Archaeology Program Senior Research Awards (Arch-SR)

PROGRAM SOLICITATION
NSF 23-566

REPLACES DOCUMENT(S):
PD 98-1391

National Science Foundation

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

Full Proposal Target Date(s):

July 03, 2023

July 1, Annually Thereafter

December 01, 2023

December 1, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

The Archaeology Senior Research solicitation provides information and instructions for preparation of faculty-level research proposals submitted to the Archaeology Program.

Note to Graduate Students: There is a separate solicitation for Archaeology Doctoral Dissertation Research Improvement Grant proposals. Also, the Graduate Research Fellowship Program (GRFP) is administered by a separate program office.

Note to Postdoctoral Researchers: In addition to potential inclusion in Archaeology Program senior research proposals, there are separate postdoctoral fellowship programs at NSF.

A separate solicitation for Archaeometry awards will be published more than 90 days before the December 1, 2023 target date, and potential PIs should follow the guidelines posted in that solicitation.

New and clarified program and proposal requirements are described in this solicitation:

- The December 20 target date has been changed to December 1.
- Undergraduate and graduate students may not serve as PI/co-PI or other senior personnel on senior research proposals.
- If a proposal is resubmitted, the first paragraph of the project description must summarize how the proposal has been substantially revised and how the PI has responded to previous reviewer concerns.
- Additional guidance is provided on data management plans and the program requires that data be shared (barring ethical limitations on sharing) within two years of final data collection.
- The amount per student for REU supplement requests has been increased to $6,000.
- Additional funding opportunities are described.

If a researcher is unsure whether the Archaeology Program is appropriate for a proposal topic, they are encouraged to email a one-page summary of their project to the program officer(s) prior to proposal submission.

Any proposal submitted in response to this solicitation should be submitted in accordance with the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) that is in effect for the relevant due date to which the proposal is being submitted. The NSF PAPPG is regularly revised and it is the responsibility of the proposer to ensure that the proposal meets the requirements specified in this solicitation and the applicable version of the PAPPG. Submitting a proposal prior to a specified deadline does not negate this requirement.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Archaeology Program Senior Research Awards (Arch-SR)

Synopsis of Program:

The Archaeology Program supports anthropologically relevant archaeological research to increase understanding of past behaviors. This means that the value of the proposed research can be justified within an anthropological context. It is the responsibility of the investigator to explain convincingly why the focus of their research is significant and has the potential to contribute to anthropological knowledge. The program sets no priorities by either geographic region or time period. It also has no priorities in regard to theoretical orientation or question. While the program, in order to encourage innovative research, neither limits nor defines specific categories of research, most proposals either request funds for field research or the analysis of archaeological material through multiple approaches.

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.

- John E. Yellen, Program Director, telephone: (703) 292-8759, email: jyellen@nsf.gov
- Don Rimon, Program Analyst, telephone: (703) 292-2960, email: drimon@nsf.gov

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

- 47.075 --- Social Behavioral and Economic Sciences

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 20 to 30

Anticipated Funding Amount: $5,000,000 to $6,000,000

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

Eligibility Information

Who May Submit Proposals:

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), Chapter I.E. Unaffiliated individuals are not eligible to submit proposals in response to this solicitation.

Who May Serve as PI:

PIs and co-PIs must be researchers who have a Ph.D. or equivalent education and experience, sufficient to allow them to carry out independent basic research. PIs of senior research proposals are encouraged to include undergraduate and graduate students in their research projects, but not as PI/co-PI or other senior personnel.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

Limit on Number of Proposals per PI or co-PI:

There are no restrictions or limits.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not required
- **Preliminary Proposal Submission:** Not required
- **Full Proposals:**
    - Full Proposals submitted via Research.gov: *NSF Proposal and Award Policies and Procedures Guide* (PAPPG) guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.
    - 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: https://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:**

Not Applicable

- **Other Budgetary Limitations:**

  Not Applicable

C. Due Dates

- **Full Proposal Target Date(s)**:

  July 03, 2023

  July 1, Annually Thereafter

  December 01, 2023

  December 1, Annually Thereafter

Proposal Review Information Criteria

Merit Review Criteria:

National Science Board approved criteria apply.

