

**NOTICE OF FUNDING OPPORTUNITY (NOFO)  
NIST 2019-NIST-PMGP-01**

**EXECUTIVE SUMMARY**

- **Federal Agency Name:** National Institute of Standards and Technology (NIST), United States Department of Commerce (DoC)
- **Funding Opportunity Title:** Precision Measurement Grant Program (PMGP)
- **Announcement Type:** Initial
- **Funding Opportunity Number:** 2019-NIST-PMGP-01
- **Assistance Listing (CFDA Number):** 11.609, Measurement and Engineering Research and Standards
- **Dates:** **(1)** Abbreviated Applications must be received by e-mail no later than 5:00 p.m. Eastern Time on Tuesday, April 16, 2019 (see Section IV.4. of this NOFO). Abbreviated Applications received after this deadline will not be reviewed or considered. **(2)** Review of Abbreviated Applications and selection of finalists is expected to be completed by Wednesday, May 22, 2019. **(3)** Full Applications from selected finalists must be received at Grants.gov no later than 11:59 p.m. Eastern Time, on Monday, July 22, 2019. Full applications received after this deadline will not be reviewed or considered. Paper applications will not be accepted.

Applicants should be aware, and factor in their application submission planning, that the Grants.gov system is expected to be closed for routine maintenance at these times:

From 12:01 A.M. Eastern Time Saturday	To 6:00 A.M. Eastern Time Monday
February 16, 2019	February 18, 2019
March 16, 2019	March 18, 2019
April 20, 2019	April 22, 2019
May 18, 2019	May 20, 2019
June 15, 2019	June 17, 2019
July 20, 2019	July 22, 2019

For invited finalists, when developing the submission timeline of a Full Application, please keep in mind that (1) all applicants are required to have current registrations in the System for Award Management (SAM.gov) and Grants.gov; (2) the free annual registration process in the electronic System for Award Management (SAM.gov) (see Section IV.3. and Section IV.7.b.(2) of this

NOFO) often takes between three and five business days and may take as long as two weeks; and (3) applicants will receive e-mail notifications over a period of up to two business days as the Full Application moves through intermediate systems before the applicant learns via a validation or rejection notification whether NIST has received the Full Application. (See [Grants.gov](http://Grants.gov) for full information on application and notification through Grants.gov). Please note that a federal assistance award cannot be issued if the designated recipient's registration in the System for Award Management (SAM.gov) is not current at the time of the award.

NIST expects to complete its review, selection of successful applicants, and award processing by September 2019. NIST expects the earliest start date for awards under this NOFO to be October 1, 2019.

Applicants submitting Full Applications are strongly urged to read Section IV.2.b., Attachment of Required Application Documents, of this NOFO with great attention. Applicants should carefully follow the instructions and recommendations regarding attachments and use the Download Submitted Forms and Applications feature on [www.Grants.gov](http://www.Grants.gov) to check that all required attachments were contained in their submission. Applications submitted without the required documents will not pass the Initial Administrative Review, described in Section V.3.a. of this NOFO.

- **Application Submission Address:** Abbreviated applications must be submitted by email to [pmg@nist.gov](mailto:pmg@nist.gov). Full Applications must be submitted using Grants.gov.
- **Funding Opportunity Description:** The PMGP is seeking applications from eligible applicants to support significant research in the field of fundamental measurement or the determination of fundamental constants.
- **Anticipated Amounts:** In FY2019, NIST anticipates funding at most 2 awards for a total of \$100,000 to fund the first year of the new awards. Subject to the Multi-Year Funding Policy described in Section II.2. of this NOFO, the new awards shall be supported up to \$50,000 per year with project performance periods of up to three (3) years for a total of up to \$150,000 per award.
- **Funding Instrument:** Grant or Cooperative Agreement, as appropriate.
- **Eligibility:** Eligibility for all programs listed in this NOFO is open to all non-Federal entities. Eligible applicants include accredited institutions of higher education, non-profit organizations, for-profit organizations, state and local governments, Indian tribes, hospitals, foreign public entities, foreign governments, international organizations, and Federal agencies with appropriate legal authority. Please note that individuals and unincorporated sole proprietors are not considered "non-Federal entities" and are not eligible to apply under this

NOFO. Although Federal entities are generally not eligible to receive funding under this NOFO, they may participate as unfunded collaborators.

NIST will only consider one application per applicant.

- **Cost Sharing Requirements:**

Non-federal cost share is not required for awards issued pursuant to this NOFO.

- **Public Website:** NIST has a public website [www.physics.nist.gov/pmg](http://www.physics.nist.gov/pmg) that provides information pertaining to this Funding Opportunity. Any amendments to this NOFO will be announced through Grants.gov.

Applicants must submit all questions pertaining to this funding opportunity via e-mail to [pmg@nist.gov](mailto:pmg@nist.gov).

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## **FULL ANNOUNCEMENT TEXT**

### **I. Program Description**

The statutory authority for the PMGP is 15 U.S.C. § 272(b)(2), (b)(4), (b)(6), (b)(7), (b)(8), (c)(1), (c)(3), (c)(10), (c)(11), and (c)(18).

