Instructions for National Science Foundation (NSF)-style proposals

Prepare the proposal as if you will be the Principal Investigator (PI), to carry out research at the University of Maine using your advisor’s facilities (and/or other relevant facilities/locations). Please adhere to all page limitations, but only include items listed below as required.

Discussion of the proposal and its preparation with your Ph.D. advisor is strongly encouraged.

Below are the relevant sections, excerpted for convenience (hence the non-sequential indexing), for the Oral Comprehensive Proposal Defense.

Detailed instructions for NSF proposals can be found at


B. Format of the Proposal

2. Proposal Margin and Spacing Requirements

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

a. Use one of the following typefaces identified below:
   • Arial, Helvetica, Palatino, 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.

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

c. Margins, in all directions, must be at least an inch.

These requirements apply to all uploaded sections of a proposal, including supplementary documentation.

While line spacing (single-spaced, double-spaced, etc.) is at the discretion of the proposer, established page limits must be followed. Individual program solicitations, however, may require different type size, margin or line spacing requirements.

3. Page Formatting

Proposers are strongly encouraged to use only a standard, single-column format for the text. Avoid using a two-column format since it can cause difficulties when reviewing the document electronically.

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.

January 2014
Proposal Sections

Note: The Project Description (labeled “d” below) is the document limited to 15 pages. Other sections (Summary, References, Biosketch, Facilities) are additional documents with their own page requirements.

b. 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.

Proposals that do not contain the Project Summary, including an overview and separate statements on intellectual merit and broader impacts will not be accepted by FastLane or will be returned without review.

d. Project Description

(i) Content

The Project Description should provide a clear statement of the work to be undertaken and must include: objectives for the period of the proposed work and expected significance; relation to longer-term goals of the PI's project; and relation to the present state of knowledge in the field, to work in progress by the PI under other support and to work in progress elsewhere.

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 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 United States; and enhanced infrastructure for research and education.

(ii) Page Limitations and Inclusion of Uniform Resource Locators (URLs) within the Project Description

Brevity will assist reviewers and Foundation staff in dealing effectively with proposals. Therefore, the Project Description 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 that provide information related to the proposal should 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 abolished between the time of submission and the time of review.

Conformance to the 15-page limitation will be strictly enforced and may not be exceeded unless a deviation has been specifically authorized. (GPG Chapter II.A contains information on deviations.)

e. 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. If the document is available electronically, the website address also should be identified.22 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.

f. Biographical Sketch(es)

(i) Senior Personnel

A biographical sketch (limited to two pages) is required for each individual identified as senior project personnel. The following information must be provided in the order and format specified below.

Do not submit personal information such as home address; home telephone, fax, or cell phone numbers; home e-mail address; date of birth; citizenship; drivers' license numbers; marital status; personal hobbies; and the like. Such personal information is irrelevant to the merits of the proposal. If such information is included, NSF will make every effort to prevent unauthorized access to such material, but the Foundation is not responsible or in any way liable for the release of such material. (See also GPG Chapter III.G).

(a) Professional Preparation

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

<table>
<thead>
<tr>
<th>Undergraduate Institution(s)</th>
<th>Major</th>
<th>Degree &amp; Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Institution(s)</td>
<td>Major</td>
<td>Degree &amp; Year</td>
</tr>
</tbody>
</table>
Postdoctoral Institution(s)  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 10 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 Uniform Resource Locator (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 science, mathematics, engineering and technology; and service to the scientific and engineering community outside of the individual's immediate organization.

(e) Collaborators & Other Affiliations

• **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.** A list of the names of the individual's own graduate advisor(s) and principal postdoctoral sponsor(s), and their current organizational affiliations.

• **Thesis Advisor and Postgraduate-Scholar Sponsor.** A list of all persons (including their organizational affiliations), with whom the individual has had an association as thesis advisor, or with whom the individual has had an association within the last five years as a postgraduate-scholar sponsor.

The total number of graduate students advised and postdoctoral scholars sponsored also must be identified.
The information in section (e) above of the biographical sketch is used to help identify potential conflicts or bias in the selection of reviewers. See GPG Exhibit II-2 for additional information on potential reviewer conflicts.

i. 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 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 cost sharing as defined in 2 CFR § 215.23 (OMB Circular A-110), 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. AAG Chapter II.B.1 specifies procedures for use by the awardee when there are postaward changes to objective, scope or methodology.

If there are no Facilities, Equipment and Other Resources to describe, a statement to that effect should be included in this section of the proposal.