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|  | **nATIONAL SCIENCE FOUNDATION proposal preparation and submission guide**  FOR PROPOSALS DUE ON OR AFTER 30 January 2017 |

**Overview**

The National Science Foundation has established standard proposal preparation instructions and guidance through the Proposal & Award Policies & Procedures Guide (PAPPG) - Part I (and as excepted in this checklist). The standards listed in the PAPPG – Part I are the minimum standards established by NSF; principal investigators are strongly encouraged to carefully consider proposal layout and readability while developing their submission.

Please also note that additional information regarding proposal preparation and submission may be available in the program solicitation and may deviate from this checklist. The hyperlinks throughout this document link directly to the relevant sections of the PAPPG – Part I.

**Proposal Preparation Checklist**

The Office of Sponsored Programs will conduct an administrative review to ensure the proposal complies with the PAPPG – Part I requirements, if sufficient time is provided prior to the deadline. The checklist is not intended to be an all-inclusive repetition of the required proposal contents and associate proposal preparation guidelines. It is, however, meant to highlight certain critical items so they will not be overlooked when the proposal is prepared.

**Pre-submission Compliance Requirements**

All individuals designated as Senior Personnel have completed an [Outside Activities Report](https://oar.uwm.edu/cgi-bin/login.pl) within the last 12 months.

**[Proposal Format](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIB)**

FastLane does not automatically paginate a proposal. Applicants must paginate files prior to upload to FastLane.

Proposals may use one of the following typefaces:

Arial, Courier New, or Palatino Linotype at a font size of 10 points or larger;

Times New Roman at a font size of 11 points or larger; or

Computer Modern family of fonts at a font size of 11 points or larger.

A font size of less than 10 points may be used for mathematical formulas or equations, figures, table or diagram captions and when using a Symbol font to insert Greek letters or special characters. PIs are cautioned, however, that the text must still be readable.

No more than six lines of text within a vertical space of one inch and one inch margins.

Proposers are strongly encouraged to use only a standard, single-column format for the text.

**General**

Proposal is responsive to the program description/announcement/solicitation or to the PAPPG.

If a proposal has been previously declined and is being resubmitted, proposal has been revised to take into account the major comments from the prior NSF review.

Proposed work is appropriate for funding by NSF, and is not a duplicate of, or substantially similar to, a proposal already under consideration by NSF from the same submitter.

The proposal will be submitted by 5 p.m. submitter's local time on the established deadline date.

**[Single Copy Documents](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC1)**

Authorization to Deviate from NSF Proposal Preparation Requirements (if applicable).

List of Suggested Reviewers or Reviewers Not to Include (optional).

[Collaborators and other Affiliation information](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC1e) has been provided for each senior personnel.

**[Cover Sheet](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2a)**

Program Description/Announcement/Solicitation No./Closing Date selected. (If the proposal is not submitted in response to a specific program solicitation, proposers must enter "NSF Proposal & Award Policies & Procedures Guide.")

Specific NSF program(s) identified (if known).

For renewal proposal, previous award number entered.

Related preliminary proposal number entered (if applicable).

Check Appropriate Box(es), and provide requisite information, if the proposal includes any of the items identified. Note in particular, proposals that include use of human subjects or vertebrate animals require additional information to be submitted with these types of proposals.

Indicate if the proposal is a collaborative being submitted from one or multiple organizations, or if it is not a collaborative. Indicate the [type of proposal](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIE) being developed.

**[Project Summary](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2b)**

Note limitation of one page.

Ensure that overview, intellectual merit and broader impacts statements text blocks are completed.

The Project Summary may ONLY be uploaded as a Supplementary Document if the use of [special characters](https://www.fldemo.nsf.gov/d10/SpecialCharactersGuidance.htm) is necessary. Include separate headings for overview, statement on [intellectual merit](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_3.jsp#IIIA2a), and statement on [broader impacts](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_3.jsp#IIIA2b).

**[Project Description](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2d)**

Note limitation of 15 pages

[Merit Review Criteria](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_3.jsp#IIIA2): Ensure both merit review criteria are addressed, including a separate section within the narrative that discusses the broader impacts of the proposed activities.

