), also discuss collaboration and other arrangements made with the speaker community. Discussion may include reference to the training of native speakers in the practice of linguistics and to the production of resources useful to the community of native speakers.

Discuss any intellectual property issues that might affect the availability of the materials.

References

Steven Bird and Gary Simons, "Seven Dimensions of Portability for Language Documentation and Description," *Language*, Vol 79, No. 2 (2003), pp. 557-582.

E-MELD: http://cf.linguistlist.org/cfdocs/emeld/school/index.html

Humanities Collections and Reference Resources:
http://www.neh.gov/grants/guidelines/HCRR.html

Preservation and Access: Research and Development:
http://www.neh.gov/grants/guidelines/PARD.html

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

Indirect Cost (F&A) Limitations: NEH does not reimburse grantee U.S. academic institutions for the indirect costs associated with fellowship research.

Budget Preparation Instructions:

In the **Summary Proposal Budget**, proposals for Fellowships only have to indicate the intended number of months of tenure of the award [line A.1 "CAL"] and the consequent total stipend [line A.1 "Funds Requested by proposer"] at the rate of $4,200 per month.

In the **Budget Justification**, proposals for Fellowships only have to enter (as appropriate):

"The NEH Fellowship stipend is $4,200 per month."

C. Due Dates

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

    September 20, 2011

    September 15, 2012

    September 15, Annually Thereafter

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 for acknowledgement and, if they meet NSF requirements, for review. 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 either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with 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. In addition, Program Officers may obtain comments from site visits before recommending final action on proposals. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (and associated timeline) is included in the GPG as Exhibit III-1.

A comprehensive description of the Foundation's merit review process is available on the NSF website at: http://www.nsf.gov/bfa/dias/policy/meritreview/.

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years (FY) 2011-2016*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the core strategies in support of NSF's mission 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 variety of learning perspectives.

Another core strategy in support of NSF's mission is broadening opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which 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.

A. Merit Review Principles and Criteria

The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in understanding across all areas of science and engineering research and education. To identify which projects to support, NSF relies on a merit review process that incorporates consideration of both the technical aspects of a proposed project and its potential to contribute more broadly to advancing NSF's mission "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." NSF makes every effort to conduct a fair, competitive, transparent merit review process for the selection of projects.

1. Merit Review Principles

These principles are to be given due diligence by PIs and organizations when preparing proposals and managing projects, by reviewers when reading and evaluating proposals, and by NSF program staff when determining whether or not to recommend proposals for funding and while overseeing awards. Given that NSF is the primary federal agency charged with nurturing and supporting excellence in basic research and education, the following three principles apply:

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful. Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

With respect to the third principle, even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

These three merit review principles provide the basis for the merit review criteria, as well as a context within which the users of the criteria can better understand their intent.

2. Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. **Both** criteria are to be given **full consideration** during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (GPG Chapter II.C.2.d.i. contains additional information for use by proposers in development of the Project Description section of the proposal.) Reviewers are strongly encouraged to review the criteria, including GPG Chapter II.C.2.d.i., prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to
   a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
   b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.

Proposers are reminded that reviewers will also be asked to review the Data Management Plan and the Postdoctoral Researcher Mentoring Plan, as appropriate.

Additional Solicitation Specific Review Criteria

Reviewers will take into account how well the below listed additional DEL specifics were addressed in the proposal.

- Discussion on the degree of endangerment of the languages(s) to be documented and the urgency of the need for documentation
- Description of the level, quality, and accessibility of any existing documentation of the language(s)
- Discussion on any special linguistic, historical, cognitive, cultural, or social significance of the language(s)
- Discussion on collaborations and other arrangements made with the speaker community which may include reference to the training of native speakers in the practice of linguistics and to the production of resources useful to the community of native speakers.

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.

Upon conclusion of the review process, meritorious proposals may be recommended for funding by either NSF or NEH at the option of the agencies, not the proposer. Subsequent grant administration procedures will be in accordance with the individual policies of the awarding agency.

NSF Process

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.

NEH Award Conditions:

NEH award conditions related to awards to organizations and individuals are available electronically at: http://www.neh.gov/manage/index.html.

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.

More comprehensive information on NSF Reporting Requirements 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.

NEH has its own reporting requirements, which are outlined electronically at: http://www.neh.gov/manage/index.html.

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:

- Shobhana Chelliah - NSF PD, Program Director, 995 N, telephone: (703) 292-4381, email: schellia@nsf.gov

- Joan Maling - NSF PD, Linguistics Program Director, 995 N, telephone: (703) 292-8046, fax: (703) 292-9068, email:

jmaling@nsf.gov

- Anna Kerttula - NSF PD, Arctic Social Sciences Program Director, 755 S, telephone: (703) 292-7432, fax: (703) 292-9082, email: akerttul@nsf.gov

- Tatiana (Tanya) Korelsky - NSF PD, Robust Intelligence Program Director, 1125, telephone: (703) 292-8930, fax: (703) 292-9073, email: tkorelsk@nsf.gov

- Mary Downs - NEH Contact, Senior Program Officer, Preservation & Access, National Endowment for the Humanities, telephone: (202) 606-8456, email: mdowns@neh.gov

- Jane Aikin - NEH Contact, Director, Division of Research Programs, National Endowment for the Humanities, telephone: 202-606-8212, email: jaikin@neh.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@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.

Related Programs:

Arctic Social Sciences Program (ASSP) - (NSF 10-597)

Robust Intelligence (RI) - (NSF 10-571)

Cultural Anthropology - (PD 98-1390)

Linguistics - (PD 98-1311)

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 55,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Arctic and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

Facilitation Awards for Scientists and Engineers with Disabilities provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of

awrds, visit the NSF Website at http://www.nsf.gov

- **Location:**   4201 Wilson Blvd. Arlington, VA 22230

- **For General Information**   (703) 292-5111
  (NSF Information Center)**:**

- **TDD (for the hearing-impaired):**   (703) 292-5090

- **To Order Publications or Forms:**

   Send an e-mail to: nsfpubs@nsf.gov

   or telephone: (703) 292-7827

- **To Locate NSF Employees:**   (703) 292-5111

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Division of Administrative Services
National Science Foundation
Arlington, VA 22230

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