The Elements of a National Science Foundation Proposal

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About this webinar series

Email inquiries to:

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- Funded by National Science
 Foundation grant BCS-2039991
 "Strengthening Capacity in Dynamic Language Infrastructure for Tribal Nations"
- Thanks to the project's Advisory Committee, which has provided advice and insight in developing this programming.

Expected Outcome of the Webinar Series and other Grant Activities

"the project is such that it will lead to the creation of proposals focused on questions largely shaped by Native Americans. The insights of such PIs about their languages and cultures are likely to lead them to focus on important research on topics that have been neglected by outside scholars and, thereby, expand the range of scientific advances that can be supported by research on Native American languages. This will allow Native American theories of language to inform linguistic theory in much the same way that data from Native American languages has, which has transformative potential for the study of language."



Topics Covered Today

- Overview of the Required NSF proposal elements
- Discussion of individual elements
- Tips and links to templates throughout the presentation

Proposal Components

Proposal Components

- Cover Page
- Project Summary (1 page)
- Table of Contents (Fastlane generates it, not you)
- Project Description (15 pages)
- References Cited
- Biographical Sketches (for all senior personnel; specific inforequired -- new template now required)
- Budget
- Current and Pending Support (new template now required)
- Facilities, Equipment, and Other Resources
- Post-doctoral mentoring plan (if applicable)
- Data management plan
- Supplementary Documentation (Letter from archivist required; other elements if applicable –no letters of support, only letters of collaboration per PAPPG wording)
- Statement of Consultation required by DLI-DEL solicitation
- Suggested reviewers (optional)
- Collaborators and affiliations (template)

Proposals and Awards Policies and Procedures Guide: The PAPPG

 https://www.nsf.gov/pubs/policydocs/papp g20 1/index.jsp

Merit Review: Intellectual Merit and Broader Impacts

Merit Review Criteria -- More Detail

- 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?

Cover Page

Cover Sheet

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Project Summary

Project Summary (1 page)

- Overview
 - Identify the issue
 - Why is it important
- Statement of Intellectual Merit
 - What is the potential to advance knowledge
- Statement of Broader Impacts
 - How will it benefit society
- Unless you have special characters, it must be uploaded as text into the Fastlane portal so editing may be required to make it a single page.

Table of Contents

TABLE OF CONTENTS

For font size and page formatting specifications, see PAPPG section II.B.2.

	Total No. of Pages	Page No.* (Optional)*
Cover Sheet for Proposal to the National Science Foundation		
Project Summary (not to exceed 1 page)	1	
Table of Contents	1	
Project Description (Including Results from Prior NSF Support) (not to exceed 15 pages) (Exceed only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)	15	
References Cited	6	
Biographical Sketches (Not to exceed 2 pages each)	13	
Budget (Plus up to 3 pages of budget justification)	20	
Current and Pending Support	11	
Facilities, Equipment and Other Resources	5	
Special Information/Supplementary Documents (Data Management Plan, Mentoring Plan and Other Supplementary Documents)	11	
Appendix (List below.) (Include only if allowed by a specific program announcement/ solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)		
Appendix Items:		

Project Description

Project Description (15 pages)

- "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."
- Visual materials, including charts, graphs, maps, photographs and other pictorial presentations are included in the 15-page limitation. Self-contained – so URLS are warned against.

Project Description (15 pages)

- What's the question
- What you want to do to answer it
- Why you want to do it
- How you plan to do it
- What implications it will have
- Separate section on Broader Impacts
- A section addressing result from prior NSF support (if any PIs have had NSF funding)
- A section that addresses any key requirements of the solicitation or program (including solicitation-specific criteria)

References Cited

Key Info for References Section

- Separate document
- Follow scholarly practices of your discipline.
- No page limit
- Citations only, not to be used to get around the page limit on project descriptions

Biosketch

Who are the Senior Personnel?

"(co) Principal Investigator/Project Director (PI/PD) means the individual(s) designated by the proposer, and approved by NSF, who will be responsible for the scientific or technical direction of the project."

"Faculty Associate (faculty member) (or equivalent) -- an individual other than the Principal Investigator(s) considered by the performing institution to be a member of its faculty (or equivalent) or who holds an appointment as a faculty member at another institution, and who will participate in the project being supported."

