

GRANTS.GOV APPLICATION GUIDE

A Guide for Preparation and Submission of NSF Applications via Grants.gov

NSF 20-089

Effective June 1, 2020

Grants.gov Application Guide

A Guide for Preparation and Submission of NSF Applications via Grants.gov
June 1, 2020



SUMMARY OF CHANGES AND CLARIFICATIONS

Effective for applications submitted, or due, on or after June 1, 2020

Overall Document, The *Grants.gov Application Guide* has been updated to align with changes to NSF's *Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 20-1). Editorial changes have been made throughout to either clarify or enhance the intended meaning of a sentence or section. The Guide also has been updated to ensure consistency with data contained in NSF systems or guidance located in other NSF or Federal policy documents. Website and document references have been updated to reflect current information.

Chapter VI, NSF-Specific Forms and Instructions, Section 1.9, RAPID, EAGER, RAISE – Program Officer Concurrence Emails, has been supplemented with information on the requirement that RAPID and EAGER applications must include, as supplementary documentation, an email from a cognizant NSF Program Officer confirming approval to submit a RAPID or EAGER application.

Chapter VI, NSF-Specific Forms and Instructions, Sections 2.2 and 2.6, Biographical Sketches, have been modified to require use of an NSF-approved format in submission of the biographical sketch. NSF will only accept PDFs that are generated through use of an NSF-approved format.

Chapter VI, NSF-Specific Forms and Instructions, Sections 2.3 and 2.7, Current and Pending Support, have been modified to require use of an NSF-approved format in submission of current and pending support information. NSF will only accept PDFs that are generated through use of an NSF-approved format.

The requirement to use an NSF-approved format for preparation of the biographical sketch and current and pending support will go into effect for new applications submitted or due on or after October 5, 2020. In the interim, applicants must continue to prepare these documents in accordance with the guidance specified in the PAPPG (NSF 20-1).

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I. INTRODUCTION

1. BACKGROUND

The National Science Foundation (NSF) funds research and education in science and engineering through grants and cooperative agreements. The Foundation accounts for approximately 20 percent of federal support to institutions of higher education (IHEs) for basic research. Grants.gov allows organizations to electronically find and apply for competitive grant opportunities from all Federal grant-making agencies, including NSF.

2. PURPOSE AND SCOPE

This document was developed to assist applicants in the preparation and submission of applications to NSF. It is intended as the primary document for use in preparation of applications via Grants.gov. Where appropriate, relevant sections of the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) and Grants.gov Applicant User Guide have been incorporated by reference.

For the purpose of this document, the term "application" (used by Grants.gov) replaces the term "proposal" (used by NSF). However, the terms are synonymous.

3. INTENDED AUDIENCE

NSF welcomes applications on behalf of all qualified scientists, engineers, and educators. The Foundation strongly encourages women, minorities, and persons with disabilities to participate fully in its programs. In accordance with Federal statutes, regulations, and NSF policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination, under any program or activity receiving financial assistance from NSF, although some programs may have special requirements that limit eligibility.

Scientists, engineers, and educators usually initiate applications that are officially submitted by their employing organization. Before formal submission, the application may be discussed with appropriate NSF program staff. Graduate students are not encouraged to submit research applications but should arrange to serve as research assistants to faculty members. Some NSF divisions accept applications for Doctoral Dissertation Research Grants when submitted by a faculty member on behalf of the graduate student. A full listing of eligible applicants is contained in PAPPG Chapter I.E.

4. SYMBOLS

The following symbols are used throughout this document to highlight information that is of particular interest or importance:



This symbol indicates NSF specific instructions.



This symbol represents a link to an important reference material.

★
This symbol represents a required field

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5. REFERENCED DOCUMENTS

5.1 NSF Proposal & Award Policies & Procedures Guide (PAPPG)

The PAPPG provides guidance for the preparation of applications for submission to NSF via use of the FastLane system and Research.gov. The PAPPG includes detailed application preparation instructions and information about NSF's application processing and review process. It also includes information about withdrawals, returns, and declinations. Where appropriate, sections of the PAPPG have been incorporated by reference into this application guide.



NSF Proposal & Award Policies & Procedures Guide:

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

5.2 Grants.gov Online User Guide

The Grants.gov Online User Guide is a comprehensive reference to information about Grants.gov.



Grants.gov Online User Guide:

https://www.grants.gov/help/html/help/GetStarted/Get Started.htm

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II. GENERAL INSTRUCTIONS FOR SUBMISSION VIA GRANTS.GOV

1. REGISTRATION PROCESS

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for most government grants on the Grants.gov website, including NSF grants.



Grants.gov Registration: http://www.grants.gov/web/grants/applicants.html

2. SOFTWARE REQUIREMENTS¹

2.1 Adobe Reader

In order to open, complete, and submit an application package, applicants must download and install the latest version of Adobe Reader from the Grants.gov website. NSF strongly recommends that applicants download Adobe Reader directly from the Grants.gov website to ensure the use of the latest compatible version of Adobe Reader.



For minimum system requirements, download instructions, and help tips for using Adobe, please see Grants.gov Download Software: http://www.grants.gov/web/grants/applicants.html

¹ If the applicant has problems setting up software on their machine, the applicant may not have security permissions to install new programs on their system. If that is the case, they should contact the organization's system administrator.

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III. NSF-SPECIFIC INSTRUCTIONS FOR SUBMISSION VIA GRANTS.GOV

1. NSF's IMPLEMENTATION OF GRANTS.GOV

Unless otherwise specified in an NSF solicitation, applications to NSF may be submitted via use of Grants.gov, the NSF FastLane system, or Research.gov. Please note that simultaneously submitted collaborative applications must be submitted via FastLane or Research.gov, as Grants.gov does not currently support this functionality.

Upon posting to Grants.gov, the application package will contain the appropriate Research and Related forms, NSF specific forms, and the NSF Grants.gov Application Guide.

2. COMPONENTS OF AN NSF APPLICATION

The documents listed in Table 1 are components of an NSF application. The documents identified as required must be submitted to NSF as part of the application.

Table 1: Components of an NSF Application

Document	Required	Optional
SF 424 (R&R) Cover Sheet	>	
Project/Performance Site Location(s)	>	
R&R Other Project Information	>	
R&R Senior/Key Person Profile (Expanded)	•	
R&R Personal Data	>	
R&R Funds Requested Budget	>	
R&R Subaward Budget Attachment(s)	~	
NSF Cover Page	>	
NSF Deviation Authorization		•
NSF Suggested Reviewers		•

3. CONFORMANCE WITH APPLICATION PREPARATION REQUIREMENTS

It is imperative that all applications conform to these application preparation and submission instructions.

All attachments to an application also must comply with NSF font, spacing, and margin requirements specified in PAPPG Chapter II.B.2. Conformance with all preparation and submission instructions is required and will be strictly enforced unless a deviation has been approved in advance of application submission. Please note that NSF solicitations may establish additional requirements. Applications that do not comply with this requirement will not be inserted into NSF's FastLane system and therefore cannot be reviewed. See PAPPG Chapter II.A for additional information.

3.1 Portable Document Format (PDF)

NSF requires that applicants submit all attachments to applications to Grants.gov in Portable Document Format (PDF). In order to save a document as a PDF, the applicant will need to use PDF generator software. Applications with attachments in non-PDF format will not be inserted into FastLane and will require resubmission via Grants.gov by the applicant.

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3.2 Creating PDF Files

NSF has published the following webpage that provides guidance on creating PDF files acceptable for submission to FastLane. This same guidance must be followed for all attachments submitted with the NSF application through Grants.gov.



Creating PDF Files: https://www.fastlane.nsf.gov/documents/pdf_create/pdfcreate_05a.jsp

Adobe Reader cannot produce PDF files. The applicant must use the Adobe Distiller component of Adobe Acrobat.

NOTE: DO NOT USE PDF Writer! To avoid problems with converting documents to PDF, download the FastLane Job Options file as described below.

3.2.1 Instructions for Non-Adobe Acrobat Users

Users without Adobe Acrobat may use the PDF Conversion Utility found within FastLane to convert non-PDF documents to PDF format. The utility can be accessed by **registered** FastLane users through either the Proposal Preparation or the Research Administration modules.

To access the FastLane PDF Conversion Utility through Proposal Preparation, navigate to the NSF FastLane homepage: https://www.fastlane.nsf.gov/fastlane.jsp and select the "Proposals, Awards and Status" module. To access the FastLane PDF Conversion Utility through Research Administration, click on the link https://www.fastlane.nsf.gov/researchadmin/. Next:

- 1. Log in using your appropriate FastLane log-in information.
- 2. On the Quick Links menu at the left of the screen, select Convert Files to PDF.
- 3. Enter the document location in the space provided, or click the Browse button to select the document to be converted to PDF format.
- 4. Select the Convert to PDF button. The PDF conversion process may take a few minutes depending on your file size. Upon completion of PDF conversion, the screen will indicate that your file has been successfully converted.
- Select View PDF. The converted document appears in PDF format in Adobe Reader within your web browser.
- 6. Select the diskette icon to name and save your new PDF file locally to your computer's hard drive.

3.2.2 Warnings and Rules

Failure to comply with the following warnings or to adhere to NSF rules for PDF files may result in your application not being inserted into NSF's FastLane system and the application missing the funding opportunity's deadline date.

Warnings

- DO NOT Use Adobe Acrobat PDFWriter
- DO NOT Use Blocked PDF Producers
- DO NOT Use Adobe Acrobat Encryption or Security Settings

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Rules

- Always Check Results
- Always Embed All Fonts
- Always Use Type 1 or True Type Fonts
- Note the Special Rules for TeX or LaTeX

DO NOT Use Adobe Acrobat PDFWriter

PDFWriter does not produce acceptable PDF files, except under very limited circumstances. This can lead to NSF Program Officers and reviewers seeing garbled and/or incomplete versions of a file. NSF recommends uploading one of the supported formats as identified in the Acceptable File Formats section on FastLane https://www.fastlane.nsf.gov/documents/pdf create/pdfcreate 04.jsp?page=0 To create and upload a PDF file, use Adobe Distiller (in the same package as PDFWriter) or Ghostscript version 6.5 or higher.

4. SUBMISSION OF SAME APPLICATION TO MULTIPLE AGENCIES

With the exception of the Biological Sciences Directorate policy specified below, concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review.



NSF Biological Sciences Directorate Policy

Research applications to the Biological Sciences Directorate (not applications for conferences) cannot be duplicates of applications 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 application; or (2) applications for Principal Investigators (PIs) who are beginning investigators (individuals who have not been a PI or co-Principal Investigator (co-PI) on a Federally funded award with the exception of doctoral dissertation, postdoctoral fellowship, or research planning grants). For applicants who qualify under this latter exception, the box for "Beginning Investigator" must be checked on the NSF Grant Application Cover Page.

5. SUBMISSION FOR REVIEW BY MULTIPLE PROGRAMS WITHIN NSF

The same work/application cannot be funded twice. The submission of duplicate or substantially similar applications concurrently for review by more than one program without prior NSF approval may result in the return of the redundant applications. (See PAPPG Chapter IV.B for further information.)

6. Next Steps – Post Submission to Grants.gov

Until an application has been received and validated by NSF, the Authorized Representative² (AR) may check the status of an application on Grants.gov. Grants.gov requires a user login and password.



Check Application Status: http://www.grants.gov/web/grants/applicants/track-my-application.html

² For purposes of this Guide, the term "Authorized Representative (AR)" is interchangeable with the term "Authorized Organizational Representative (AOR)."