Award Administration Information

Award Conditions:

Standard NSF award conditions apply.

Reporting Requirements:

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

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I. INTRODUCTION

Three anthropological science programs, Archaeology, Biological Anthropology and Cultural Anthropology, are housed in the Division of Behavioral and Cognitive Sciences, part of NSF's Social, Behavioral and Economic Sciences Directorate. As a group, these programs support basic research that advances anthropological theory, expands our understanding of human cultural and biological variation in the past and present and informs contemporary efforts to improve the human condition. The Archaeology Program focuses specifically on processes that have shaped past behavior in humans and their fossil relatives. This solicitation provides instructions and details (supplementary to the PAPPG) for preparation of senior proposals submitted to the Archaeology Program. Separate solicitations exist for the program's administered doctoral dissertation improvement grant and archaeometry competitions.

II. PROGRAM DESCRIPTION

The Archaeology Program supports anthropologically relevant archaeological research to increase understanding of past behaviors. This means that the value of the proposed research can be justified within an anthropological context. It is the responsibility of the investigator to explain convincingly why the focus of their research is significant and has the potential to contribute to anthropological knowledge. The program sets no priorities by either geographic region or time period. It also has no priorities in regard to theoretical orientation or question. While the program, in order to encourage innovative research, neither limits nor defines specific categories of research, most applications either request funds for field research or the analysis of archaeological material through multiple approaches.

Proposals with a cultural or biological orientation may be appropriate for co-review with the Cultural Anthropology or Biological Anthropology programs. Archaeology proposals have also been reviewed with natural and biological science programs. Review with many other NSF programs may also be possible. Co-review may be requested by the PI but ultimately is at the discretion of the participating programs.

The program encourages PIs to consider the full scope of ethical implications that their proposed research has on individuals, communities, environments and the scientific enterprise and to discuss these in the proposal's project description. The program also encourages a wide range of broader impact activities as part of research grants, including research outcomes with inherent benefit to society, efforts to broaden participation in STEM research, and training and outreach activities.

A list of recent awards made by the program demonstrates the range of sub-fields, methods and topics typically supported by the program. If a researcher is unsure whether the Archaeology Program and NSF more broadly are appropriate for a proposal topic, they are encouraged to email a one-page summary of their project to the program officer(s) prior to a proposal submission.

Additional Relevant Funding Opportunities

The Archaeology Program supports multiple funding opportunities and types of proposals:

- Senior Research Proposals
- Archaeometry Proposals
- Doctoral Dissertation Improvement Grants
- Research Experiences for Undergraduates (REU) Supplemental Funding Requests
- Faculty Early Career Development (CAREER) Program Proposals
- Facilitating Research at Primarily Undergraduate Institutions: Research in Undergraduate Institutions (RUI) and Research Opportunity Awards (ROA) Proposals and Supplemental Funding Requests
- High Risk Research in Biological Anthropology and Archaeology (HRRBAA) Proposals
- Rapid Response Research (RAPID) Proposals
- Early-Concept Grants for Exploratory Research (EAGER) Proposals

This list does not exhaust the full range of funding opportunities and types of proposals described in Chapter II of the PAPPG. Rather, these are the types that may be most relevant for proposals submitted to the Archaeology Program. Researchers are always welcome to consult with program officers about which NSF mechanisms and programs might best serve their research needs.

Research Proposals

A project can be carried out by a single researcher or a research team comprising a principal investigator along with co-principal investigators, other senior personnel, postdoctoral researchers or other personnel (including specialists from other disciplines and other countries) as needed for the conduct of the research.

Specific guidelines on proposal preparation are described in the PAPPG. Note that for collaborative projects across institutions, the Archaeology Program permits researchers to submit a single proposal with subawards or a collaborative proposal submitted as separate submissions from multiple organizations.