[Inclusion of Uniform Resource Locators (URLs)](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2dii): PIs are cautioned that the Project Description must be self-contained and that URLs must not be used because: a) the information could circumvent page limitations; b) the reviewers are under no obligation to view the sites; and c) the sites could be altered or deleted between the time of submission and the time of review.

[Results from Prior NSF Support](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2diii): Required only for PIs and co-PIs who have received NSF support with a start date in the past five years (including any current and no-cost extensions). Information must include: a) the NSF award number, amount, and project period; b) project title; c) summary of the results of the completed work; d) a list of the publications resulting from the NSF award; e) evidence of research products and their availability; f) if the proposal is a renewal, a description of the relation of the completed work to the proposed work.

**[References Cited](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2e)**

No page limitation, however, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the 15-page Project Description. Each reference must be in the specified format.

**[Biographical Sketch(es)](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2f)**

Note limitation of two pages per individual; required for all senior project personnel. The required information must be provided in the order and format specified.

In FastLane, biographical sketches for senior personnel may no longer be grouped together and uploaded in a single PDF file associated with the PI. Each individual’s biographical sketch must be uploaded as a single PDF file associated with that individual.

**[Budget](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2g)**

Each proposal must contain a budget for each year of support requested, unless a specific program solicitation states otherwise.

All expenses are considered necessary, reasonable, allocable, and allowable under cost principles, NSF policy, and/or the program solicitation.

**[Budget Justification](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2g)**

Limited to three pages.

The budget justification accurately describes each expense included in the budget and documents the proposed need for project success.

**[Current and Pending Support](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2h)**

A Current and Pending Support document is included for each individual considered senior personnel.

Ensure that the proposal being submitted is included on each current and pending support document.

In FastLane, current and pending support for all senior personnel may no longer be grouped together and uploaded in a single PDF file associated with the PI. Each individual’s current and pending support must be uploaded as a single PDF file or inserted as text associated with that individual.

**[Facilities, Equipment and Other Resources](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2i)**

This section should include an aggregated description of the internal and external resources (both physical and personnel) that the organization and its collaborators will provide to the project, should it be funded.

Ensure that no quantifiable financial information is provided.

If there are no facilities, equipment or other resources identified, a statement to that effect should be included in this section of the proposal and uploaded into FastLane.

**[Special Information and Supplementary Documentation](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IIC2j)**

See [PAPPG-Part I Chapter II.C.2.j](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2j) for the types of information appropriate for submission in this section, as required.

Each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, not to exceed one page, a description of the mentoring activities that will be provided for such individuals.

Each proposal must include a supplementary document of no more than two pages labeled [“Data Management Plan.”](http://www.nsf.gov/bfa/dias/policy/dmp.jsp) This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results.

Any additional items specified in a relevant program solicitation.

**[Special Guidelines](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp" \l "IID)**

Note that [PAPPG-Part I Chapter II.D](https://nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IID) contains special proposal preparation instructions for certain types of proposals.

**Proposal Deadlines**

NSF typically utilizes three types of proposal due dates:

* Target Deadlines: Target deadlines are dates after which proposals will still be accepted, although they may miss a particular panel or committee meeting.
* Deadline Dates: dates after which proposals will not be accepted or will be returned without review by NSF. The deadline date will be waived only in extenuating circumstances.
* Submission Windows: designated periods of time during which proposals will be accepted for review by NSF. It is NSF’s policy that the end date of a submission window converts to, and is subject to, the same policies as a deadline date.

These target dates, deadlines, and submission windows are published in specific program descriptions, program announcements and solicitations that can be obtained through the NSF website. Unless otherwise stated in a program announcement or solicitation, proposals must be received by the specified date. If the deadline date falls on a weekend, it will be extended to the following Monday; if the date falls on a Federal holiday, it will be extended to the following business day. Proposals must be received by 5 p.m. submitter's local time on the established deadline date. Failure to submit by 5.p.m. submitter’s local time will result in the proposal not being accepted.

**NSF Submission Instructions—Biological Sciences Directorate Only**

Research proposals to the Biological Sciences Directorate ONLY (not proposals for conferences) cannot be duplicates of proposals to any other Federal agency for simultaneous consideration. The only exceptions to this rule are: (1) when the program officers at the relevant Federal agencies have previously agreed to joint review and possible joint funding of the proposal; or (2) proposals for PIs who are beginning investigators (individuals who have not been a PI or co-PI on a Federally funded award with the exception of doctoral dissertation, postdoctoral fellowship or research planning grants). For proposers who qualify under this latter exception, the box for "Beginning Investigator" must be checked on the Cover Sheet.