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6.1 Grants.gov Contact Center

If the AR has not received a confirmation message from Grants.gov within 48 hours of submission of the application, please contact:

Telephone: 1-800-518-4726 E-mail: support@grants.gov

6.2 NSF IT Help Central

If the AR³ has not received a confirmation message from NSF within 60 hours of submission of the application, please contact:

Telephone: 1-800-673-6188 E-mail: fastlane@nsf.gov

6.3 NSF Research.gov and FastLane Systems

Information on the NSF Research.gov and FastLane Systems is contained in PAPPG Chapter I.A.

For applications submitted through Grants.gov the applicant should use:

- Research.gov to register with NSF if you or your organization has not done previous business with NSF.
 To have a valid application submission, you must register your organization with NSF and all individuals
 who will be serving as administrators, AORs, PIs and co-PIs must register for a NSF account (i.e., NSF
 ID).
- Research.gov to check the status of an application after it has been received and validated by NSF.
- FastLane to add or correct information in the application after submission via Grants.gov and a notification is received from NSF that the application has been inserted into FastLane. See Section 6.3.1, "Proposal File Update – Post Submission," and Section 6.4, "Warning Messages," for details.

6.3.1 Proposal File Update - Post Submission

Applications submitted through Grants.gov are considered official submissions to the Federal government. The FastLane Proposal File Update Module⁴ allows the organization to request the replacement of files or revision of other Proposal Attributes, associated with a previously submitted proposal. (Note: The FastLane Proposal File Update module must not be used for submission of revised budgets. All budgetary revisions must be submitted through use of the FastLane Revised Proposal Budget Module. See Section 6.3.2, "Revisions to the Budget" below for further information.)

See PAPPG Chapter III.C for further information.

6.3.2 Revisions to the Budget

Negotiating budgets generally involves discussing a lower or higher amount of total support for the proposed project.

When such discussions result in a budget reduction of 10% or more from the amount originally proposed, a corresponding reduction should be made in the scope of the project. Applicants must use the FastLane Revised Proposal Budget Module to submit this information. A revised proposal budget also must include a Budget Impact Statement that describes the impact of the budget reduction on the scope of the project.

Revised proposal budgets must be signed and submitted by the AR. See <u>PAPPG Chapter III.D</u> for further information.

³ The identified PI also will receive a confirmation message from NSF.

⁴ The module in FastLane that is used to update files is the Proposal File Update module. The term proposal has the same meaning as application.

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6.4 Warning Messages

If an applicant receives a Warning Message email stating information needs to be added or corrected in the application, the applicant should carefully review each warning and make the necessary correction(s) as needed in the Proposal File Update module. See Section 6.3.1, "Proposal File Update – Post Submission," and 6.3.2, "Revisions to the Budget," above for more information about file updates and submitting revised budget information.

NSF strongly recommends that the warnings be resolved as described in the warning message. NSF will not accept or will return without review applications that do not meet NSF application preparation requirements.

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IV. GRANT APPLICATION PACKAGE INSTRUCTIONS

1. GRANT APPLICATION PACKAGE

1.1 Verify Grant Information

Verify that the information shown corresponds to the grant for which the applicant wishes to apply. Grants.gov will auto-populate the following information:

- Opportunity Title
- Offering Agency
- Catalog of Federal Domestic Assistance (CFDA) Number
- CFDA Description
- Opportunity Number
- Competition ID
- Opportunity Open Date
- Opportunity Close Date
- Agency Contact

1.2 Enter a Name for the Application

Check the box indicating that the applicant will be submitting applications on his/her own behalf (if applicable). The check box will only be shown on funding opportunities that are open to individuals.

Enter a name for the application in the *Application Filing Name field (this is a required field). This name is for use solely by the applicant for you to track through the Grants.gov submission process. It is not used by the receiving agency.

I will be submitting applications on my behalf, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.		
* Application Filing Name:		

1.3 Open and Complete Mandatory Documents

Open and complete all of the documents listed in the "Mandatory Documents" section. Complete the SF 424 (R&R) first. Data entered on the SF 424 (R&R) is populated into other mandatory and optional forms where possible.

Mandatory Documents include:

- SF 424 (R&R)
- Project/Performance Site Location(s)
- R&R Other Project Information
- R&R Personal Data
- R&R Budget
- NSF Cover Page
- NSF R&R Senior/Key Person Profile (Expanded)

Copies of all forms are available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

1.4 Open and Complete Optional Documents

To open Optional documents click on the checkbox next to the optional form you wish to add. Once the checkbox is checked, click on the link for the form to fill it out.

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Optional Documents include:

- R&R Subaward Budget Attachment(s) Form
- NSF Deviation Authorization
- NSF Suggested Reviewers or Reviewers Not to Include

Copies of all forms are available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

1.5 Navigating the Forms

The applicant must complete the mandatory fields on each page of the form/document. Mandatory fields in Adobe Reader are highlighted in yellow with a red border.



To navigate to the next page of a form/document, locate the right arrow in the Adobe toolbar at the top of Adobe Reader and click on the arrow.



Once the arrow has been clicked, the applicant will be taken to the next page of the form/document where he/she may complete the rest of the form. The applicant may use this arrow to be taken to each subsequent form in the application.

To go back to the previous page or previous form/document, simply click the left arrow on the Adobe toolbar.



Additionally, Adobe Reader allows scrolling from one form to the next by using the up and down arrows on the far right of Adobe Reader.

Once all the relevant fields have been completed, the applicant can return to the Grant Application Package screen and the list of Mandatory and Optional Documents by going to the first page in the application package or by clicking on the "Close Form" button when available. When a form/document is closed the completed data is captured in the application package but the form/document is not automatically saved. The application package must be saved from the Grant Application Package screen. More information on saving the application package is available in Section 1.8, "Saving the Application."

1.6 Attachments

Many of the forms/documents in the application package require the applicant to attach files. As stated in Chapter III, Section 3.1 above, "Portable Document Format (PDF)," NSF requires that all attachments must be submitted in PDF format.

To attach a PDF file to the forms/documents in the application package, only use the attachment buttons found on the form. Do not use the Adobe attachment function through the Adobe menu or Adobe icon.

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For more information on adding attachments to the application package using Adobe forms, please see the Grants.gov Online User Guide:

https://www.grants.gov/help/html/help/GetStarted/Get Started.htm

The R&R Subaward Budget Attachment(s) Form allows the applicant to attach additional Adobe forms. Chapter V, Section 7 of this Guide provides detailed instructions for the navigation of this form.

1.7 Displaying Help Tips

To display a Help Tip in Adobe Reader, hover or place the cursor over the field in question. Fields that are prepopulated by Grants.gov are display-only fields and no Help Tip is available. Help Tips are not available for buttons that are grayed out.

1.8 Saving the Application

The "Save" button only appears on the Grant Application Package screen. It is recommended that after the applicant completes each form/document that he/she go to the first page of the application package, or click on the "Close Form" button when available, then save the application package by clicking on the "Save" button at the top of the Grant Application Package Screen. It is important to note that the application package will be saved to the last active directory on the applicant's computer. Therefore, the applicant should save the application package to his/her hard drive where it can easily be located. The applicant may save the application package at any time and should save the application package with the same file name each time.

1.9 Check Package for Errors

To initiate the Grants.gov edit check process, simply click on the "Check Package for Errors" button on the first page of the application package.

Save

Save & Submit

Check Package for Errors

If all fields pass validation checks, a message box is shown saying "Validation Passed." If the application fails a validation check, the applicant must fix the error(s) and check the package for errors again. All errors are displayed one at a time.



Applicants are advised that no checks against NSF-specific business rules will take place at this time.

1.10 Submitting the Application

The AR must open the application in Adobe Viewer then press the "Save & Submit" button. Applications can be completed in their entirety offline; however, to submit an application you must be connected to the internet. To submit the application:

- 1. Browse to the physical location where the application file is located on your hard drive.
- 2. Double-click the application.
- 3. The application will open in Adobe Reader. This may take a few moments. Please be patient.

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- 4. Once the application is completely open, if the "Save & Submit" button is not active then click the "Save" button. If the application has passed the "Check Package for Errors" validation check, the application will be saved and the "Save & Submit" button will become active.
- 5. Click "Save & Submit." A window will display requiring the application to be saved one more time. Save the application.
- 6. A pop-up window is displayed with User Name and Password prompt.
- 7. Enter your AR User Name and Password.
- 8. Click Login.

A pop-up window is displayed that says "This document is trying to connect to the site. If you trust the site click 'Allow', otherwise click 'Block'."

- 9. Click on 'Allow' and select the checkbox next to 'Remember my Action...' This is a security warning from the Adobe Reader.
- 10. A pop-up window is displayed that asks "Do you wish to sign and submit this Application?"
- 11. Click the "Sign and Submit Application" button.
- 12. A Security Warning pop-up window is displayed that says "This document has accessed more than one site and might be trying to share data among different locations. This could be a privacy concern. Are you sure you want to continue?" Check the "Don't show this message again until this document is reopened" checkbox and click "Yes."
- 13. Upon successful submission of the application, a Confirmation document is displayed with the Grants.gov Tracking Number displayed on the second page. It is recommended that this document be saved and printed for your records.

Only the AR has the authority and user rights to **Sign and Submit** an application to Grants.gov.

Additional submission FAQs may be found on the Grants.gov website.



Grants.gov submission FAQs: http://www.grants.gov/web/grants/applicants/applicant-faqs.html

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V. RESEARCH AND RELATED (R&R) FORMS AND INSTRUCTIONS

1. OVERVIEW

This section contains both the SF 424 (R&R) instructions, as well as any applicable NSF-specific instructions. It is important that all applications conform to these SF 424 (R&R) General Instructions, and where specified, with the NSF-specific instructions. Conformance is required and will be strictly enforced unless a deviation has been approved in advance of submission. Applicants are advised that NSF may not accept or may return without review applications that are not consistent with these instructions.

The NSF applicant is required to complete and submit the following SF 424 (R&R) forms as part of the application package:

- SF 424 (R&R) (Cover Sheet);
- Project/Performance Site Location(s);
- Research & Related Other Project Information;
- · Research & Related Personal Data;
- Research & Related Budget.

The following SF 424 (R&R) form is optional and only should be submitted when applicable:

R&R Subaward Budget Attachment(s) Form

Detailed instructions for the completion of each of these forms are explained in the following sections.

2. SF 424 (R&R) (COVER SHEET)

A copy of the SF 424 (R&R) (Cover Sheet) is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

2.1 Enter a Type of Submission (Field 1 on the Form)

Check one of the Type of Submission boxes.

For purposes of NSF, the term preliminary proposal is synonymous with pre-application. Preliminary proposals, when required, must be submitted via use of the NSF FastLane System. In addition, the box for "changed/corrected application" should not be used.

Applicants that wish to change or correct a previously submitted application (that has already been accepted into FastLane) should use the Proposal File Update module available in NSF FastLane at https://www.fastlane.nsf.gov/. See Chapter III, Section 6.3.1, "Proposal File Update — Post Submission." Resubmissions, continuations, or revisions also should not be used in Field 8 on the form. See Section 2.8, "Select Type of Application (Field 8 on the Form)."

2.2 Enter Date Submitted (Field 2 on the Form)

Enter the date the application is submitted to the Federal agency.