Typical award sizes for the program are included in descriptions of recent awards. There is no award ceiling, but please be advised that a typical research award in the Archaeology Program is in the range of $200,000-$350,000 total budget, inclusive of indirect costs. Most projects are scoped to a two- or three-year duration. Requested costs must relate directly to the aims of the research; the PAPPG describes allowable and unallowable costs. Expenses to undertake broader impacts and to provide quality data management plans are permitted.

Archaeometry Proposals

The Archaeology Program administers an annual Archaeometry competition with a target date of December 1. The goal is to fund projects in two main categories:

1. To develop or refine anthropologically relevant archaeometric techniques. Examples include the development of methods to identify specific types of organic residues on ceramics or development of field applicable analytic techniques.
2. To support laboratories which provide relevant services. This includes support of service laboratories which, for example, may provide dating trace element, isotopic and dendrochronological analyses. It also includes support for data archives, which function to strengthen basic archaeological infrastructure.

Projects which apply standard archaeometic techniques with the goal to answer specific archaeological questions should be submitted to the senior archaeology competition.

A separate solicitation for Archaeometry awards will be published more than 90 days before the December 1, 2023 target date, and potential PIs should follow the guidelines posted in that solicitation.

Doctoral Dissertation Research Improvement Grants

The Archaeology Program awards Doctoral Dissertation Research Improvement Grants (Arch-DDRIG) provides funds for items not usually available from the student's U.S. academic institution. Students interested in this program should refer to the separate guidelines for Arch-DDRIG.

Research Experiences for Undergraduates (REU) Supplemental Funding Requests

An REU supplement usually provides support for one or two undergraduate students to participate in research as a part of a new or ongoing NSF-funded research project. The student's research must be their own independent research project within the PI's larger research program; these supplements are not intended to support clerical or research assistance to the PI. See the REU Sites and Supplements guidelines for additional details. Supplemental funding requests can be submitted at any time.

The Archaeology Program will consider REU funding requests for up to $6,000 per student and no more than two students per year to support the cost of the student's independent research activity.

Faculty Early Career Development (CAREER) Program Proposals

The NSF Archaeology and Archaeometry Programs participate in the NSF-wide CAREER Program for junior faculty (untenured but tenure-track or equivalent). CAREER proposals have a maximum duration of five years. In addition to research costs, proposers may include expenses for specialized training to enhance the research and their future professional trajectory. CAREER proposals also must have an educational component; the Archaeology Program suggests that this component be integrated with the research, either in the field or at the home institution.

Researchers who want to submit CAREER proposals should consult the CAREER-specific guidelines for eligibility information, allowable costs, submission deadlines (which are different than Archaeology proposals) and other CAREER Program requirements. CAREER proposals that are submitted to the Archaeology Program are reviewed during the fall review cycle.

Unlike standard research proposals, the minimum CAREER award is $400,000. CAREER award sizes in Archaeology are near the $400,000 minimum.

Facilitating Research at Primarily Undergraduate Institutions: Research in Undergraduate Institutions (RUI) and Research Opportunity Awards (ROA)

The Research in Undergraduate Institutions (RUI) and Research Opportunity Awards (ROA) funding opportunities support research by faculty members at predominantly undergraduate institutions (PUIs). RUI proposals support PUI faculty in research that engages them in their professional field(s), builds capacity for research at their home institution and supports the integration of research and undergraduate education. ROAs similarly support PUI faculty research, but these awards typically allow faculty to work as visiting scientists at research-intensive organizations where they collaborate with other NSF-supported investigators.

RUI proposals are reviewed alongside other senior proposals in the Archaeology Program. Please refer to the RUI guidelines for additional details on submission requirements. For questions about the ROA supplement opportunity, please contact the Archaeology program director.

High-Risk Research in Biological Anthropology and Archaeology (HRRBAA)

Much anthropological research is conducted in areas of the world where circumstances may exist that render access to data, research sites or other resources uncertain. To allow projects for which research outcomes are at risk for these or other reasons, Archaeology and Biological Anthropology programs have established the High-Risk Research in Biological Anthropology and Archaeology program (HRRBAA).

Researchers should refer to the separate HRRBAA guidelines and contact the Archaeology program director prior to submitting a HRRBAA proposal.