**NSF Proposal Format [General Requirements]**

It is imperative that all proposals conform to the proposal preparation and submission instructions specified in this Guide. Proposals also must comply with NSF font, spacing and margin requirements. The guidelines specified in [PAPPG – Part I](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIB) establish minimum requirements; however, readability is of utmost importance and should take precedence in selection of an appropriate font. Conformance with all preparation and submission instructions is required and will be strictly enforced unless a deviation has been approved in advance of proposal submission. NSF may return without review proposals that are not consistent with these instructions.

***I. Proposal Pagination Instructions***

Proposers are advised that FastLane does not automatically paginate a proposal. Each section of the proposal that is uploaded as a file should be individually paginated prior to being uploaded to the electronic system.

***II. Proposal Margin and Spacing Requirements***

The proposal must be clear, readily legible, and conform to the following requirements:

* Uses one of the typefaces identified below:
  1. Arial, Courier New, or Palatino Linotype at a font size of ten points or larger.
  2. Times New Roman at a font size of 11 points or larger.
  3. Computer Modern family of fonts at a font size of 11 points or larger.
* No more than six lines of text within a vertical space of one inch.
* Page margins of at least one inch in all directions.

A font size of less than 10 points may be used for mathematical formulas or equations, figures, table or diagram captions and when using a Symbol font to insert Greek letters or special characters. PIs are cautioned, however, that the text must still be readable.

Proposers are strongly encouraged to use only a standard, single-column format for the text.

The guidelines specified above establish the **minimum** type size requirements; however, PIs are advised that readability is of paramount importance and should take precedence in selection of an appropriate font for use in the proposal. **Small type size makes it difficult for reviewers to read the proposal; consequently, the use of small type not in compliance with the above guidelines may be grounds for NSF to return the proposal without review.** Adherence to type size and line spacing requirements also is necessary to ensure that no proposer will have an unfair advantage, by using smaller type or line spacing to provide more text in the proposal.

**NSF single-copy documents**

***III. List of Suggested Reviewers or Reviewers Not to Include***

Proposers may include a list of suggested reviewers (including email address and institutional affiliation) who they believe are especially well qualified to review the proposal. Proposers also may designate persons they would prefer not review the proposal, indicating why. These suggestions are optional. [Exhibit II-2](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2di) contains information on conflicts of interest that may be useful in preparation of this list.

The cognizant Program Officer handling the proposal considers the suggestions and may contact the proposer for further information. The decision whether or not to use the suggestions, however, remains with the Program Officer.

***IV. Proprietary or Privileged Information***

Patentable ideas, trade secrets, privileged or confidential commercial or financial information, disclosure of which may harm the proposer, should be included in proposals only when such information is necessary to convey an understanding of the proposed project. Such information must be clearly marked in the proposal and be appropriately labeled with a legend such as,

**"The following is (proprietary or confidential) information that the University of Wisconsin-Milwaukee requests not be released to persons outside the Government, except for purposes of review and evaluation."**

Such information also may be included as a separate statement. If this method is used, the statement must be submitted as a single-copy document in the Proposal Preparation Module in FastLane.

The box for "Proprietary or Privileged Information" must be checked on the Cover Sheet when the proposal contains such information. While NSF will make every effort to prevent unauthorized access to such material, the Foundation is not responsible or in any way liable for the release of such material.

***V. Collaborators and Other Affiliations Information***

The following information regarding collaborators and other affiliations must be separately provided for each individual identified as senior project personnel:

* Collaborators and co-Editors. A list of all persons in alphabetical order (including their current organizational affiliations) who are currently, or who have been collaborators or co-authors with the individual on a project, book, article, report, abstract or paper during the 48 months preceding the submission of the proposal. Also include those individuals who are currently or have been co-editors of a journal, compendium, or conference proceedings during the 24 months preceding the submission of the proposal. If there are no collaborators or co-editors to report, this should be so indicated.
* Graduate Advisors and Postdoctoral Sponsors. list of the names in alphabetical order by last name of the individual's own graduate advisor(s) and principal postdoctoral sponsor(s), and their current organizational affiliations, if known.
* Ph.D. Advisor. A list of all persons with whom the individual has had an association as a Ph.D. advisor.