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For applicants impacted by a natural or anthropogenic disaster, please contact the cognizant NSF Program Officer in the Division/Office to which the application will be submitted to request authorization to submit an application after the deadline date. Applicants should then follow the written or verbal guidance provided by the cognizant NSF Program Officer. A statement identifying the nature of the event that impacted the ability to submit the application on time should be uploaded under "Additional Single-Copy Documents," Field 5 on the NSF Cover Page form. See also PAPPG Chapter I.F for additional information.

2.3 Enter Date Received by State (Field 3 on the Form)

Leave this blank.

2.4.a Federal Identifier (Field 4.a. on the Form)

If a new, full application is being submitted that is related to a previously submitted preliminary proposal, enter the NSF assigned preliminary proposal number in the Federal Identifier field. If this is a renewal application, requesting additional funding for a period subsequent to that provided by a current award, enter the assigned award number of the previously funded application in the Federal Identifier field. If this application is a resubmission of an application that has been previously submitted, but was not funded, and is being resubmitted for new consideration, leave blank. NSF treats these submissions as new applications.

2.4.b Agency Routing Number (Field 4.b. on the Form)



NSF does not use this field for routing. This field should be left blank.

2.4.c Previous Grants.gov Tracking ID (Field 4.c on the Form)



NSF does not use this field. This field should be left blank.

2.5 Enter Applicant Information (Field 5 on the Form)

Enter the DUNS number of the applicant organization. This field is required.

The legal name of the applicant "organization" should be entered under "Legal Name," unless the applicant is an individual.

In addition, applicants that are individuals cannot enter information into the Organizational DUNS field.

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Field Name	Input
*Legal Name	Enter legal name of applicant, which will undertake the assistance activity, enter the complete address of the applicant (including county/parish and country), and name, telephone number, e-mail, and fax of the person to contact on matters related to this application. This field is required.
Department	Enter the name of primary organizational department, service, laboratory, or equivalent level within the organization which will undertake the assistance activity.
Division	Enter the name of primary organizational division, office, or major subdivision which will undertake the assistance activity.
*Street 1	Enter first line of the street address for the applicant in "Street1" field. This field is required.
Street 2	Enter second line of the street address for the applicant in "Street2" field. This field is optional.
*City	Enter the city for address of applicant. This field is required.
County/Parish	Enter the county/parish for address of applicant.
*State	Enter the State where the applicant is located. This field is required if the applicant is located in the United States.
Province	Enter the Province.
*Zip Code	Enter the Postal Code (e.g., ZIP code) of applicant. This field is required if the applicant is located in the United States. This field is required if a State is selected; optional for Province.
*Country	Select the country for the applicant address. This field is required.

Person to be contacted on matters involving this application:

Field Name	Input
Prefix	Enter the prefix (e.g., Mr., Mrs., Rev.) for the person to contact on matters related to this application.
*First Name	Enter first (given) name of the person to contact on matters related to this application. This field is required.
Middle Name	Enter the middle name of the person to contact on matters related to this application.
*Last Name	Enter the last (family) name of the person to contact on matters related to this application. This field is required.
Suffix	Enter the suffix (e.g., Jr, Sr, PhD) for the name of the person to contact on matters related to this application.
Position/Title	Enter the title of the person to contact on matters related to this application.
*Street 1	Enter first line of the street address for the person to contact on matters related to this application in "Street1" field. This field is required.
Street 2	Enter second line of the street address for the person to contact on matters related to this application in "Street2" field. This field is optional.
*City	Enter the city for address of the person to contact on matters related to this application. This field is required.
County/Parish	Enter the county/parish for address of the person to contact on matters related to this application.
*State	Enter the State where the person to contact on matters of this application is located. This field is required if the applicant is located in the United States.
Province	Enter the Province.
*Country	Select the country for the person to contact on matters related to this application address. This field is required.
*ZIP / Postal Code	Enter the Postal Code (e.g., ZIP code) of the person to contact on matters related to this application. This field is required if the applicant is located in the United States. This field is required if a State is selected; optional for Province.
*Phone Number	Enter the daytime phone number for the person to contact on matters related to this application. This field is required.
Fax Number	Enter the fax number for the person to contact on matters related to this application.
*Email	Enter the e-mail address for the person to contact on matters related to this application.

2.6 Enter Employer Identification (EIN) or (TIN) (Field 6 on the Form)

Employer Identification (EIN) or Taxpayer Identification (TIN) - Enter either EIN or TIN as assigned by the US Internal Revenue Service. If your organization is not in the US, type 44-4444444. This is required information.

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2.7 Enter Type of Applicant (Field 7 on the Form)

Type of Applicant - Select the appropriate applicant type code. This field is required. If "Other" is selected, specify the Type of Applicant.

If Small Business is selected as Type of Applicant, then note if the organization is Women-owned and/or Socially and Economically Disadvantaged.

- **Women Owned** Check if the applicant is a women-owned small business a small business that is at least 51% owned by a woman or women, who also control and operate it.
- **Socially and Economically Disadvantaged** Check if the applicant is a socially and economically disadvantaged small business, as determined by the US Small Business Administration pursuant to section 8(a) of the Small Business Act U.S.C. 637(a).

2.8 Select Type of Application (Field 8 on the Form)

Select the type from the following list. Check only one.

- **New** An application that is being submitted to an agency for the first time.
- **Renewal** An application requesting additional funding for a period subsequent to that provided by a current award. A renewal application competes with all other applications and must be developed as fully as though the applicant is applying for the first time.

For purposes of NSF, the boxes for "Resubmission," "Continuation," and "Revision" are not used and must not be checked. If a renewal application is being submitted, enter the assigned award number of the previously funded application in the Federal Identifier field (Field 4.a on the Form.)

NSF will not be using the SF 424 (R&R) to: Increase Award, Decrease Award, Increase Duration or Decrease Duration, or perform other post-award transactions, and therefore, the boxes related to types of revision should not be checked. Requests for supplemental funding should be submitted electronically via the Supplemental Funding Request module in the NSF FastLane system at https://www.fastlane.nsf.gov.

* *Is this application being submitted to other agencies?* – Enter yes or no. If yes, enter the name(s) of other Agencies. This is required information.

2.9 Enter Name of Federal Agency (Field 9 on the Form)

* **Name of Federal Agency** - This is the name of the Federal agency from which assistance is being requested with this application. This information is pre-populated by Grants.gov.

2.10 Enter Catalog of Federal Domestic Assistance Number (Field 10 on the Form)

This is the Catalog of Federal Domestic Assistance Number of the program under which assistance is being requested.

Number – Enter the number.

Title - Enter the title.

2.11 Enter Descriptive Title of Applicant's Project (Field 11 on the Form)

* Descriptive Title of Applicant's Project - Enter a brief descriptive title of the project. This is required information.

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The title of the project must be brief, scientifically or technically valid, and suitable for use in the public press. NSF may edit the title of a project prior to making an award.

2.12 Enter Proposed Project (Field 12 on the Form)

- * Start Date Enter the proposed start date of the project. This field is required.
- * **Ending Date** Enter the proposed end date of the project. This field is required.

The proposed duration for which support is requested must be consistent with the nature and complexity of the proposed activity. The Foundation encourages organizations to request awards for durations of three to five years when such durations are necessary for completion of the proposed work and are technically and managerially advantageous. The requested start date should allow at least six months for NSF review, processing and decision. The PI should consult his/her organization's Sponsored Projects Office (SPO) for unusual situations (e.g., a long lead time for procurement) that create problems regarding the proposed start date. Specification of a desired starting date for the project is important and helpful to NSF staff; however, requests for specific start dates may not be met.

2.13 Enter Congressional District of Applicant (Field 13 on the Form)

* Applicant Congressional District - Enter the Congressional District in the format: 2 character State Abbreviation - 3 character District Number. Examples: CA-005 for California's 5th district, CA-012 for California's 12th district. If outside the U.S., enter 00-000. To locate your congressional district, visit the Grants.gov website. This field is required.

2.14 Enter Project Director/Principal Investigator Contact Information (Field 14 on the Form)

	Insuf
Field Name	Input
Prefix	Enter the prefix (e.g., Mr., Mrs., Rev.) for the name of the Project Director.
*First Name	Enter first name of the PD/PI. This field is required.
Middle Name	Enter the middle name of the Project Director.
*Last Name	Enter the last (family) name of the Project Director. This field is required.
Suffix	Enter the suffix (e.g., Jr, Sr, PhD) for the name of the PD/PI.
Position/Title	Enter the title of the Project Director.
*Organization Name	Enter the name of organization for the PD/PI. This field is required.
Department	Enter the name of primary organizational department, service, laboratory, or equivalent level
Department	within the organization of the PD/PI.
Division	Enter the name of primary organizational division, office, or major subdivision of the PD/PI.
*Street 1	Enter first line of the street address for the PD/PI in the "Street1" field. This field is required.
Street 2	Enter second line of the street address for the PD/PI in "Street2" field. This field is optional.
*City	Enter the City for address of the PD/PI. This field is required.
County/Parish	Enter the county/parish for address of the PD/PI.
*State	Enter the State where the PD/PI is located. This field is required if the PD/PI is located in the
State	United States.
Province	Enter the Province for PD/PI.
*Country	Select the country for the PD/PI address. This field is required.
*ZIP / Postal Code	Enter the Postal Code (e.g., ZIP code) of the PD/PI. This field is required if the PD/PI is located in
Zii / i Ostai Code	the United States.
*Phone Number	Enter the daytime phone number for the PD/PI. This field is required.
Fax Number	Enter the fax number for the PD/PI.
*E-mail	Enter the e-mail address for the PD/PI. This field is required.

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2.15 Enter Estimated Project Funding (Field 15 on the Form)

Field Name	Input
* Total Federal Funds Requested	Enter total Federal funds requested for the entire project period. This is required information.
Total Non-Federal Funds	Enter total non-Federal funds requested for the entire project period, if applicable. This is required information.
*Total Federal &	Enter total estimated funds for the entire project period, including both Federal and non-
Non-Federal Funds	Federal funds. This is required information.
*Estimated Program	Identify any Program Income estimated for this project period, if applicable. This is required
Income	information.

Applicants are advised that funds entered in field 15.b. will be entered on Line M of the NSF budget when entered into the NSF FastLane system or Research.gov. Review the solicitation's guidance on cost sharing. See also PAPPG Chapter II.C.2.g(xii).

2.16 Is Application Subject to Review by State Executive Order 12372 Process? (Field 16 on the Form)

If yes, select "This pre-application/application was made available to the state executive order 12372 process for review on:" and enter the date. If the announcement indicates that the program is covered under Executive Order 12372, applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372.

If No, check appropriate box.

The Foundation's regulation on Intergovernmental Review of National Science Foundation Programs and Activities is published in 45 CFR Part 660.

2.17 Complete Certification (Field 17 on the Form)

Check "I agree" to provide the required certifications and assurances. This field is required.

Only a designated Authorized Organizational Representative (AOR) may submit the applicable certifications (also referred to as representations and certifications in beta.SAM.gov) specified in PAPPG Chapter II.C.1.d. As defined in the NSF PAPPG Introduction, Section D, the AOR is the administrative official who on behalf of the applicant is empowered to make certifications and representations and can commit the organization to the conduct of a project that NSF is being asked to support as well as adhere to various NSF policies and grant requirements.

2.18 SFLLL (Disclosure of Lobbying Activities) or Other Explanatory Documentation (Field 18 on the Form)

If applicable, attach the SFLLL or other explanatory documentation per agency instructions.