From https://www.nsf.gov/pubs/policydocs/pappg20_1/pappg_2.jsp#IIC2f

Biosketch Requirements

- Templates:
 - https://www.nsf.gov/bfa/dias/policy/biosketch.jsp
 - https://www.research.gov/common/attachment/Desktop/NSFPD F-FAQs.pdf
 - two options, one to directly download an NSF fillable PDF at the link
- Required for each one of the senior personnel.
- Two pages maximum for each person.
- No personal information (no pictures, home address, etc)
- Must include set information in these categories:
 - a) Professional Preparation
 - b) Appointments
 - c) Products
 - d) Synergistic Activities

https://www.nsf.gov/pubs/policydocs/pappg20_1/pappg

2.jsp#IIC2f

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)

Appointments

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

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."

Additional notes on "Products"

"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 distinct 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 should be specific and 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. Examples with multiple components are not permitted."

Additional Members of the Team

A variety of other roles could appear on a team. These are sample categories, but your project list may involve different titles:

Postdoctoral associates

Other professionals

Students (research assistants)

Technician

What "titles" capture the other members of your team?

 (Hint for budget: do you know the salaries of these positions and the fringe/benefits rates?)

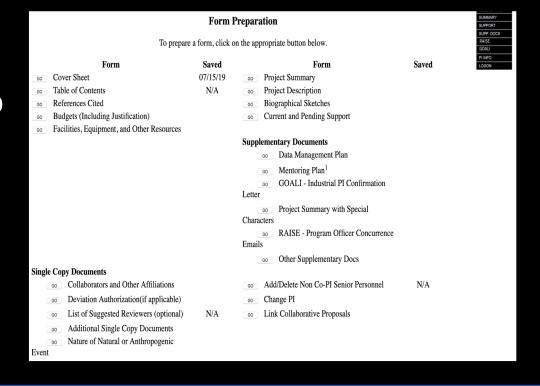
Are Biosketches needed for Other Personnel?

"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."

https://www.nsf.gov/pubs/policydocs/pappg19 1/pappg 2.jsp#IIC2fii

Fastlane: "Other Supplementary Documents"

These documents have a very specific place that PIs can go to in the Fastlane proposal dashboard.



Grants.gov vs. Fastlane

- Be alert to how grants.gov interfaces with Fastlane (hint: Not well)
- A proposal submitted and accepted by Grants.gov then goes to Fastlane and if it is not compliant, it is rejected.
- Within 72 hours, Grants.gov sends a receipt if it is accepted by Fastlane or if it is rejected.
- There are proposals submitted to Grants.gov that have been rejected without PIs realizing it.
- Recommendation: register in Fastlane and do so early.
- Fastlane won't allow a submission without all required elements.

Budget and Budget Justification

Budget

Size:

- Reasonable for project
- Aligned with typical award size for the program
- Well justified and appropriate
- Consistent with program/solicitation guidelines

Eligible Costs:

- Personnel (PI, Co-PI, Consultants, Research Staff, Students)
- Equipment
- Travel
- Participant recruitment/compensation
- Supplies and services as needed

Indirect costs are included in overall budget

—rate is negotiated by your institution

Budgets covered in more details on September 29 webinar session

Current and Pending

"Current and pending support includes all resources made available to an individual in support of and/or related to all of his/her research efforts, regardless of whether or not they have monetary value. Current and pending support also includes in-kind contributions (such as office/laboratory space, equipment, supplies, employees, students²⁶. In-kind contributions not intended for use on the project/proposal being proposed also must be reported²⁷."

Concurrent submissions to other agencies permissible (but the same proposal cannot be simultaneously submitted to more than one program at NSF).

Current and Pending Templates

- There is a new template that is an NSF-approved fillable PDF that should be used for the current and pending form.
- https://www.nsf.gov/bfa/dias/policy/cps.jsp

Person-months

- A person-month is calculated as 160 hours:
 - 4 weeks * 40 hours a week.
- There are only 12 person-months in a year.
- The person-month does not have to equal a calendar month; it is the total over the course of the 12 month period of the grant year.
- For example: 160 hours/52 weeks=3.08
 - 3 hours a week/year = 1 person month
 - A half-time position would be 960 hours, or 6 person-months, but could be spread throughout the whole year.
- Understanding these numbers is important for creating budgets.

Facilities, Equipment, and Other Resources

Adequacy and Availability of Resources

- describe only those resources that are directly applicable
- 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.
- Unfunded collaborations (and resources/facilities from those collaborations) described here
- Narrative in nature and must not include any quantifiable financial information.
- "Although these resources are not considered voluntary committed cost sharing as defined in 2 CFR § 200.99, 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."

Collaborators and Partners

- Their facilities, resources, and equipment can be detailed, identify this contribution in the Facilities document.
- These can be unfunded collaborations those not getting direct funding through the grant proposal.