The information is used to help identify potential conflicts or bias in the selection of reviewers. See  [Exhibit II-2](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#2ex2) for additional information on potential reviewer conflicts.

**NSF Proposal Content**

The sections described below represent the body of a research proposal submitted to NSF. Failure to submit the required sections will result in the proposal not being accepted, or being returned without review.

***VI. Cover Sheet***

FastLane will guide the applicant through the process of creating the cover sheet, including selecting the appropriate division/program, start date, project duration, and title. The title of the project must be brief, scientifically or technically valid, intelligible to a scientifically or technically literate reader, and suitable for use in the public press. NSF may edit the title of a project prior to making an award.

NOTE: The Authorized Organizational Representative [AOR] is required to complete a certification that the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research. While training plans are not required to be included in proposals submitted to NSF, institutions are advised that they are subject to review upon request.

***VII. Project Summary***

Each proposal must contain a summary of the proposed project not more than one page in length. The Project Summary consists of an overview, a statement on the intellectual merit of the proposed activity, and a statement on the broader impacts of the proposed activity.

The overview includes a description of the activity that would result if the proposal were funded and a statement of objectives and methods to be employed. The statement on intellectual merit should describe the potential of the proposed activity to advance knowledge. The statement on broader impacts should describe the potential of the proposed activity to benefit society and contribute to the achievement of specific, desired societal outcomes.

The Project Summary should be written in the third person, informative to other persons working in the same or related fields, and, insofar as possible, understandable to a scientifically or technically literate lay reader. It should not be an abstract of the proposal.

The Project Summary may ONLY be uploaded as a Supplementary Document if use of [special characters](https://www.fldemo.nsf.gov/d10/SpecialCharactersGuidance.htm) is necessary. Such Project Summaries must be formatted with separate headings for Overview, Intellectual Merit and Broader Impacts. **Failure to include these headings will result in the proposal being returned without review.**

***VIII. Table of Contents***

A Table of Contents is automatically generated for the proposal. The proposer cannot edit this form.

***IX. Project Description (including Results from Prior NSF Support)***

**(a) Content**

The Project Description should provide a clear statement of the work to be undertaken and must include the objectives for the period of the proposed work and expected significance; the relationship of this work to the present state of knowledge in the field, as well as to work in progress by the PI under other support.

The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of experimental methods and procedures. Proposers should address what they 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. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified. These issues apply to both the technical aspects of the proposal and the way in which the project may make broader contributions.

The Project Description must contain, as a separate section within the narrative, a section labeled "Broader Impacts". his section should provide a discussion of the broader impacts of 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 the 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 US; and enhanced infrastructure for research and education.

Plans for data management and sharing of the products of research, including preservation, documentation, and sharing of data, samples, physical collections, curriculum materials and other related research and education products should be described in the Special Information and Supplementary Documentation section of the proposal (see [Chapter II.C.2.j](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2j) for additional instructions for preparation of this section).

**(b) Page Limitations and Inclusion of Universal Resource Locators (URLs) within the Project Description**

Brevity will assist reviewers and Foundation staff in dealing effectively with proposals. Therefore, the Project Description (including Results from Prior NSF Support, which is limited to five pages) may not exceed 15 pages. Visual materials, including charts, graphs, maps, photographs and other pictorial presentations are included in the 15-page limitation. PIs are cautioned that the Project Description must be self-contained and that URLs must not be used because: 1) the information could circumvent page limitations; 2) the reviewers are under no obligation to view the sites; and 3) the sites could be altered or deleted between the time of submission and the time of review.

Conformance to the 15-page limit will be strictly enforced and may not be exceeded unless a deviation has been specifically authorized. ([Chapter II.A](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIA) contains information on deviations.)

**(c) Results from Prior NSF Support**

The purpose of this section is to assist reviewers in assessing the quality of prior work conducted with current or prior NSF funding. **If any PI or co-PI identified on the proposal has received NSF support with a start date in the past five years (including any current funding and no cost extensions), information on the award is required for each PI and co-PI, regardless of whether the support was directly related to the proposal or not.** In cases where the PI or any co-PI has received more than one award (excluding amendments to existing awards), they need only report on the one award that is most closely related to the proposal. Support includes not just salary support, but any funding awarded by NSF. NSF awards such as standard or continuing grants, Graduate Research Fellowship, Major Research Instrumentation, conference, equipment, travel, and center awards, etc., are subject to this requirement.