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2.19 Enter Authorized Representative (Field 19 on the Form)

Field Name	Input
Prefix	Enter the prefix (e.g., Mr., Mrs., Rev.) for the name of the Authorized Representative.
*First Name	Enter the first (given) name of the Authorized Representative. This field is required.
Middle Name	Enter the middle name of the Authorized Representative.
*Last Name	Enter the last (family) name of the Authorized Representative. This field is required.
Suffix	Enter the suffix (e.g., Jr, Sr, PhD) for the name of the Authorized Representative.
*Position/Title	Enter the title of the Authorized Representative. This field is required.
*Organization Name	Enter the name of organization for the Authorized Representative. This field is required.
Department	Enter the name of primary organizational department, service, laboratory, or equivalent level within the organization of the Authorized Representative.
Division	Enter the name of primary organizational division, office, or major subdivision of the Authorized Representative.
*Street 1	Enter first line of the street address for the Authorized Representative in the "Street1" field. This field is required.
Street 2	Enter second line of the street address for the Authorized Representative in the "Street2" field. This field is optional.
*City	Enter the city for the address of the Authorized Representative. This field is required.
County/Parish	Enter the county/parish for the address of the Authorized Representative.
*State	Enter the State where the Authorized Representative is located. This field is required if the Authorized Representative is located in the United States.
Province	Enter the Province for the Authorized Representative.
*Country	Select the country for the Authorized Representative address.
*ZIP / Postal Code	Enter the Postal Code (e.g., ZIP code) of the Authorized Representative. This field is required if the Authorized Representative is located in the United States.
*Country	Select the country for the Authorized Representative address.
*Phone Number	Enter the daytime phone number for the Authorized Representative. This field is required.
Fax Number	Enter the fax number of the Authorized Representative.
*E-mail	Enter the e-mail of the Authorized Representative. This is required information.
Signature of	It is the organization's responsibility to assure that only properly authorized individuals sign in
Authorized	this capacity and/or submit the application to Grants.gov. If this application is submitted through
Representative	Grants.gov, leave blank. If a hard copy is submitted, the AR must sign this block.
Date Signed	If this application is submitted through Grants.gov, the system will generate this date. If submitting a hard copy, enter the date the AR signed the application.

2.20 Enter Pre-Application (Field 20 on the Form)

NSF does not use this field. Preliminary proposals, when required, must be submitted via use of the NSF FastLane System.

2.21 Cover Letter Attachment (Field 21 on the Form)



NSF does not use this field as it does not permit Cover Letters to be submitted with the application.

3. PROJECT/PERFORMANCE SITE LOCATIONS

A copy of the Project/Performance Site Locations form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

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3.1 Enter Project/Performance Site Primary Location

For NSF Project/Perfo

For NSF Project/Performance Site Primary Location corresponds to Primary Place of Performance.

Project/Performance Site Primary Location:

Field Name	Input
Organization Name	Indicate the primary site where the work will be performed. If a portion of the project will be
Organization Name	performed at any other site(s), identify the site location(s) in the block(s) provided.
DUNS Number	Enter the DUNS number associated with the organization where the project will be performed.
*Street 1	Enter first line of the street address in "Street 1" field of the primary performance site location. This
Sireeri	field is required.
Street 2	Enter second line of the street address in "Street 2" field for the primary performance site location.
Street 2	This field is optional.
*City	Enter the City for address of the primary performance site location. This field is required.
County/Parish	Select the county/parish for the performance site location.
*State	Enter the State where the primary performance site location is located. This field is required if the
State	Project Performance Site is located in the United States.
Province	Enter the Province where the primary performance site location is located.
Country	Select the name of the country for the primary project performance site.
*ZIP / Postal Code	Enter the Postal Code (e.g., ZIP code) of the primary performance site location. This field is required
Zii / i Ostai Oode	if the Project Performance Site is located in the United States.
	Enter the Congressional District in the format: 2 character State Abbreviation – 3 character
*Project/Performance	District Number. Examples: CA-005 for California's 5 th district, CA-0012 for California's 12 th
Site Congressional	district. If all districts in a state are affected, enter "all" for the district number. Example: MD-all
District	for all congressional districts in Maryland. If nationwide (all districts in all states), enter US-all. If
District	the program/project is outside the US, enter 00-000. To locate your congressional district, visit
	the Grants.gov web site. Note it is likely that this field will be identical to the "Congressional
	Districts of Applicant" field provided elsewhere in this application.

Project/Performance Site Location 1 (Optional):

Field Name	Input
Organization Name	Indicate the site where the work will be performed. If a portion of the project will be performed at
Organization Name	any other site(s), identify the site location(s) in the block(s) provided.
DUNS Number	Enter the DUNS number associated with the organization where the project will be performed.
*Street 1	Enter first line of the street address in "Street 1" field of the primary performance site location.
Street	This field is required.
Street 2	Enter second line of the street address in "Street 2" field for the primary performance site location.
Sireet 2	This field is optional.
*City	Enter the City for address of the primary performance site location. This field is required.
County/Parish	Select the county/parish for the performance site location.
*State	Enter the State or province where the primary performance site location is located. This field is
State	required if the Project performance site is located in the United States.
Province	Enter the Province for the primary performance site location.
Country	Select the name of the country for the project performance site.
*Zip / Postal Code	Enter the Postal Code (e.g., ZIP code) of the primary performance site location. This field is
Zip / Postai Code	required if the Project performance site is located in the United States.
	Enter the Congressional District in the format: 2 character State Abbreviation – 3 character
	District Number. Examples: CA-005 for California's 5 th district, CA-0012 for California's 12 th
*Project/Performance	district. If all districts in a state are affected, enter "all" for the district number. Example: MD-all
Site Congressional	for all congressional districts in Maryland. If nationwide (all districts in all states), enter US-all. If
District	the program/project is outside the US, enter 00-000. To locate your congressional district, visit
	the Grants.gov web site. Note it is likely that this field will be identical to the "Congressional
	Districts of Applicant" field provided elsewhere in this application.

Add additional sites as necessary using the "Next Site" button.

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For research performed at remote sites, "NA" should be typed in the following mandatory fields if they do not apply to the location: **Street 1, City, State, and Zip Code**. For research infrastructure projects, the project/performance site should correspond to the physical location of the asset. For research infrastructure that is mobile or geographically distributed, information for the primary site or organizational headquarters (as defined by the applicant) should be provided.

4. R&R OTHER PROJECT INFORMATION

A copy of the R&R Other Project Information form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1 .
4.1 Are Human Subjects Involved? (Field 1 on the Form) Ves No
This is required information. If activities involving human subjects are planned at any time during the proposed project at any performance site, check yes. Check yes, even if the proposed project is exempt from Regulations for the Protection of Human Subjects. See <u>PAPPG Chapter II.D.5.b.(iv)</u> for additional information on projects that lack definite plans regarding use of human subjects, their data, or their specimens. If no, skip the rest of block 1.
Projects involving research with human subjects must ensure that subjects are protected from research risks in conformance with the relevant federal policy known as the Common Rule (Federal Policy for the Protection of Human Subjects, 45 CFR 690). See PAPPG Chapter II.D.5 . for further information.
The box for "Human Subjects" must be checked "yes" if the research is not designated as exempt, and has an approved, unexpired protocol at the time of submission. The Institutional Review Board (IRB) approval date should be identified in the space provided. Similarly, the box for "Human Subjects" also must be checked "yes" if human subject activities are exempt from IRB review. The exemption number(s) corresponding to one or more of the exemption categories defined in the Common Rule must be identified in the space provided. If no, skip the remaining questions about Human Subjects.
If YES to Human Subjects:
Is the Project Exempt from Federal regulations? ☐ Yes ☐ No

No

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If ves. check appropriate exemption number – If human subject activities are exempt from Federal regulations. provide the exemption numbers corresponding to one or more of the exemption categories. The eight categories of research that qualify for exemption from coverage by the regulations are defined in the Common Rule for the **Protection of Human Subjects** 1 2 3 4 5 6 7 If no, is the IRB review Pending? Yes No If the project lacks definite plans for the use of human subjects, their data, or their specimens, pursuant to 45 CFR 690.118, select "Yes." If available at the time of application submission, the determination notice should be uploaded under "Other Attachments" on the R&R Other Project Information form. An NSF-approved format for submission of the determination notice is available on the NSF website. IRB Approval Date - Enter the latest IRB approval date (if available). Leave blank if Pending. Human Subject Assurance Number - Enter the approved Federal Wide Assurance (FWA), Multiple Project Assurance (MPA), Single Project Assurance (SPA) Number or Cooperative Project Assurance Number that the applicant has on file with the Office for Human Research Protections, if available. If the applicant has an FWA number, enter the 8-digit number. Do not enter FWA before the number. 4.2 Are Vertebrate Animals Used? (Field 2 on the Form) This is required information. Check yes or no. Yes No Any project proposing the use of vertebrate animals for research or education shall comply with the Animal Welfare Act [7 USC 2131, et seq.] and the regulations promulgated thereunder by the Secretary of Agriculture [9 CFR, 1.1-4.11] pertaining to the humane care, handling, and treatment of vertebrate animals held or used for research, teaching, or other activities supported by Federal awards. See also PAPPG Chapter II.D.4. If activities involving vertebrate animals are planned at any time during the proposed project at any performance site, check yes. If no, skip the remaining guestions about Vertebrate Subjects. If YES to Vertebrate Animals: Is the IACUC review Pending? Check yes or no. Yes

4.3

□ Yes

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This is required information. Check yes or no.



IACUC Approval Date – Enter the latest Institutional Animal Care and Use Committee (IACUC) approval date (if available). Leave blank if Pending.

Is Proprietary/Privileged Information Included in the Application? (Field 3 on the Form)

Animal Welfare Assurance Number – Enter the Federally approved assurance number, if available.

NSF does not use Field 4.d on the Form. This field should be left blank.

Yes

Chapter II.C.2.j).

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This is required information. Check yes or no.



4.5 Is the Research Performance Site Designated, or Eligible to be Designated, as a Historic Place? (Field 5 on the Form)

	No .
NSF	does not use Field 5.a. on the Form. This field should be left blank.
application s impacts by I	es" was selected for fields 4.a., 4.c., or 5.a, the applicant may be requested to submit supplemental post- ubmission information to NSF in order that a reasonable and accurate assessment of environmental NSF may be made. The types of information that may be requested is shown in the <u>Organization</u> al <u>Impacts Checklist</u> .
4.6 Does (Field 6 on t	s this Project Involve Activities Outside the US or Partnership with International Collaborators? he Form)
	uired information. Check yes or no. Yes Vo
If yes, ide	ntify countries – Enter the countries with which international cooperative activities are involved.
6. Does this proje	ect involve activities outside of the United States or partnerships with international collaborators?
6.a. If yes, identify	countries: US, Canada, Mexico, China, Ireland
6.b. Optional Expl	anation:
should list	al Activities Country Name(s) For each application that describes an international activity, applicants the primary countries involved. A maximum of five countries may be listed. An international activity is research, training, and/or education carried out in cooperation with foreign counterparts either overseas

NSF does not use the text box for **Optional Explanation** (Field 6.b on the Form). This field should be left blank. Information on international involvement must be fully described in the budget justification or project description sections of the application.

or in the U.S. using virtual technologies. Applicants also should enter 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 application submission, applicants should enter "Worldwide". (See PAPPG

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4.7 Attach Project Summary/Abstract (Field 7 on the Form)

The Project Summary must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained description of the project and should contain a statement of objectives and methods to be employed. It should be informative to other persons working in the same or related fields, and, insofar as possible, understandable to a scientifically or technically literate lay reader. This Summary must not include any proprietary/confidential information. To attach a Project Summary/Abstract, click "Add Attachment."