PIs may submit proposals for small awards (not to exceed $35,000 total costs and a one-year duration) to support pilot projects for proof of concept or proof of access.

Rapid Response Research (RAPID) Proposals

RAPID awards are to support urgent research. The urgency is that unanticipated research data would be lost if the researchers had to wait for the completion of a normal review cycle. This might be because, for example, of unanticipated availability of access to rarely available phenomena or research sites. RAPID support is often requested for quick-response research on natural or anthropogenic disasters and other unanticipated events. To be successful in obtaining RAPID support, investigators must convincingly argue that the particular situation to be investigated will produce data that are unlikely to be found in any other situation and that are essential for identified and important research questions and theoretical advancement. If the research is routine, failure to plan ahead is not sufficient rationale for RAPID support.

Researchers must have prior approval from the Archaeology Program to submit a RAPID proposal to the program. In their initial email, proposers should briefly explain the data to be collected, why these data are scientifically important, an estimate of the needed budget and a timeline for the research. RAPID proposals are limited to 5 pages and only internal NSF review is required so funding can be made available relatively quickly. Please consult Chapter II.F of the PAPPG for further instructions on the preparation and submission of RAPID proposals.

EArly-Concept Grants for Exploratory Research (EAGER) Proposals

The Archaeology Program supports EAGER proposals for funding research on untested but potentially transformative research ideas and approaches.

Researchers must have prior approval from the Archaeology program director to submit an EAGER proposal. The EAGER proposal type should not be used for proposals that could be submitted to a regular competition, so the initial inquiry should explain carefully why the anticipated project fits the EAGER criteria. There are no deadlines, the project description is limited to no more than 8 pages, and only internal NSF review is required. Please consult Chapter II.F.3 of the PAPPG for further instructions on the preparation and submission of EAGER proposals.

Additional Program Considerations

Broader Impact Activities

The Archaeology Program supports a wide range of broader impact activities, and successful projects will include creative, well-integrated, effective, evidence-based broader impact activities developed within the context of the mission, goals and resources of the organizations and people involved. The expertise of collaborators, the proposal budget and the budget justification should reflect this integration. Example activities include but are not limited to those that create effective methods of science outreach and engagement with local communities or the public at large; translate research to benefit broader societal needs; involve early career researchers and students who are veterans, persons with disabilities or from other groups that are underrepresented in science, technology, engineering and mathematics (STEM); or foster new partnerships, including if focused on capacity building (e.g., with Minority Serving Institutions, two-year colleges or internationally). Additional guidance for broader impacts may be found in the PAPPG and in the Dear Colleague Letter: A Broader Impacts Framework for Proposals Submitted to NSF's Social, Behavioral and Economic Sciences Directorate.

Ethical Considerations

The Archaeology Program aspires to continually improve the integration of ethical considerations and practices into research projects. Such considerations could relate to community-engaged research or co-production of knowledge with living populations (e.g., research participants, descendant communities), many of whom are underrepresented in the STEM research enterprise; environmental impact of research; researcher safety; data archiving and sharing; and other issues. Discussion of relevant ethical issues should be included in the proposal's project description. Discussions of community engagement/participation should be as detailed as possible and contain, if feasible documentation in the proposal's supplementary documents section.

Projects Involving Collaboration with Foreign Organizations or Work in Foreign Countries

As stated in the PAPPG, NSF rarely provides direct funding to support foreign organizations and only provides support for the U.S. portion of collaborative projects. If foreign organization involvement is essential to the project, subawards or consultant arrangements may be considered if the foreign organization contributes unique resources not otherwise available, or significant education, training or research opportunities to the U.S. Such information must be provided in the project description section of the proposal. For studies in countries other than the United States, the project description should discuss, where appropriate, collaborations with scientists and students from the host country, and how these individuals will be involved in the project.

Collaborations should be well justified, in that they represent true intellectual collaboration and use the expertise and specialized skills, facilities and resources of the foreign collaborator. Letters of collaboration must be included in the other supplementary documents section of the proposal. Refer to the PAPPG for instructions for submitting letters of collaboration. Principal investigators are encouraged to provide U.S. students and junior researchers with international research experiences. Where relevant, arrangements to allocate samples and data between host country organizations or institutions and U.S. organizations or institutions should be discussed in the proposal. Investigators are encouraged to include any permits (including legally required collecting, import and export permits for samples, instrumentation and data), authorizations and agreements, in the other supplementary documents section of the proposal.