The following information must be provided:

1. The NSF award number, amount and period of support;
2. The title of the project;
3. A summary of the results of the completed work, including accomplishments, supported by the award. The results must be separately described under two distinct headings, Intellectual Merit and Broader Impacts;
4. A listing of the publications resulting from the NSF award (a complete bibliographic citation for each publication must be provided either in this section or in the References Cited section of the proposal); if none, state "No publications were produced under this award."
5. Evidence of research products and their availability, including, but not limited to: data, publications, samples, physical collections, software, and models, as described in any Data Management Plan; and
6. If the proposal is for renewed support, a description of the relation of the completed work to the proposed work.

If the project was recently awarded and therefore no new results exist, describe the major goals and broader impacts of the project. Note that the proposal may contain up to five pages to describe the results. Results may be summarized in fewer than five pages, which would give the balance of the 15 pages for the Project Description.

**(d) Unfunded Collaborations**

Any substantial collaboration with individuals not included in the budget should be described in the Facilities, Equipment and Other Resources section of the proposal (see [Chapter II.C.2.i](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2i)) and documented in a letter of collaboration from each collaborator. Such letters should be provided in the supplementary documentation section of the FastLane Proposal Preparation Module and follow the format instructions specified in [Chapter II.C.2.j](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2j). Collaborative activities that are identified in the budget should follow the instructions in [Chapter II.D.3](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IID3).

**(e) Group proposals**

NSF encourages submission of proposals by groups of investigators; often these are submitted to carry out interdisciplinary projects. Unless stipulated in a specific program solicitation, however, such proposals will be subject to the 15-page Project Description limitation established in Section (ii) above. PIs who wish to exceed the established page limitations for the Project Description must request and receive a deviation in advance of proposal submission. ([Chapter II.A](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIA) contains information on deviations.)

**(f) Proposals for Renewed Support**

See [Chapter V](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_5.jsp) for guidance on preparation of renewal proposals.

***X. References Cited***

Reference information is required. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. (See also [Chapter II.C.2.d.(iii)(d)](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2diii)) If the proposer has a website address readily available, that information should be included in the citation. It is not NSF's intent, however, to place an undue burden on proposers to search for the URL of every referenced publication. Therefore, inclusion of a website address is optional. A proposal that includes reference citation(s) that do not specify a URL is not considered to be in violation of NSF proposal preparation guidelines and the proposal will still be reviewed.

Proposers must be especially careful to follow accepted scholarly practices in providing citations for source materials relied upon when preparing any section of the proposal. While there is no established page limitation for the references, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the 15-page Project Description.

***XI. Biographical Sketch(es)***

**(i) Senior Personnel**

A biographical sketch (limited to two pages) is required for each individual identified as senior personnel. (See [Exhibit II-7](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#2ex7) for the definitions of Senior Personnel.) Proposers may elect to use third-party solutions, such as NIH’s SciENcv to develop and maintain their biographical sketch. However, proposers are advised that they are still responsible for ensuring that biographical sketches created using third-party solutions are compliant with NSF proposal preparation requirements.

The following information must be provided in the order and format specified below. **Inclusion of additional information beyond that specified below may result in the proposal being returned without review.**

**Do not submit any personal information in the biographical sketch**. This includes items such as: home address; home telephone, fax, or cell phone numbers; home e-mail address; driver’s license number; marital status; personal hobbies; and the like. Such personal information is not appropriate for the biographical sketch and is not relevant to the merits of the proposal. NSF is not responsible or in any way liable for the release of such material. (See also [Chapter III.H](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_3.jsp#IIIH)).

**(a) Professional Preparation**

A list of the individual's undergraduate and graduate education and postdoctoral training (including location) as indicated below:

Undergraduate Institution(s) Location Major Degree & Year

Graduate Institution(s) Location Major Degree & Year

Postdoctoral Institution(s) Location Area Inclusive Dates (years)

**(b) Appointments**

A list, in reverse chronological order, of all the individual's academic/professional appointments beginning with the current appointment.