The Project Summary should be informative to other persons working in the same or related fields, and, insofar as possible, understandable to a broad audience within the scientific domain. It should not be an abstract of the application. (See PAPPG Chapter II.C.2.b for further information on the Project Summary)

4.8 Attach Project Narrative (Field 8 on the Form)

Provide Project Narrative in accordance with the announcement and/or agency-specific instructions. To attach a Project Narrative, click "Add Attachment."

The Project Narrative (referred to as the Project Description in the PAPPG), including the Results from Prior NSF Support, must not exceed 15 pages, and must be prepared in accordance with the guidelines specified in PAPPG Chapter II.C.2.d, unless a deviation is authorized by an NSF program solicitation.

4.9 Attach Bibliography & References Cited (Field 9 on the Form)

Provide a bibliography of any references cited in the Project Narrative. 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. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. Please click the add attachment button to the right of this field to complete this entry.

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. See also PAPPG Chapter II.C.2.e.

4.10 Attach Documentation for Facilities & Other Resources (Field 10 on the Form)

This information is used to assess the capability of the organizational resources available to perform the effort proposed. Identify the facilities to be used (Laboratory, Animal, Computer, Office, Clinical, and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Provide any information describing the Other Resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. To attach a document for Facilities and Other Resources, click "Add Attachment."

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This information 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. Applicants 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 application (e.g., budget justification, project narrative). 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 and Other Resources section will be provided, or made available, should the application be funded. PAPPG Chapter VII.B.1. specifies procedures for use by the awardee when there are postaward changes to objectives, scope, or methods/procedures. See also PAPPG Chapter II.C.2.i.

4.11 Attach Equipment Documentation (Field 11 on the Form)

List major items of equipment already available for this project and, if appropriate, identify location and pertinent capabilities. To attach a document for Equipment, click "Add Attachment."

Applicants should include an aggregated description of the equipment that the organization and its collaborators will provide to the project, should it be funded.

Although these resources are not considered voluntary committed cost sharing as defined in 2 CFR § 200.306, the Foundation does expect that the equipment identified in the Equipment section will be provided, or made available, should the application be funded. <u>PAPPG Chapter VII.B.1.</u> specifies procedures for use by the awardee when there are postaward changes to objectives, scope, or methods/procedures. See also <u>PAPPG Chapter II.C.2.i.</u>

4.12 Add Other Attachments (Field 12 on the Form)

Attach file(s) using the appropriate buttons.

Except as specified in <u>PAPPG Chapter II.C.2.j</u>, 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. The categories of information identified in <u>PAPPG Chapter II.C.2.j</u>, are not considered part of the 15-page project description limitation. This Special Information and Supplementary Documentation section also is not considered an appendix. See also additional documentation required by <u>PAPPG Chapter II.E.</u>

5. R&R Personal Data

A copy of the R&R Personal Data form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

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The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PDs/PIs and co-PDs/PIs. To gather information needed for this important task, the applicant should submit the requested information for each identified PD/PI and co-PD/PI with each application. Submission of the requested information is voluntary and is not a precondition of award. However, information not submitted will seriously undermine the statistical validity, and therefore the usefulness of information received from others. Any individual not wishing to submit some or all the information should check the box provided for this purpose. Upon receipt of the application, this form will be separated from the application. This form will not be duplicated, and it will not be a part of the review process. Data will be confidential.

See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 79 Federal Register 76398 (December 22, 2014), and NSF-51, "Reviewer/Proposal File and Associated Records," 79 Federal Register 76398 (December 22, 2014). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

If any of the individuals listed in the application are registered in NSF's FastLane system or Research.gov, the demographic information in the application will not overwrite the demographic information in FastLane or Research.gov.

5.1 Enter Project Director/Principal Investigator

5.1 Enter Project Director/Principal investigator		
Field Name	Input	
Prefix	Enter the prefix (e.g., Mr., Mrs., Rev.) for the name of the PD/PI. Pre-populated from SF 424 R&R.	
*First Name	Enter the first (given) name of the PD/PI. This field is required. Pre-populated from SF 424 R&R.	
Middle Name	Enter the middle name of the PD/PI. Pre-populated from SF 424 R&R.	
*Last Name	Enter the last (family) name of the PD/PI. This field is required. Pre-populated from SF 424 R&R.	
Suffix	Enter the suffix (e.g., Jr, Sr, PhD) for the name of the PD/PI. Pre-populated from SF 424 R&R.	
Gender	Select the gender of the Project Director/Principal Investigator.	
Race (check all that apply)	Choose one or more: American Indian or Alaska Native: A person having origins in any of the original peoples of North, Central, or South America, and who maintains tribal affiliation or community attachment. Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. (Note, individuals from the Philippine Islands have been recorded as Pacific Islanders in previous data collection strategies.) Black or African American: A person having origins in any of the black racial groups of Africa. Native Hawaiian or Other Pacific Islander: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa. Do Not Wish to Provide	
Ethnicity	Choose one: Hispanic or Latino - A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race Non-Hispanic or Latino Do Not Wish to Provide	

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Disability Status (check all that apply)	Check one or more: Hearing Visual Mobility/Orthopedic Impairment Other None Do Not Wish to Provide
Citizenship	Choose one: US Citizen Permanent Resident Other non-US Citizen Do Not Wish to Provide

5.2 Enter co-Project Director/co-Principal Investigator Information

To enter co-Project Director/co-Principal Investigator information click on the "Next Person" button.

6. R&R FUNDS REQUESTED BUDGET

A copy of the R&R Funds Requested Budget form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

6.1 Enter Budget Information

Applicants will be using the SF 424 R&R "Funds Requested" budget type to prepare their application for submission to NSF.

Field Name	Input
Budget Type	Project, Subaward/Consortium: Check the appropriate block. Project: The budget requested for the primary applicant organization. Subaward/Consortium: The budget requested for subawardee/consortium organization(s). Note, separate budgets are required only for subawardee/consortium organizations that perform a substantive portion of the project. If creating a Subaward Budget, use the R&R Subaward Budget Attachment and attach as a separate file on the R&R Budget Attachment(s) form.
*Start Date	Pre-populated from the SF 424 (R&R). Enter the requested/proposed start date of each budget period. This field is required.
*End Date	Enter the requested/proposed end date of each budget period. This field is required.
*Budget Period	Identifies the specific budget period; e.g., 1, 2, 3, 4, 5. If submitting through Grants.gov, the system will automatically generate a cumulative budget for the total project period. This field is required.

6.2 Enter Senior/Key Person (Field A on the Form)

This section identifies names of senior/key personnel. Each person identified in the senior/key person profile that is an employee of the applying organization must be listed in this section if funds are requested.

Enter the name (first name, middle initial, last name) for each senior/key personnel **exactly** as entered on other forms/documents in the application package. Do not enter a duplicate name for any senior/key personnel identified. If a duplicate name is entered in this section for any of the senior/key personnel, then the application will not be inserted into FastLane and therefore will not be reviewed. This section should also include such roles as co-PD/PI, Postdoctoral Associates, and Other Professionals.

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NSF regards research as one of the normal functions of faculty members at institutions of higher education. Compensation for time normally spent on research within the term of appointment is deemed to be included within the faculty member's regular organizational salary.



As a general policy, NSF limits the salary compensation requested in the application budget for senior personnel to no more than two months of their regular salary in any one year. (See PAPPG Chapter II, Exhibit II-3 for the definitions of Senior Personnel.) It is the organization's responsibility to define and consistently apply the term "year", and to specify this definition in the budget justification. This limit includes salary compensation received from all NSF-funded grants. This effort must be documented in accordance with 2 CFR § 200, Subpart E, including 2 CFR § 200.430(i). If anticipated, any compensation for such personnel in excess of two months must be disclosed in the application budget, justified in the budget justification, and must be specifically approved by NSF in the award notice budget.⁵

Under normal rebudgeting authority, as described in PAPPG Chapters VII and X, a grantee can internally approve an increase or decrease in person months devoted to the project after an award is made, even if doing so results in salary support for senior personnel exceeding the two-month salary policy. No prior approval from NSF is necessary unless the rebudgeting would cause the objectives or scope of the project to change. NSF prior approval is necessary if the objectives or scope of the project change.

These same general principles apply to other types of non-academic organizations.

The names of the PI(s), faculty, and other senior personnel and the estimated number of full-time-equivalent personmonths for which NSF funding is requested, and the total amount of salaries requested per year, must be listed. For consistency with the NSF cost sharing policy, if person months will be requested for senior personnel, a corresponding salary amount must be entered on the budget. If salary and person months are not being requested for an individual designated as senior personnel, the application will need to be submitted via FastLane as Grants.gov does not currently have a mechanism to remove PIs from the budget form.

See also PAPPG Chapter II.C.2.g.i.(a).

⁵ NSF grantees remain subject to the provisions of OMB M-01-06, "Clarification of OMB A-21 Treatment of Voluntary Uncommitted Cost Sharing and Tuition Remission Costs" regarding requirements for committing and tracking "some level" of faculty (or senior researcher) effort as part of the organized research base.

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Field Name	Input
Prefix	Select the prefix of the senior/key person.
*First Name	Enter the first name of the senior/key person. This is required information.
Middle Name	Enter the middle name of the senior/key person.
*Last Name	Enter the last name of the senior/key person. This is required information.
Suffix	Select the suffix of the senior/key person.
*Project Role	Enter the project role of the senior/key person. This is required information.
	Enter the annual compensation paid by the employer for each senior/key personnel. This includes
Base Salary (\$)	all activities such as research, teaching, patient care, or other. The applicant may choose to leave
	this column blank.
Cal. Months	Identify the number of calendar months devoted to the project.
Acad. Months	Identify the number of academic months devoted to the project.
Sum. Months	Identify the number of summer months devoted to the project.
*Requested Salary (\$)	Regardless of the number of months being devoted to the project, indicate only the amount of salary
Requested Salary (\$)	being requested for this budget period for each senior/key person. This is required information.
*Fringe Benefits (\$)	Enter the applicable fringe benefits, if any, for each senior/key person. This is required information.

If the applicant's usual accounting practices provide that its contributions to employee benefits (leave, employee insurance, social security, retirement, other payroll-related taxes, etc.) be treated as direct costs, NSF funds may be requested to fund fringe benefits as a direct cost.

Field Name	Input
*Funds Requested (\$)	Enter requested salary and fringe benefit for each senior/key person. This is required information.
Total Funds requested for all Senior Key Persons in the Attached File	Total Funds requested for all Senior Key Persons in the attached file.
Total Senior/Key Person	This total will auto-calculate.

Additional Senior Key Persons - If funds are requested for more than 8 Senior/Key Persons, include all pertinent budget information and attach as a file here. Enter the total funds requested for all additional senior/key persons in line 9 of Section A.

NSF policy permits an applicant organization to request that salary data on senior personnel not be released to persons outside the Government during the review process. If this option is exercised, such applications must be submitted via the NSF FastLane system in accordance with the instructions identified in PAPPG Chapter II.C.2.g.(i)(d) and Chapter II.D.1.

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6.3 Enter Other Personnel (Field B on the Form)

Field Name	Input
*Number of Personnel	For each project role category, identify the number of personnel proposed. This is required information.
*Project Role	For each project role category identify the number of personnel proposed.
Cal. Months	Identify the number of calendar months devoted to the project.
Acad. Months	Identify the number of academic months devoted to the project.
Sum. Months	Identify the number of summer months devoted to the project
*Requested Salary (\$)	Regardless of the number of months being devoted to the project, indicate only the amount of salary/wages being requested for each project role. This is required information.
*Fringe Benefits (\$)	Enter applicable fringe benefits, if any, for this project role category. This is required information.
*Funds Requested (\$)	Enter requested salary/wages and fringe benefits for each project role. This is required information.
Total Number of Other Personnel	Enter Total Number of Other Personnel.