Post-doctoral Mentoring Plan

- "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."
- Will be evaluated under Broader Impacts

Post-doctoral mentoring plan (1 page)

- 1. Orientation
- 2. Career Counseling
- 3. Experience with Preparation of Grant Proposals
- 4. Publications and Presentations
- 5. Teaching and Mentoring Skills
- 6. Instruction in Professional Practices
- 7. Technology Transfer
- 8. Success of the Mentoring Plan

Data Management Plan

Data Management Plan (2 pgs)

- the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
- 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);
- policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
- policies and provisions for re-use, re-distribution, and the production of derivatives; and
- plans for archiving data, samples, and other research products, and for preservation of access to them.

Be aware some directorates or programs have more specific requirements, like acceptable repositories.

Data Management Plan

- What kinds of data, software and other materials will your research produce?
- How will you manage it? (e.g. metadata standards, standards for format, content, migration, etc.)
- How will you give others access to your data, preserve confidentiality, security, intellectual property and other rights/requirements?
- How will you archive data and preserve access?
- Be alert you may be submitting to a program, division or directorate with special DMP requirements, like repository

Not "one size fits all"!

Additional DLI-DEL Requirements

- 1) the archiving location should appear in the Project Summary;
- plans and methodology for the sustainable, long-term archiving of all data and a discussion of interoperability with related materials should appear in the Project Description;
- 3) Pls and Co-Pls with prior awards funded by either or both NSF and NEH should report on data management under "Results of prior NSF support" in accordance with the Data Management Plan for NSF SBE Directorate Proposals and Awards
- 4) budgeted costs for archiving, including the ingestion into the archive, should appear in the Budget and Budget Justification under Other Direct Costs line G6;
- 5) a letter from the archive selected by the project should appear in Supplementary Documents; and
- 6) the Data Management Plan must appear in Supplementary Documents.

Prior Awards

- For DMP Reporting purposes, if there is a prior award, the proposal should discuss the archiving and location of that data and its accessibility
- If awarded funding, information relevant to reporting is located at
 - https://www.nsf.gov/sbe/SBE DataMgmtPlanPolicy.pdf

Other Supplementary Documents

Other Supplementary Documents

- Archivist/repository letter
- Not an appendix!
- Documentation of collaborative arrangements of significance to the proposal through letters of collaboration.
- While tribal resolutions or other tribal permissions are not required in the proposal, they do convey to reviewers the support behind a project.

Letters of Collaboration (not support!)

Restrictions on letters per PAPPG 20-1

https://www.nsf.gov/bfa/dias/policy/papp/pappg20_1/FedReg/draftpapp g_may2019.pdf

"Documentation of collaborative arrangements of significance to the proposal through letters of collaboration. (See Chapter II.C.2.d.(iv).) 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 istypically from a key stakeholder such as an organization, collaborator or Congressional Representative, and isused 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."

Suggested Reviewers

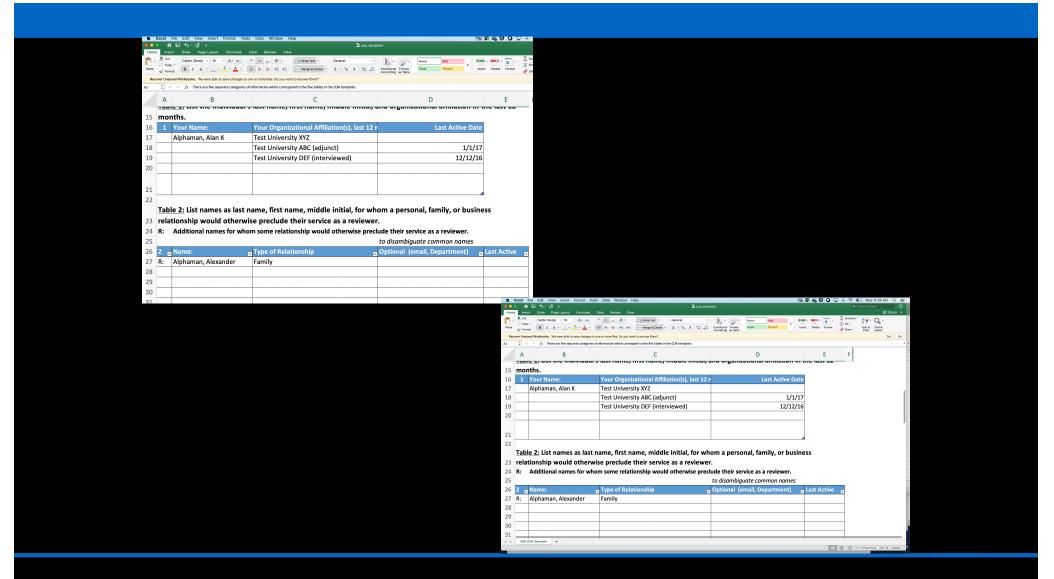
Suggested Reviewers

- List of Suggested Reviewers, or Reviewers Not To Include has been provided
- Program officer may or may not use the names
- Include contact info for reviewers
- Input names and contact info directly