Data Management

As stated in the PAPPG, principal investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. The Archaeology Program is committed to the establishment, maintenance, validation, description and distribution of high-quality data sets generated by program-funded projects. Proposals should generate data products that are findable, accessible, interoperable and reusable (FAIR). It is expected that data be shared (barring ethical limitations on sharing) within two years of final data collection. See proposal preparation and submission instructions below for additional information.

Plans for the dissemination and sharing of research results will be traceable from the beginning to the end of a project (proposal, review and annual/final report). PIs are required to provide updates on the status of metadata and data archiving in annual and final project reports. See reporting requirements below for additional information.

Permits, Permissions and Collaborations

PIs are responsible for obtaining the required authorizations from international, federal, state or local authorities for any collecting or other activities and for advising NSF that they have been obtained or requested. The proposal should briefly list the permits that are required and the timeline for approvals.

Human Subjects Research

Projects involving human subjects must indicate this on the cover sheet, including status of Institutional Review Board (IRB) approval and federal-wide assurance, and will need to provide IRB approval prior to any award being processed (see the PAPPG). Though IRB approval is not required at the time of proposal submission, the program encourages PIs to briefly address the status of approval or the plan for IRB approval in the project description and provide any additional ethical considerations related to human subjects research as part of the discussion of ethical considerations in the project description.

III. AWARD INFORMATION

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 20 to 30

Anticipated Funding Amount: $5,000,000 to $6,000,000

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), Chapter I.E. Unaffiliated individuals are not eligible to submit proposals in response to this solicitation.

Who May Serve as PI:

PIs and co-PIs must be researchers who have a Ph.D. or equivalent education and experience, sufficient to allow them to carry out independent basic research. PIs of senior research proposals are encouraged to include undergraduate and graduate students in their research projects, but not as PI/co-PI or other senior personnel.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

Limit on Number of Proposals per PI or co-PI:

There are no restrictions or limits.

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 Research.gov or Grants.gov.

- Full Proposals submitted via Research.gov: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the *NSF Proposal and Award Policies and Procedures Guide* (PAPPG). The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg. Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from nsfpubs@nsf.gov. The Prepare New Proposal setup will prompt you for the program solicitation number.
- 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: (https://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) 292-8134 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 Research.gov. PAPPG Chapter II.E.3 provides additional information on collaborative proposals.

See PAPPG Chapter II.D.2 for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the PAPPG instructions.

It is critical for investigators to adhere to the standard proposal requirements that are described in detail in the PAPPG, except as modified by this solicitation.

Proposal Set-Up

Select "Prepare New Full Proposal" in Research.gov. Search for and select this solicitation title in Step 1 of the Full Proposal wizard. The information in Step 2, Where to Apply, will be pre-populated by the system.

You may select additional programs if you would like those programs to consider co-review of your proposal. After the proposal is created click on the "Manage Where to Apply" link on the proposal main page. This will open the "Manage Where to Apply" page where additional programs can be selected. Note that co-review of a proposal with other programs is considered when the work makes a strong case for advancing theory and basic knowledge in multiple communities served by multiple programs and when the project description engages literature from those communities.

Cover Sheet

Please pay careful attention to all PAPPG requirements regarding human subjects and vertebrate animal research (PAPPG Chapter II.E). This includes listing IRB or IACUC approval status AND ensuring that relevant assurance numbers are provided.

Project Summary

Researchers should ensure that this one-page document provides sufficient summary information about the research design in the overview section (e.g., types of data and sample sizes, locations of fieldwork, methods of data collection and analysis) so that the reader has a relatively complete picture of the proposed project.

Project Description

If a proposal is a resubmission, the first paragraph of the project description must summarize how the proposal has been substantially revised and how the PI has responded to previous reviewer concerns.