**(c) Products**

A list of: (i) up to five products most closely related to the proposed project; and (ii) up to five other significant products, whether or not related to the proposed project. Acceptable products must be citable and accessible including but not limited to publications, data sets, software, patents, and copyrights. Unacceptable products are unpublished documents not yet submitted for publication, invited lectures, and additional lists of products. Only the list of ten will be used in the review of the proposal.

Each product must include full citation information including (where applicable and practicable) names of all authors, date of publication or release, title, title of enclosing work such as journal or book, volume, issue, pages, website and URL or other Persistent Identifier.

If only publications are included, the heading "Publications" may be used for this section of the Biographical Sketch.

**(d) Synergistic Activities**

A list of up to five examples that demonstrate the broader impact of the individual's professional and scholarly activities that focuses on the integration and transfer of knowledge as well as its creation. Examples could include, among others: innovations in teaching and training (e.g., development of curricular materials and pedagogical methods); contributions to the science of learning; development and/or refinement of research tools; computation methodologies and algorithms for problem-solving; development of databases to support research and education; broadening the participation of groups underrepresented in STEM; and service to the scientific and engineering community outside of the individual’s immediate organization.

**In FastLane, Biographical sketches for all senior project personnel must be uploaded as a single PDF file associated with that individual.**

**(ii) Other Personnel**

For the personnel categories listed below, the proposal also may include information on exceptional qualifications that merit consideration in the evaluation of the proposal. Such information should be clearly identified as “Other Personnel” biographical information and uploaded as a single PDF file in the Other Supplementary Documents section of the proposal.

1. Postdoctoral associates
2. Other professionals
3. Students (research assistants)

**(iii) Equipment Proposals**

For equipment proposals, the following must be provided for each auxiliary user:

1. Short biographical sketch; and
2. List of up to five publications most closely related to the proposed acquisition.

Such information should be clearly identified as "Equipment Proposal" biographical information and uploaded as a single PDF file in the Other Supplementary Documents section of the proposal.

***XII. Budget***

Each proposal must contain a budget for each year of support requested. The budget justification must be no more than three pages per proposal. The amounts for each budget line item requested must be documented and justified in the budget justification as specified below. For proposals that contain a subaward(s), each subaward must include a separate budget justification of no more than three pages. See [Chapter II.C.2.g.(vi)(e)](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2gvie) for further instructions on proposals that contain subawards.

The proposal may request funds under any of the categories listed so long as the item and amount are considered necessary, reasonable, allocable, and allowable under 2 CFR § 200, Subpart E, NSF policy, and/or the program solicitation. Amounts and expenses budgeted also must be consistent with the proposing organization's policies and procedures and cost accounting practices used in accumulating and reporting costs.

Proposals for large facilities also should consult NSF's Large Facilities Manual for additional budgetary preparation guidelines.

UWM researchers are encouraged to use the [Budget Tool](http://uwm.edu/officeofresearch/budget-development/) to develop a budget associated with their project. The [Budget Tool](http://uwm.edu/officeofresearch/budget-development/) facilitates the creation of the required NSF budget forms through FastLane.

***XIII. Current and Pending Support***

This section of the proposal calls for required information on all current and pending support for ongoing projects and proposals, including this project, and any subsequent funding in the case of continuing grants. All current project support from whatever source (e.g., Federal, State, local or foreign government agencies, public or private foundations, industrial or other commercial organizations, or internal funds allocated toward specific projects) must be listed. The proposed project and all other projects or activities requiring a portion of time of the PI and any other senior personnel must be included, even if they receive no salary support from the project(s). The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months per year to be devoted to the project, regardless of source of support. Similar information must be provided for all proposals already submitted or submitted concurrently to other possible sponsors, including NSF. Concurrent submission of a proposal to other organizations will not prejudice its review by NSF. The Biological Sciences Directorate exception to this policy is delineated in [Chapter I.G.2](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_1.jsp#IG2).

If the project now being submitted has been funded previously by a source other than NSF, the information requested in the paragraph above must be furnished for the last period of funding.