In accordance with 2 CFR § 200.413,the salaries of administrative and clerical staff should normally be treated as indirect costs (F&A). Inclusion of such costs on a budget may be appropriate in accordance with the instructions identified in PAPPG Chapter II.C.2.g.(i)(b).

6.4 Enter Equipment Description (Field C on the Form)

Equipment is defined as an item of property that has an acquisition cost of \$5,000 or more (unless the organization has established lower levels) and an expected service life of more than one year.

Equipment item - Up to ten items of equipment may be separately listed in this section of the budget. If more than ten separate items of equipment are requested, the total dollar amount for the additional items should be added to the instructions in "Total funds requested for all equipment listed in the attached file" below. Each item of equipment should be separately listed and justified in the budget justification section of the application.

*Funds Requested (\$) - List the estimated cost of each item of equipment including shipping and any maintenance costs and agreements. Equipment is defined as tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the applicant for financial statement purposes, or \$5,000.

Total funds requested for all equipment listed in the attached file – If more than ten separate items of equipment are requested, the total dollar amount for the additional items should be added to this field.

NSF does not use the "Additional Equipment" attachment option in Field C of the R&R Funds Requested Budget form. Additional equipment should be described in the budget justification section of the application. Any file uploaded in this section will be added to the budget justification and may cause this section of the application to exceed the maximum allowable page limitation. NSF will return without review applications that are not consistent with the application preparation instructions, including page limitations, contained in PAPPG Chapter II or the relevant program solicitation.

Total Equipment – Total Funds requested for all equipment.

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6.5 Enter Travel (Field D on the Form)

1. Domestic Travel Costs (Incl. US Territories and Possessions) Funds Requested (\$) – Identify the total funds requested for domestic travel. Domestic travel includes travel within and between the US, its territories, and possessions. In the budget justification section, include purpose, destination, dates of travel (if known), and number of individuals for each trip. If the dates of travel are not known, specify estimated length of trip (e.g., 3 days).

According to the IRS, US territories and possessions are as follows: Puerto Rico, US Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, Midway Island, Wake Island, Palmyra Island, Howland Island, Johnston Island, Baker Island, Kingman Reef, Jarvis Island, and other US islands, cays, and reefs that are not part of the 50 states. See also: http://www.irs.gov/Individuals/International-Taxpayers/Persons-Employed-In-U.S.-Possessions.

2. Foreign Travel Costs Funds Requested (\$) - Identify the total funds requested for foreign travel. Travel outside the areas specified above is considered foreign travel. In the budget justification section, include purpose, destination, dates of travel (if known), and number of individuals for each trip. If the dates of travel are not known, specify estimated length of trip (e.g., 3 days).

Allowance for air travel normally will not exceed the cost of round-trip, economy airfares. Persons traveling under NSF grants must travel by US Flag Air carriers, if available. See also <u>PAPPG Chapter II.C.2.g.(iv)(a)</u>.

Total Travel Costs – Total Funds requested for all travel.

6.6 Enter Participant/Trainee Support Costs (Field E on the Form)

Participant costs are the costs associated with conference, workshop, or symposium attendees that are not employees of the applicant or a subawardee. Trainee costs are the costs associated with educational projects that support trainees (pre-college, college, graduate, and post graduate). List total costs for each budget item and the number of participants/trainees. In the budget justification, identify the purpose of the conference/training, dates, and places and justify costs.

- Tuition/Fees/Health Insurance List total funds requested for Participant/Trainee Tuition/Fees/Health Insurance.
- 2. Stipends List total funds requested for Participant/Trainee Stipends.
- 3. **Travel** List total funds requested for Participant/Trainee Travel.
- 4. Subsistence List total funds requested for Participant/Trainee Subsistence.
- **5. Other** Describe any other participant trainee funds requested.

Number of Participants/Trainees - List the total number of participants/trainees.

6.7 Total Participant/Trainee Support Costs – Total Funds requested for all trainee costs.



See PAPPG Chapter II.C.2.g.(v) and PAPPG Chapter II.E.7.

Indirect costs (F&A) are not usually allowed on participant support costs, unless the grantee's current, federally approved indirect cost rate agreement provides for allocation of F&A to participant support costs. See PAPPG Chapter II.C.2.g.(viii) for additional information.

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6.8 Enter Other Direct Costs (Field F on the Form)

Materials and Supplies - List total funds requested for materials and supplies. In the budget justification, indicate general categories such as glassware, chemicals, animal costs, including an amount for each category. Categories less than \$1,000 do not require itemization



See PAPPG Chapter II.C.2.g.(vi)(a).

2. Publication Costs - List the total publication funds requested. The application budget may request funds for the costs of documenting, preparing, publishing, or otherwise making available to others the findings and products of the work conducted under the award. In the budget justification include supporting information.



See PAPPG Chapter II.C.2.g.(vi)(b).

3. Consultant Services - List the total costs for all consultant services. In the budget justification, identify each consultant, the services he/she will perform, total number of days, travel costs, and total estimated costs.

Consultant Services are also referred to as Professional Service Costs. Anticipated services must be justified and information furnished on each individual's expertise, primary organizational affiliation, normal daily compensation rate, and number of days of expected service. Consultants' travel costs, including subsistence, also may be included. If requested, the applicant must be able to justify that the proposed rate of pay is reasonable. See also PAPPG Chapter II.C.2.g.(vi)(c).

- 4. ADP/Computer Services List total funds requested for ADP/Computer Services. The cost of computer services, including computer-based retrieval of scientific, technical, and education information may be requested. In the budget justification, include the established computer service rates at the proposing organization if applicable.
- 5. **Subawards/Consortium/Contractual Costs** List total funds requested for 1) all subaward/consortium organization(s) proposed for the project and 2) any other contractual costs proposed for the project.



See PAPPG Chapter II.C.2.q.(vi)(e).

- **6. Equipment or Facility Rental/User Fees** List total funds requested for Equipment or Facility Rental/Use Fees. In the budget justification, identify each rental user fee and justify.
- 7. Alterations and Renovations List total funds requested for Alterations and Renovations. In the budget justification, itemize, by category, and justify the costs of alterations and renovations including repairs, painting, removal or installation of partitions, shielding, or air conditioning. Where applicable, provide the square footage and costs.

Total Other Direct Costs – This total will auto-calculate.

6.9 Verify Total Direct Costs (Field G on the Form)

Total Direct Costs (A-F) – Total Funds requested for all direct costs.

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6.10 Enter Indirect Costs (Field H on the Form)

Indirect Cost Type - Indicate the type of base; e.g., Salary and Wages, Modified Total Direct Costs, Other (explain). Also indicate if Off-site. If more than one rate/base is involved, use separate lines for each. If the applicant does not have a current indirect rate(s) approved by a Federal agency, indicate, "None--will negotiate" and include information for a proposed rate. Use the budget justification if additional space is needed.

Indirect Cost Rate (%) - Indicate the most recent Indirect Cost rate(s) (also known as Facilities and Administrative Costs [F&A]) established with the cognizant Federal office, or in the case of for-profit organizations, the rate(s) established with the appropriate agency. If the applicant has a cognizant/oversight agency and is selected for an award, the applicant must submit the indirect rate proposal to that office for approval. If the applicant does not have a cognizant/oversight agency, contact the awarding agency.

Indirect Cost Base (\$) - Enter the amount of the base for each indirect cost type.

* Funds Requested (\$) - Enter funds requested for each indirect cost type.

Except where specifically identified in an NSF program solicitation, the applicable U.S. Federally negotiated indirect cost rate(s) must be used in computing indirect costs (F&A) for the application. Use of an indirect cost rate lower than the organization's current negotiated indirect cost rate is considered a violation of NSF's cost sharing policy. See section (xii) below. The amount for indirect costs should be calculated by applying the current negotiated indirect cost rate(s) to the approved base(s), and such amounts should be specified in the budget justification. Indirect cost recovery for IHEs are additionally restricted by 2 CFR § 200, Appendix III, paragraph C.7. which specifies Federal agencies are required to use the negotiated F&A rate that is in effect at the time of the initial award throughout the life of the sponsored agreement. Additional information on the charging of indirect costs to an NSF award is available in PAPPG Chapter II.C.2.g.(viii) and PAPPG Chapter X.D.

6.11 Verify Total Indirect Costs

Cognizant Federal Agency - Enter the name of the cognizant Federal Agency, name and phone number of the individual responsible for negotiating your rate. If no cognizant agency is known, enter "None."

6.12 Verify Total Direct and Indirect Costs (Field I on the Form)

Total Direct and Indirect Institutional Cost (G + H) - Total Funds requested for direct and indirect costs.

6.13 Enter Fee (Field J on the Form)

Generally, a fee is not allowed on a grant or cooperative agreement. Do not include a fee in the budget, unless the program solicitation specifically allows the inclusion of a "fee" (e.g., Major Facilities programs and SBIR/STTR). If a fee is allowable, enter the requested fee.

The inclusion of fees is only available for use by NSF by SBIR/STTR programs and Major Facilities programs when specified in the solicitation. However, NSF does not support inclusion of fees through Grants.gov submitted applications. To include fees in the budget, where allowable, the applicant must either: (1) submit the application through Grants.gov then prepare a revised budget through the NSF FastLane system, or (2) submit the application directly through FastLane or Research.gov.

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6.14 Enter Budget Justification (Field K on the Form)

The amounts for each budget line item requested must be documented and justified in the budget justification. The budget justification must be no more than five pages per application budget. Only one file may be attached to the R&R Funds Requested Budget form. See also PAPPG Chapter II.C.2.g.

7. R&R SUBAWARD BUDGET ATTACHMENT(S) FORM

A copy of the R&R Subaward Budget Attachment(s) Form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

On this form/document, you may attach up to 10 R&R Subaward Budget files for your grant application. Complete the subawardee budget(s) in accordance with the R&R budget instructions. Please remember that any file(s) you attach must be a PDF document.

To extract or download, fill and attach each additional R&R Subaward Budget Attachment form/document, simply follow these steps:

1. On the R&R Subaward Budget Attachment form/document, press the "Click here to extract the R&R Subaward Budget Attachment" button to download the form.

Click here to extract the R&R Subaward Budget Attachment

- 2. Save the subawardee budget file(s) with the name of the subawardee organization. Each file name attached to the R&R Subaward Budget Attachment Form must be unique. When assigning a name to the file, please remember to give it the extension ".pdf" (for example, "My_Senior_Key1.pdf"). If you do not name your file with the ".pdf" extension you will be unable to open it later using your Adobe Reader software.
- 3. Open the new form that you have just saved in Adobe Reader.
- 4. Enter your Subawardee organization information in this supplemental form. Complete the subawardee budget(s) in accordance with the R&R budget instructions. A subaward budget justification of no more than five pages must be attached in Field K of the R&R Subaward Budget Attachment.
- 5. When you have completed entering information in the supplemental form, save it and close it.
- 6. Return to the "R&R Subaward Budget Attachment(s)" Form.
- 7. Attach the saved supplemental form, which you just filled in, to one of the blocks provided on this "attachments" form.
- 8. Extract and attach additional R&R Budget Forms for the Subaward organizations as necessary using the process outlined above. Please remember that the files you attach must be previously extracted R&R Budget forms. Attaching any other type of file may result in the inability to submit your application to Grants.gov.