Collaborators and affiliations

- Collaborators and other affiliations (COA) must be separately provided for each individual identified as senior personnel.
- NSF provides a template spreadsheet that you fill out.
- This is used to help avoid conflicts of interests in panel and reviewer selection.
- https://nsf.gov/bfa/dias/policy/coa.jsp



What next?

Post-submission process

If declined:

- Email notification (usually within 6 months)
- Reviews, panel summary, and context statement available on Fastlane
- Read and absorb, then dust yourself off!
- Contact Program Director for feedback on next steps

If awarded:

- Program Director will let you know
- Often there are requests for clarification or revision to the protocol or budget
- Provide IRB or IACUC and other approvals (as applicable)
- Work with PD on public abstract
- Await award notice!

NSF treats each proposal anew

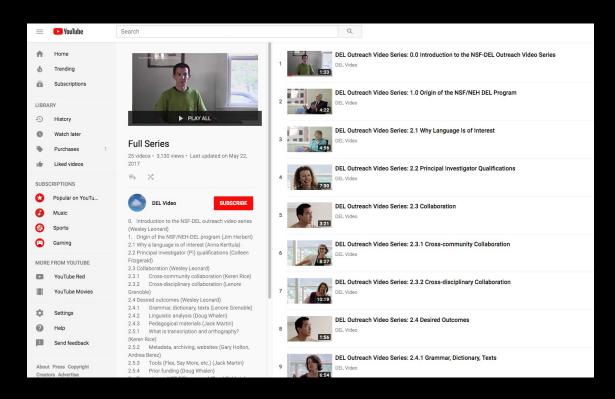
Final Tips

Remember: Talk to the Program Officer

DLI-DEL Contacts for Solicitation 20-603

- Joan M. Maling SBE, telephone: (703) 292-8046, email: imaling@nsf.gov
- Tyler S. Kendall SBE, telephone: (703) 292-2434, email: tkendall@nsf.gov
- Lura J. Chase EHR, telephone: (703) 292-5173, email: lchase@nsf.gov
- D. T. Langendoen CISE, telephone: (703) 292-5088, email: dlangend@nsf.gov
- Erica Hill GEO, telephone: (703) 292-4521, email: erhill@nsf.gov
- Jacquelyn Clements NEH, telephone: (202) 606-8475, email: <u>JClements@neh.gov</u>

DEL Outreach Video Series on YouTube



Topics:

- Principal Investigator (PI) qualifications
- Desired outcomes
- Prior funding
- Preparing an NSF proposal
- Intellectual merit & broader impacts
- Individual proposal components
- Establishing timelines
- Budgeting
- Large collaborative projects
- Review process
- Six things that tank a proposal
- https://www.youtube.com/playlist?list=PLx12labZqbzGbA0rQU0xg5cMzz9rp_dqY

Remember to:

- Get your organization set up in Fastlane ID
- Request a Fastlane ID for the PI and CoPIs
- Read the PAPPG
- Remember that the PI and the Authorized Organization Representative (AOR) should be different.
- The AOR will need to sign the proposal (in other words, submission is one step, signing is a second step).
- If the proposal has been submitted in and accepted by Fastlane, the AOR will receive a notice of this that includes a new proposal number that should start with the fiscal year (so this year, "21" should be the first two digits).
- This number is how you ask the program officer, NSF, or Fastlane Help about your proposal.
- A temporary proposal ID indicates a document that NSF does not have access to.

Q&A Shortly...Next Webinar Sessions

- Session 2 (September 15): Elements of NSF Proposals
- Session 3 (September 22): How do DLI-DEL proposals get reviewed? Presentation on NSF merit review, along with a panel discussion from experienced DLI-DEL reviewers
- Session 4 (September 29): Budgeting DLI-DEL Proposals; panel with NSF past and current Pls talk about their experiences budgeting and managing an NSF grant)
- Session 5 (October 6): Archiving and Data Management Plan, led by archivists specializing in Indigenous collections