**In FastLane, Current and Pending Support for all senior project personnel must be uploaded as a single PDF file or inserted as text associated with that individual.**

***XIV. Facilities, Equipment and Other Resources***

This section of the proposal is used to assess the adequacy of the resources available to perform the effort proposed to satisfy both the Intellectual Merit and Broader Impacts review criteria. Proposers should describe only those resources that are directly applicable. Proposers should include an aggregated description of the internal and external resources (both physical and personnel) that the organization and its collaborators will provide to the project, should it be funded. Such information must be provided in this section, in lieu of other parts of the proposal (e.g., Budget Justification, Project Description). The description should be narrative in nature and must not include any quantifiable financial information. Reviewers will evaluate the information during the merit review process and the cognizant NSF Program Officer will review it for programmatic and technical sufficiency.

Although these resources are not considered voluntary committed cost sharing as defined in 2 CFR § 200.306, the Foundation **does expect** that the resources identified in the Facilities, Equipment and Other Resources section will be provided, or made available, should the proposal be funded. [Chapter VII.B.1](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_7.jsp#VIIB1) specifies procedures for use by the grantee when there are postaward changes to objectives, scope or methods/procedures.

***XV. Special Information and Supplementary Documentation***

Except as specified below, special information and supplementary documentation must be included as part of the Project Description (or part of the budget justification), if it is relevant to determining the quality of the proposed work. Information submitted in the following areas is not considered part of the 15-page Project Description limitation. This Special Information and Supplementary Documentation section also is not considered an appendix. Specific guidance on the need for additional documentation may be obtained from the Office of Sponsored Programs or in the references cited below.

* Postdoctoral Researcher Mentoring Plan. Each proposal26 that requests funding to support **postdoctoral researchers** must upload under “Mentoring Plan” in the supplementary documentation section of FastLane, a description of the mentoring activities that will be provided for such individuals. In no more than one page, the mentoring plan must describe the mentoring that will be provided to all postdoctoral researchers supported by the project, regardless of whether they reside at the submitting organization, any subrecipient organization, or at any organization participating in a simultaneously submitted collaborative proposal. Proposers are advised that the mentoring plan must not be used to circumvent the 15-page Project Description limitation. See [Chapter II.D.5](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IID5) for additional information on collaborative proposals. Mentoring activities provided to postdoctoral researchers supported on the project will be evaluated under the Broader Impacts review criterion.

Examples of mentoring activities include, but are not limited to: career counseling; training in preparation of grant proposals, publications and presentations; guidance on ways to improve teaching and mentoring skills; guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas; and training in responsible professional practices.

* Plans for data management and sharing of the products of research. Proposals must include a document of no more than two pages uploaded under "Data Management Plan" in the supplementary documentation section of FastLane. This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results (see [Chapter XI.D.4](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_6.jsp#XID4)), and may include:

1. The types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
2. The standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);
3. Policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
4. Policies and provisions for re-use, re-distribution, and the production of derivatives; and
5. Plans for archiving data, samples, and other research products, and for preservation of access to them.

Data management requirements and plans specific to the Directorate, Office, Division, Program, or other NSF unit, relevant to a proposal are available at: <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>. If guidance specific to the program is not available, then the requirements established in this section apply.

Simultaneously submitted collaborative proposals and proposals that include subawards are a single unified project and should include only one supplemental combined Data Management Plan, regardless of the number of non-lead collaborative proposals or subawards included.

A valid Data Management Plan may include only the statement that no detailed plan is needed, as long as the statement is accompanied by a clear justification. Proposers who feel that the plan cannot fit within the limit of two pages may use part of the 15-page Project Description for additional data management information. Proposers are advised that the Data Management Plan must not be used to circumvent the 15-page Project Description limitation. The Data Management Plan will be reviewed as an integral part of the proposal, considered under Intellectual Merit or Broader Impacts or both, as appropriate for the scientific community of relevance.

* Rationale for performance of all or part of the project off-campus or away from organizational headquarters.
* Documentation of collaborative arrangements of significance to the proposal through letters of collaboration. (See [Chapter II.C.2.d(iv)](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2div)). Letters of collaboration should be limited to stating the intent to collaborate and should not contain endorsements or evaluation of the proposed project. The recommended format for letters of collaboration is as follows:

**"** **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."**

While letters of collaboration are permitted, unless required by a specific program solicitation, letters of support should not be submitted as they are not a standard component of an NSF proposal. A letter of support is typically from a key stakeholder such as an organization, collaborator or Congressional Representative, and is used to convey a sense of enthusiasm for the project and/or to highlight the qualifications of the PI or co-PI. A letter of support submitted in response to a program solicitation requirement must be unique to the specific proposal submitted and cannot be altered without the author’s explicit prior approval. **Proposals that contain letters of support not authorized by the program solicitation may be returned without review**.