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Each Subaward Organization included on the R&R Subaward Budget Attachment(s) Form must currently be registered in NSF's Research.gov System. If the Subaward Organization is not registered in Research.gov, then the application will not be inserted into FastLane and therefore will not be reviewed. See also PAPPG Chapter II.C.2.g.(vi)(e).

Each Subaward Organization included on the R&R Subaward Budget Attachment(s) Form may only be associated with 15 budget periods. If the Subaward Organization is associated with 15 or more budget periods, then the application will not be inserted into FastLane and a confirmation email will not be sent.

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VI. NSF-SPECIFIC FORMS AND INSTRUCTIONS

Before submitting an application via Grants.gov, the NSF applicant is required to ensure that his or her organization is registered with NSF as well as ensure the Authorized Organizational Representative (AOR) and all Principal Investigators and Co-Principal Investigators (PIs and co-PIs) have established NSF accounts (NSF IDs and passwords). The NSF applicant will be required to provide the NSF IDs of the cognizant AOR and all PIs/co-PIs listed on the application as part of their submission as described in the instructions below. An Individual applicant is required to have NSF account (NSF IDs and passwords) as an unaffiliated user.

The NSF applicant is also required to complete and submit the following forms in conjunction with the SF 424 (R&R) forms included in this application package:

- NSF Cover Page
- NSF R&R Senior Key Person Profile (Expanded)

The following NSF-specific forms are optional and only should be submitted when applicable:

- NSF Deviation Authorization;
- NSF Suggested Reviewers or Reviewers Not to Include; and
- Directorate Specific Forms

Instructions for completing each of these forms follow.

NSF Cover Page

A copy of the NSF Cover Page form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

1.1 Verify Funding Opportunity Number (Field 1 on the Form)

* Funding Opportunity Number - This information is pre-populated by Grants.gov.

Opportunity Closing Date – This information is pre-populated by Grants.gov.

1.2 Enter NSF Unit of Consideration (Field 2 on the Form)

Indicate which NSF Unit should consider the application. To do that click on the URL in Block 2 and a browser window will open showing an NSF web page, https://www.fastlane.nsf.gov/pgmannounce.jsp. Follow the instructions on this web page to search by Funding Opportunity to identify the appropriate Division and Program for the programs accepting applications through Grants.gov. Copy the Division code and Program code into the form.

Division Name – Enter the NSF division name for this funding opportunity.

Program Name – Enter the NSF program name for this funding opportunity.

1.3 Enter Principal Investigator (PI) Information (Field 3 on the Form)

Check the box if currently serving (or have previously served) as PI, co-PI, or Program Director (PD) on any federally funded project.

1.4 Enter Other Information (Field 4 on the Form)

Check the appropriate box(es) if this application includes any of the items listed below:

^{*} Division Code – Enter the NSF division code for this funding opportunity. This is required information.

^{*} Program Code – Enter the NSF program code for this funding opportunity. This is required information.

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Beginning Investigator (<u>PAPPG Chapter II.D.2.</u>) – Check box if Beginning Investigator. **Note that this box applies only to PIs or co-PIs who are submitting applications to the Directorate for Biological Sciences.** See Chapter III, Section 4.1 of this Guide for further information.

Accomplishment-Based Renewal (<u>PAPPG Chapter V.B.</u>) – Check box if this is an Accomplishment-Based Renewal. If an accomplishment-based renewal is being submitted, applicants are reminded to enter the assigned award number of the previously funded application in the Federal field (Field 4 on the SF 424 (R&R) Cover Sheet).

Disclosure of Lobbying Activities (<u>PAPPG Chapter II.C.1.d</u>) – Check box for Disclosure of Lobbying Activities. This certification is required for an award of a Federal contract, grant, or cooperative agreement exceeding \$100,000 and for an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000.

Funding of an International Branch Campus of a U.S. Institution of Higher Education (IHE), including through use of a subaward or consultant arrangement (PAPPG Chapter I.E.1) — Check box for Funding of an International Branch Campus of a U.S. IHE. If the application includes funding to be provided to an international branch campus of a U.S. IHE (including through use of a subaward or consultant arrangement), the applicant must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the U.S. campus.

Funding of a Foreign Organization, including through use of a subaward or consultant arrangement (PAPPG Chapter I.E.6) – Check box for Funding of Foreign Organization. NSF rarely provides direct funding support to foreign organizations. NSF will consider applications for cooperative projects involving U.S. and foreign organizations, provided support is requested only for the U.S. portion of the collaborative effort. In cases however, where the applicant considers the foreign organization's involvement to be essential to the project (e.g., through subawards or consultant arrangements), the applicant must explain why local support is not feasible and why the foreign organization can carry out the activity more effectively. In addition, the proposed activity must demonstrate how one or more of the following conditions have been met:

The foreign organization contributes a unique organization, facilities, geographic location and/or access to unique data resources not generally available to U.S. investigators (or which would require significant effort or time to duplicate) or other resources that are essential to the success of the proposed project; and/or

The foreign organization to be supported offers significant science and engineering education, training or research opportunities to the U.S.

1.5 Attach Additional Single-Copy Documents (Field 5 on the Form)

Attach PDF files for Additional Single-Copy Documents

1.6 Data Management Plan (Field 6 on the Form)

Each application must include a data management plan of no more than two pages. This supplementary document should describe how the application will conform to NSF's policy on the dissemination and sharing of research results (see PAPPG Chapter II.C.2.; and PAPPG Chapter XI.D.4. for further information).

Applications that include subawards are a single unified project and should include only one supplemental combined Data Management Plan, regardless of the number of 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. Applicants 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.

Applicants 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 application, considered under Intellectual Merit or Broader Impacts or both, as appropriate for the scientific community of

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relevance.

Applications that do not contain the requisite data management plan will be returned without review. (See PAPPG Chapter IV.B).

1.7 Postdoctoral Researcher Mentoring Plan (Field 7 on the Form)

Each application that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals (See <u>PAPPG Chapter II.C.2.j</u>). 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, or any subrecipient organization(s). For purposes of meeting the mentoring requirement, collaborative applications that include subawards constitute a single unified project. Therefore, only one mentoring plan must be submitted for the entire project. The attachment must contain the words "Mentoring Plan" in the file name. Applicants are advised that the mentoring plan must not be used to circumvent the 15-page Project Description limitation. See <u>PAPPG Chapter II.C.2.j</u> and <u>PAPPG Chapter II.D.3</u>. for additional information on collaborative applications.

In situations where a postdoctoral researcher is listed in Section A of the R&R Budget, and is functioning in a Senior Personnel capacity (i.e., responsible for the scientific or technical direction of the project), a mentoring plan is not required.

Applications that do not contain the requisite postdoctoral researcher mentoring plan (where applicable) will be returned without review (see <u>PAPPG Chapter IV.B</u>).

1.8 GOALI – Industrial PI Confirmation Letter (Field 8 on the Form)

Grant Opportunities for Academic Liaison with Industry (GOALI) applications must include, as a supplementary document, a GOALI-Industrial PI Confirmation Letter from the industrial partner that confirms the participation of a co-PI from industry. See PAPPG Chapter II.E.4.

1.9 RAPID, EAGER, RAISE – Program Officer Concurrence E-mails (Field 9 on the Form)

Rapid Response Research (RAPID) and EArly-concept Grants for Exploratory Research (EAGER) applications must include, as supplementary documentation, an email from a cognizant NSF Program Officer confirming approval to submit a RAPID or EAGER application. For RAPID applications, see PAPPG Chapter II.E.1. For EAGER applications, see PAPPG Chapter II.E.1.

Research Advanced by Interdisciplinary Science and Engineering (RAISE) applications must include, as supplementary documentation, e-mails from at least two NSF Program Officers confirming approval to submit an application. See PAPPG Chapter II.E.3.

9	RAPID, EAGER or RAISE - Program Officer Concurrence Email				
		*	ADD ATTACHMENT	DELETE ATTACHMENT	VIEW ATTACHMENT

1.10 Type of Proposal (select one) (Field 10 on the Form)

Choose one of the following as the type of proposal

Research (see PAPPG Chapter II)

Rapid Response Research (RAPID) (see PAPPG Chapter II.E.1.)

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EArly-concept Grants for Exploratory Research (EAGER) (see PAPPG Chapter II.E.2.)

Research Advanced by Interdisciplinary Science and Engineering (RAISE) (see PAPPG Chapter II.E.3)

Grant Opportunities for Academic Liaison with Industry (GOALI) (see PAPPG Chapter II.E.4)

Ideas Lab (see PAPPG Chapter II.E.5.)

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) (see <u>PAPPG Chapter II.E.6.</u>)

Conference (see PAPPG Chapter II.E.7.)

Equipment (see PAPPG Chapter II.E.8.)

Travel (see PAPPG Chapter II.E.9.)

Center (see PAPPG Chapter II.E.10)

Research Infrastructure (see Chapter II.E.11)

Fellowship (see relevant funding opportunity)

1.11 Authorized Representative (AOR) (Field 11 on the Form)

Provide the NSF ID associated with the AOR for this application. If the AOR is not registered, he or she must go to Research.gov and select the Register option to establish a NSF account. This field is required and the application cannot be successfully submitted to NSF without it.

If you are an Individual applicant then please enter the NSF ID for the registered unaffiliated user.

2. NSF R&R SENIOR/KEY PERSON PROFILE (EXPANDED)

A copy of the NSF R&R Senior/Key Person Profile (Expanded) form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

Beginning with the PD/PI, provide a profile for each senior/key person proposed. Unless otherwise specified in an agency announcement, Senior/Key Personnel are defined as all individuals who contribute in a substantive, measurable way to the scientific development or execution of the project, whether or not salaries are requested. Consultants should be included if they meet this definition.



Definitions of categories of personnel are contained in PAPPG Chapter II, Exhibit II-3.

2.1 Enter Profile – Project Director/Principal Investigator (PD/PI)

Field Name	Input			
Prefix	Pre-populated from the SF 424 (R&R). The prefix (e.g., Mr., Mrs., Rev.) for the name of the			
TIEIX	Project Director.			
*First Name	Pre-populated from the SF 424 (R&R). The first (given) name of the Project Director. This field			
riist ivaille	is required.			
Middle Name	Pre-populated from the SF 424 (R&R). The middle name of the Project Director.			
*Last Name	Pre-populated from the SF 424 (R&R). The last (family) name of the Project Director. This field is			
Last Name	required.			
Suffix	Pre-populated from the SF 424 (R&R). The suffix (e.g., Jr, Sr, PhD) for the name of the Project			
Sullix	Director.			
Position/Title	Enter the position/title of the PD/PI. Pre-populated from the SF 424(R&R).			