Data Management Plan

PIs should ensure that the following points are addressed in the Data Management Plan:

- Describe what data or samples will be collected, what analyses will be done and how the project will provide open and rapid access to samples, data, derived data products (e.g., models and model output) and other information on the project during and after the project's completion. If there are ethical limitations on the timing or extent of data use or sharing, these limitations should be described.
- Describe plans to make full data sets, derived data products (e.g., model results, output and workflows), software and physical collections publicly accessible normally within two years of final collection, barring any human subject or other ethical considerations. Some types of data may be considered "final" at different stages of processing in different fields. Thus, PIs should define, in their data management plans, in what state they would consider their data to be final and ready for public access. Any limit on access to data, samples or other information beyond the two-year moratorium period must be based on compelling justification, documented in the data management plan of the proposal, or approved by the program director. If the

project is not expected to generate new data, samples or derived data products, the data management plan should include a statement that no detailed plan is needed, accompanied by a clear justification.

- For proposals that incorporate fieldwork or new sample collections, describe well-documented plans for fieldwork coordination and permitting, vouchering of new collections, specimen preparation, long-term specimen storage regimes, specimen identifications and descriptions, georeferencing, data modeling and databasing and rapid dissemination of data into public databases. Where no repository or archive exists for collected data and samples, the PI is required to identify a preservation plan in the data management plan that complies with the general philosophy of sharing research products and data within two years of collection. This could include a museum- or university-hosted repository if that repository is intended for long-term curation. While the Archaeology Program does not sponsor, endorse or have an official arrangement with any data archive, please note that two organizations provide this service:
    - Open Context: Contact publish@opentext.org
    - The Digital Archaeological Record (tDAR): Contact info@digitalantiquity.org
- NSF's Social, Behavioral and Economic Sciences (SBE) Directorate data management guidelines may also be helpful.

Supplementary Documentation (as applicable or where required)

- **Biographical sketches** for postdoctoral scholars and primary international collaborators who are not already included as senior personnel should be uploaded into the other personnel biographical information section in Research.gov.
- **Letters of collaboration** from individuals or organizations that are integral parts of the proposed project but are not listed as PI, co-PI, or other senior personnel on the main proposal or any subaward. These should be limited to stating the intent to collaborate, should not contain endorsements or evaluation of the proposed project and must follow the suggested template provided in the PAPPG:

  "If the proposal submitted by Dr. [insert the full name of the Principal Investigator] entitled [insert the proposal title] is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment and Other Resources section of the proposal."

B. Budgetary Information

Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

C. Due Dates

- **Full Proposal Target Date(s)**:

  July 03, 2023

  July 1, Annually Thereafter

  December 01, 2023

  December 1, Annually Thereafter

D. Research.gov/Grants.gov Requirements

For Proposals Submitted Via Research.gov:

To prepare and submit a proposal via Research.gov, see detailed technical instructions available at: https://www.research.gov/research-portal/appmanager/base/desktop?_nfpb=true&_pageLabel=research_node_display&_nodePath=/researchGov/Service/Desktop/ProposalPreparationandSubmission.html. For Research.gov user support, call the Research.gov Help Desk at 1-800-673-6188 or e-mail rgov@nsf.gov. The Research.gov Help Desk answers general technical questions related to the use of the Research.gov 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.

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: https://www.grants.gov/web/grants/applicants.html. In addition, the NSF Grants.gov Application Guide (see link in Section V.A) provides instructions regarding the technical 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 Research.gov for further processing.

Proposers that submitted via Research.gov may use Research.gov to verify the status of their submission to NSF. For proposers that submitted via Grants.gov, until an application has been received and validated by NSF, the Authorized Organizational Representative may check the status of an application on Grants.gov. After proposers have received an e-mail notification from NSF, Research.gov should be used to check the status of an application.

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 PAPPG Exhibit III-1.