* In order for NSF to comply with Federal environmental statutes (including, but not limited to, the National Environmental Policy Act (42 USC. §§ 4321, et seq.), the National Historic Preservation Act (54 USC § 306108 [previously codified at 16 USC § § 470, et seq.], and the Endangered Species Act (16 USC. §§ 1531, et seq.), the proposer may be requested to submit supplemental post-proposal submission information to NSF in order that a reasonable and accurate assessment of environmental impacts by NSF may be made. The types of information that may be requested is shown in the [Organization Environmental Impacts Checklist](https://www.nsf.gov/bfa/dias/policy/papp/pappg17_1/environimpacts_checklist.pdf).
* International Activities:

1. International Research/Education/Training Activities. For each proposal that describes an international activity, PIs should list the primary countries involved on the Cover Sheet. An international activity is defined as research, training, and/or education carried out in cooperation with foreign counterparts either overseas or in the US using virtual technologies.
2. International Conferences. Proposers also should enter on the Cover Sheet the country/countries with which project participants will engage and/or travel to attend international conferences. If the specific location of the international conference is not known at the time of the proposal submission, proposers should enter "Worldwide" on the Cover Sheet.
3. Work in foreign countries. Some governments require nonresidents to obtain official approval to carry out investigations within their borders and coastal waters under their jurisdiction. PIs are responsible for obtaining the required authorizations. Advance coordination should minimize disruption of the research. (See [Chapter XI.B.4](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_11.jsp#XIB4).)

* Antarctic proposals to any NSF program require "Logistical Requirements and Field Plan" supplementary documents to be submitted with the proposal. See "proposal with fieldwork" in Chapter V.A of the [Antarctic Research solicitation](https://nsf.gov/funding/pgm_summ.jsp?pims_id=5519&org=PLR&from=home). Special budgetary considerations also apply. See also Chapter V.B of the [Antarctic Research solicitation](https://nsf.gov/funding/pgm_summ.jsp?pims_id=5519&org=PLR&from=home).
* Research in a location designated, or eligible to be designated, a registered historic place. (See [Chapter XI.J](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_11.jsp#XIJ)). Where applicable, the box for "Historic Places" must be checked on the proposal Cover Sheet.
* Research involving field experiments with genetically engineered organisms. (See [Chapter XI.B.2](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_11.jsp#XIB2).)
* Documentation regarding research involving the use of human subjects, hazardous materials, vertebrate animals, or endangered species. (See [Chapter XI.B](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_11.jsp#XIB) and Chapter [II.D.7](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IID7).)
* Projects that involve technology utilization/transfer activities, that require a management plan, or that involve special reports or final products. Please note that some program solicitations provide specific guidance on preparation and inclusion of management plans in proposals submitted to NSF.
* Special components in new proposals or in requests for supplemental funding, such as Facilitation Awards for Scientists and Engineers with Disabilities (FASED), Research Opportunity Awards (ROAs), Research Experiences for Undergraduates (REUs), and Facilitating Research at Primarily Undergraduate Institutions (RUIs). See [Chapter II.E.6](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIE6) for information on FASED, and, for the other programs identified, consult the relevant solicitation).

In addition, the supplementary documentation section should alert NSF officials to unusual circumstances that require special handling, including, for example, proprietary or other privileged information in the proposal, matters affecting individual privacy, required intergovernmental review under [E.O. 12372 (Intergovernmental Review of Federal Programs)](https://www.fws.gov/policy/library/rgeo12372.pdf) for activities that directly affect State or local governments, or possible national security implication.

***XVI. Appendices***

All information necessary for the review of a proposal must be contained in Sections a through i of the proposal. **Appendices may not be included unless a deviation has been authorized.** [Chapter II.A](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIA) contains further information.

**NSF PROPOSAL REVIEW PRINCIPLES AND CRITERIA**

***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 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. ([Chapter II.C.2.d.(i)](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2di) 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 [Chapter II.C.2.d.(i)](https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2di), 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.
* **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:
   1. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
   2. 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?