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Department	Pre-populated from the SF 424 (R&R). The title of the Department.			
Organization Name	Pre-populated from the SF 424 (R&R). The name of organization of the PD/PI.			
Division	Pre-populated from the SF 424 (R&R). The name of primary organizational division, office, or major subdivision of the PD/PI.			
*Street 1	Pre-populated from the SF 424 (R&R). The first line of the street address for the Project Director in the "Street 1" field. This field is required.			
Street 2	Pre-populated from the SF 424 (R&R). The second line of the street address for the Project Director in the "Street 2" field. This field is optional.			
*City	Pre-populated from the SF 424 (R&R). The city for address of Project Director. This field is required.			
County/Parish	Pre-populated from the SF 424 (R&R). The county/parish for address of Project Director.			
*State Pre-populated from the SF 424 (R&R). The state where the Project Director is located required if the Project Director is located in the United States.				
Province	Pre-populated from the SF 424 (R&R). The Province where the Project Director is located.			
*Country	Pre-populated from the SF 424 (R&R). The country for the Project Director address. This field is required.			
*ZIP / Postal Code	Pre-populated from the SF 424 (R&R). The postal Code (e.g., ZIP code) of Project Director. This field is required if the Project Director is located in the United States.			
*Phone Number	Pre-populated from the SF 424 (R&R). The daytime phone number for the Project Director. This field is required.			
Fax Number	Pre-populated from the SF 424 (R&R). The fax number for the Project Director.			
*E-mail	Pre-populated from the SF 424 (R&R). The e-mail address for the Project Director. This field is required for Project Director.			
Credential, e.g., agency login	Leave this field blank.			
*Project Role	Use "Other" if a category is not listed in the pick list. This field is required.			
Other Project Role Category	Complete if "Other Professional" or "Other" has been selected as a project role; e.g., Engineer, Chemist.			
NSF ID	Enter the NSF ID associated with the PI/Co-PI.			

Please note that a valid NSF ID is required on this form for the PD/PI. If you do not have an account (NSF ID and password), you must go to Research.gov and select the Register option to establish an account. If you are an Individual applicant then please enter the NSF ID for the registered unaffiliated user.

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2.2 Attach Biographical Sketch –PD/PI

Provide a biographical sketch for the PD/PI. Save the information in a single file and attach here. This field is required.

A biographical sketch (limited to two pages) must be provided through use of an NSF-approved format for the individual identified as the PD/PI. The information must be provided **in the order and format** established in PAPPG Chapter II.C.2.f. The NSF-approved formats include the SciENcv: Science Experts Network Curriculum Vitae and NSF Fillable PDF.

Note: The requirement to use an NSF-approved format for preparation of the biographical sketch and current and pending support will go into effect for new applications submitted or due on or after October 5, 2020. In the interim, applicants must continue to prepare these documents in accordance with the guidance specified in the PAPPG (NSF 20-1).

2.3 Attach Current and Pending Support - PD/PI

Provide a list of all current and pending support for the PD/PI (even if they receive no salary support from the project(s)) for ongoing projects and pending applications. Show the total award amount for the entire award period (including indirect costs) as well as the number of person-months per year to be devoted to the project by the senior/key person, regardless of source of support. Concurrent submission of an application to other organizations will not prejudice its review.

Current and pending support information must be provided through use of an NSF-approved format for the individual identified as the PD/PI. The information must be provided as specified in PAPPG Chapter II.C.2.h. The NSF-approved formats include the SciENcy: Science Experts Network Curriculum Vitae and NSF Fillable PDF.

Note: The requirement to use an NSF-approved format for preparation of the biographical sketch and current and pending support will go into effect for new applications submitted or due on or after October 5, 2020. In the interim, applicants must continue to prepare these documents in accordance with the guidance specified in the PAPPG (NSF 20-1).

2.4 Attach Collaborators & Other Affiliations - PD/PI

Provide a list of Collaborators & Other Affiliations (COA) for the PD/PI. See also <u>PAPPG Chapter II.C.1.e</u> and <u>PAPPG Exhibit II-2</u>. The COA information must be provided through use of the <u>COA template</u> and uploaded as a PDF attachment.

2.5 Enter Profile – Senior/Key Person(s)

Beginning with Senior/Key Person 1, provide a profile for each senior/key person proposed.

Field Name	Input
Prefix	Enter the prefix (e.g., Mr., Mrs., Rev.) for the name of the Senior/Key Person.
*First Name	Enter first (given) name of the Senior/Key Person. This field is required.

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Middle Name	Enter the middle name of the Senior/Key person.
*Last Name	Enter the last (family) name of the Senior/Key Person. This field is required.
Suffix	Enter the suffix (e.g., Jr, Sr, PhD) for the name of the Senior/Key Person.
Position/Title	Enter the title of the Senior/Key Person.
Department	Enter the name of the primary organizational department, service, laboratory, or equivalent
Department	level within the organization of the Senior/Key Person.
Organization Name	Enter the name of the organization of the Senior/Key Person.
Division	Enter the name of primary organizational division, office, or major subdivision of the Senior/Key
Division	Person.
*Street 1	Enter first line of the street address for the Senior/Key Person in the "Street 1" field. This field is
Street i	required.
Street 2	Enter second line of the street address for the Senior/Key Person in the "Street 2" field. This field
Street 2	is optional.
*City	Enter the city for address of Senior/Key Person. This field is required.
County/Parish	Enter the county/parish for address of Senior/Key Person.
*State	Enter the State where the Senior/Key Person is located. This field is required if the Senior/Key Person
State	is located in the United States.
Province	Enter the Province where Senior/Key Person is located.
*Country	Select the country for the Senior/Key Person address.
*7IP / Postal Code	Enter the Postal Code (e.g., ZIP code) of Senior/Key Person. This field is required if the Senior/Key
ZIF / FUSIAI COUE	Person is located in the United States.
*Phone Number	Enter the daytime phone number for the Senior/Key Person. This field is required.
Fax Number	Enter the fax number of the senior/key person.
*E-mail	Enter the e-mail address for the Senior/Key Person. This field is required for the Senior/Key Person.
Credential, e.g.,	Leave this field blank.
agency login	
*Project Role	Select one. Use "Other" if a category is not listed in the pick list. This field is required.
Other Project Role	Complete if "Other Professional" or "Other" has been selected as a project role; e.g., Engineer,
Category	Chemist.
*NSF ID	Enter the NSF ID associated each of the Senior/Key Person(s) being listed on this form. This field is required.

Please note that a valid NSF ID is required on this form for <u>each</u> individual being entered as a Senior/Key person. If an individual does not have an account (NSF ID and password), he or she must go to Research.gov and select the Register option to establish an account and then provide that NSF ID to enter on this form.

2.6 Attach Biographical Sketch – Senior/Key Person(s)

Provide a biographical sketch for each senior/key person. Save the information in a single file and attach. This is required information.

A biographical sketch (limited to two pages) must be provided through use of an NSF-approved format for each individual identified as senior personnel. The information must be provided **in the order and format** established in <u>PAPPG Chapter II.C.2.f.</u>. The NSF-approved formats include the <u>SciENcv: Science Experts Network Curriculum Vitae and NSF Fillable PDF.</u>

Note: The requirement to use an NSF-approved format for preparation of the biographical sketch and current and pending support will go into effect for new applications submitted or due on or after October 5, 2020. In the interim, applicants must continue to prepare these documents in accordance with the guidance specified in the PAPPG (NSF 20-1).

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2.7 Attach Current and Pending Support – Senior/Key Person(s)

Provide a list of all current and pending support for each senior/key person (even if they receive no salary support from the project(s)) for ongoing projects and pending applications. Show the total award amount for the entire award period (including indirect costs) as well as the number of person-months per year to be devoted to the project by the senior/key person, regardless of source of support. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review.

All current and pending project support (including this project) 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. With regard to the statement above that "Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review," please note the Biological Sciences Directorate Policy specified Chapter III, Section 4.1 of this Guide. See also PAPPG Chapter II.C.2.h. This information must be provided in the format established in PAPPG Chapter II.C.2.h. Please reference the list of NSF approved formats for current and pending support.

Attach Current & Pending Support: Note: Current & Pending Support must be submitted n an NSF-Approved Format. Failure to submit this	ADD ATTACHMENT	DELETE ATTACHMENT	VIEW ATTACHMENT
document in an NSF-Approved Format will prevent			
your proposal from being processed.			

2.8 Attach Collaborators & Other Affiliations – Senior/Key Person(s)

Provide a list of Collaborators & Other Affiliations (COA) for each senior/key person. See also <u>PAPPG Chapter II.C.1.e</u> and <u>PAPPG Exhibit II-2</u>. The COA information must be provided through use of the <u>COA template</u> and uploaded as a PDF attachment.

2.9 Enter Additional Senior/Key Person Profile(s)

Once a profile is entered for senior/key person 1, the applicant may enter up to ninety-nine additional senior/key person profiles on the R&R Senior/Key Person Profile (Expanded) form/document.

To enter additional senior/key person profiles, select the "Next Person" button on the R&R Senior/Key Person (Expanded) form/document.

This will display "Profile - Senior/Key Person 2." Follow the instructions above to enter additional profiles (up to 99 people maximum).

Applications submitted to NSF may identify a **maximum of four co-Principal Investigators**. In cases where applications are submitted that include more than four co-PIs, NSF <u>will only use the first four co-PIs</u> <u>entered</u> on this form. Any person identified as a co-PI after the first four co-PIs listed will have their role changed to "Senior Key Person" in NSF's FastLane system.

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3. **NSF Deviation Authorization**

A copy of the NSF Deviation Authorization form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

3.1 Enter Deviation Authorization (If Applicable)

It is important that all applications conform to the instructions provided in this Guide, and where applicable, the PAPPG (See <u>PAPPG Chapter II.A)</u>. Conformance is required and will be strictly enforced unless a deviation has been approved. NSF will not accept or will return without review applications that are not consistent with these instructions. See <u>PAPPG Chapter IV.B</u> for additional information. NSF authorization to deviate from these instructions must be received prior to application submission. Deviations may be authorized in one of two ways:

- 1. through specification of different requirements in an NSF solicitation; or
- 2. by the written approval of the cognizant NSF Assistant Director/Office Head or designee. These approvals may cover a particular program or programs or, in rare instances, an individual deviation for a particular application.

Applicants may deviate from these instructions only to the extent authorized. Applications must identify the deviation in one of the following ways as appropriate: (a) by identifying the solicitation number that authorized the deviation in the appropriate block on the NSF Cover Page; or (b) for individual deviations, by identifying the name, date, and title of the NSF official authorizing the deviation. Further instructions are available on the FastLane Website (https://www.fastlane.nsf.gov/fastlane.jsp).

4. NSF Suggested Reviewers or Reviewers Not to Include

Applicants may include a list of suggested reviewers (including email address and organizational affiliation) who they believe are especially qualified to review the application. Applicants also may designate persons they would prefer not to review the application. These suggestions are optional. PAPPG Chapter II, Exhibit II-2, Potentially Disqualifying Conflicts of Interest, contains information on conflicts of interest that may be useful in preparation of this list.

A copy of the NSF Suggested Reviewers or Reviewers Not to Include form is available for reference on the Grants.gov website: http://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1.

4.1 Enter Suggested Reviewers

Suggested Reviewers - Provide the First, Middle, and Last Name of suggested reviewers that the applicant believes are especially well qualified to review this application.

4.2 Enter Reviewers Not to Include

Designate persons the applicant would prefer not review this application.

The cognizant NSF Program Officer handling the application considers the suggestions and may contact the applicant for further information. The decision regarding whether to use these suggestions, however, remains with the Program Officer.

5. DIRECTORATE SPECIFIC FORMS

5.1 Division of Undergraduate Education (DUE) Project Data Form

For applications submitted to the Division of Undergraduate Education (DUE) a Project Data form is required to be submitted. The applicant should use the Proposal File Update module in FastLane to enter this information. The applicant will not be able to check the status of an application until this information is provided.

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VII. ADMINISTRATION OF AWARDS

Guidance regarding the administration of NSF awards is contained in the Part II of the PAPPG and the relevant award conditions: http://www.nsf.gov/publications/pub summ.jsp?ods key=pappg