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

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Leading the World in Discovery and Innovation, STEM Talent Development and the Delivery of Benefits from Research - NSF Strategic Plan for Fiscal Years (FY) 2022 - 2026*. 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 strategic objectives 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 must recruit, train, and prepare a diverse STEM workforce to advance the frontiers of science and participate in the U.S. technology-based economy. NSF's contribution to the national innovation ecosystem is to provide cutting-edge research under the guidance of the Nation's most creative scientists and engineers. NSF also supports development of a strong science, technology, engineering, and mathematics (STEM) workforce by investing in building the knowledge that informs improvements in STEM teaching and learning.

NSF's mission calls for the broadening of 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. (PAPPG Chapter II.D.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 PAPPG Chapter II.D.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 other underrepresented groups 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.

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 evaluate proposals using two National Science Board approved merit review criteria and, if applicable, additional program specific criteria. A summary rating and accompanying narrative will generally be completed and submitted by each reviewer and/or panel. 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 strives to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. Large or particularly complex proposals or proposals from new awardees may require additional review and processing time. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director acts upon the Program Officer's recommendation.

After programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements or the Division of Acquisition and Cooperative Support for review of business, financial, and policy implications. After an administrative review has occurred, Grants and Agreements Officers perform 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.

Once an award or declination decision has been made, Principal Investigators are provided feedback about their proposals. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers or any reviewer-identifying information, 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.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by an NSF Grants and Agreements Officer. 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 notice, 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 notice; (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 notice. 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 https://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 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 *Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at

https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.

Administrative and National Policy Requirements

Build America, Buy America

As expressed in Executive Order 14005, Ensuring the Future is Made in All of America by All of America's Workers (86 FR 7475), it is the policy of the executive branch to use terms and conditions of Federal financial assistance awards to maximize, consistent with law, the use of goods, products, and materials produced in, and services offered in, the United States.

Consistent with the requirements of the Build America, Buy America Act (Pub. L. 117-58, Division G, Title IX, Subtitle A, November 15, 2021), no funding made available through this funding opportunity may be obligated for an award unless all iron, steel, manufactured products, and construction materials used in the project are produced in the United States. For additional information, visit NSF's Build America, Buy America webpage.

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 no later than 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). No later than 120 days following 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 all identified PIs and co-PIs on a given award. 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 Research.gov, for preparation and submission of annual and final project reports. Such reports provide information on accomplishments, project participants (individual and organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also 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 Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.

Archaeology Program Annual and Final Reports

Annual and final reports should provide a succinct outline of the specific aims, broader impacts and data management plan as the first entry of the accomplishments section ("What are the major goals of the project?").

PIs are expected to specifically address progress on activities related to proposed broader impacts in annual and final reports. Information should be provided in the accomplishments section under questions about opportunities for training and professional development and dissemination of results to communities of interest. The impacts of these activities should be described in the impacts section, under impacts on society beyond science and technology.

Compliance with the project data management plan must be documented in annual and final reports. Identifiers for archived metadata and data, such as Digital Object Identifiers (DOIs) or persistent URLs, must be included in these reports in the section entitled "Products-Websites." Where the final report is due before the required date of sample or data submission, the PI must report plans for final data or sample submission in the impacts/information resources section. The PI should notify the program director by e-mail after final data or sample submission has occurred, even if this is after the end date of the award.

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:

- John E. Yellen, Program Director, telephone: (703) 292-8759, email: jyellen@nsf.gov
- Don Rimon, Program Analyst, telephone: (703) 292-2960, email: drimon@nsf.gov

For questions related to the use of NSF systems contact:

- NSF Help Desk: 1-800-673-6188
- Research.gov Help Desk e-mail: rgov@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, "NSF Update" is an information-delivery system 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 Grants Conferences. Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. "NSF Update" also is available on NSF's website.

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

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 (FASED) provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See the *NSF Proposal & Award Policies & Procedures Guide* Chapter II.F.7 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 awards, visit the NSF Website at https://www.nsf.gov

- **Location:** 2415 Eisenhower Avenue, Alexandria, VA 22314
- **For General Information** (NSF Information Center)**:** (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**

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

  or telephone: (703) 292-8134
- **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 System of Record Notices, NSF-50, "Principal Investigator/Proposal File and Associated Records," and NSF-51 "Reviewer/Proposal File and Associated Records." 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:

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