The PMGP was started in 1970 to support research in the field of fundamental measurement or the determination of fundamental constants, enabling the faculties at universities and colleges and laboratory researchers to conduct significant research in this area. By funding the research projects of eligible applicants through this program, NIST supports advances in fundamental measurement, the determination of fundamental constants, and fosters extramural collaboration with NIST scientists. The PMGP also is intended to make it possible for researchers to pursue new ideas for which other sources of support may be difficult to find. There is some latitude in research topics that will be considered under the PMGP.

## **II. Federal Award Information**

### **1. Funding Instrument**

The funding instruments used in this program will be grants or cooperative agreements, as appropriate. Where cooperative agreements are used, the nature of NIST's "substantial involvement" will generally include collaboration with the recipients in the execution of the approved scope of work.

### **2. Multi-Year Funding Policy**

When an application for a multi-year award is approved, funding will usually be provided for only the first year of the project. If a project is selected for funding, NIST has no obligation to provide any additional funding for that award. Continuation of an award to increase funding or extend the period of performance is at the sole discretion of NIST. Continued funding will be contingent upon satisfactory performance, continued relevance to the mission and priorities of the PMGP, and the availability of funds. Under this NOFO, NIST may elect to fully fund awards or to fund awards incrementally, in accordance with the Multi-Year Funding policy.

### **3. Funding Availability**

In FY2019, NIST anticipates the availability of funds to support the first year of new awards, supporting at most two (2) new projects. Subject to the Multi-Year Funding Policy described above (Section II.2. of this NOFO), the new awards shall be supported up to \$50,000 per year with project performance periods of up to three (3) years for a total of up to \$150,000 per award. In FY2019, funding for the first year of awards is anticipated to total up to approximately \$100,000.

## **III. Eligibility Information**

### **1. Eligible Applicants**

Eligibility for all programs listed in this NOFO is open to all non-Federal entities. Eligible applicants include accredited institutions of higher education, non-profit organizations, for-profit organizations, state and local governments, Indian tribes, hospitals, foreign public entities, foreign governments, international organizations, and Federal agencies with appropriate legal authority. Please note that individuals and unincorporated sole proprietors are not considered "non-Federal entities" and are not eligible to apply under this NOFO. Although Federal entities are generally not eligible to receive funding under this NOFO, they may participate as unfunded collaborators.

NIST will only consider one application per applicant.

### **2. Cost Sharing or Matching**

Matching funds are not required.

## **IV. Application and Submission Information**

### **1. Address to Request Application Package**

The Abbreviated Application form for initial review is the Form SF-424 (R&R) Application for Federal Assistance, which is downloadable from the 'FORMS' tab on the [www.Grants.gov](http://www.Grants.gov) website or [www.physics.nist.gov/pmg](http://www.physics.nist.gov/pmg). The form may also be requested by contacting the NIST personnel listed here:

Jody Payne, National Institute of Standards and Technology, PMGP,  
100 Bureau Drive, Mail Stop 8420, Gaithersburg, MD 20899-8420, USA.  
Phone: 301-975-3200; e-mail [pmg@nist.gov](mailto:pmg@nist.gov)

The finalists selected in the above-mentioned initial review shall be invited to submit Full Applications, for which the application package will be made available at [Grants.gov](http://Grants.gov) under *Funding Opportunity Number 2019-NIST-PMGP-01*. Full Applications for the PMGP may only be submitted in response to an invitation from NIST.

### **2. Content and Format of Application Submission**

#### **a. Required Abbreviated Application Form and Documents**

**Abbreviated Applications** must be submitted under the PMGP in order to be considered for funding (see Section IV.4.a. of this NOFO). The Abbreviated Applications for initial review must contain the following:

- (1) SF-424 (R&R), Application for Federal Assistance.** The SF-424 (R&R) must be signed by an authorized representative of the applicant organization.

For SF-424 (R&R), Items 5, 14, and 19, use the Zip Code + 4 format (##### - ####) when addresses are called for.

For SF-424 (R&R), Item 17, the list of certifications and assurances is contained in the SF-424B (item (3) below).

SF-424 (R&R), Item 18. If the SF-LLL, Disclosure of Lobbying Activities form (item (6) below) is applicable, attach it to field 18.

Instructions for filling in the SF-424 (R&R) can be found in the 2019-NIST-PMGP-01 Application Instructions document found on Grants.gov, as well as at [Instructions SF-424 \(R&R\), Application for Federal Assistance](#).

**(2) Abbreviated Application Narrative.** A word-processed document written by the applicant of no more than five (5) double-spaced pages describing the proposed project that includes sufficient information to address the evaluation criteria (see Section V.1. of this NOFO).

**b. Required Full Application Forms and Documents.** Finalists selected in the initial review will be invited to submit Full Applications.

**It is anticipated that four (4) to six (6) applicants who submitted Abbreviated Applications will be selected by NIST as finalists and requested to submit a Full Application for the PMGP. Only applicants who have been selected by NIST as finalists and are requested to submit a Full Application are permitted to submit Full Applications (see Section IV.7.b of this NOFO).** *Full applications submitted by applicants that have not been selected as finalists will be returned to the applicant without review.*

**The Full Application must contain the following:**

**(1) SF-424 (R&R), Application for Federal Assistance.** The SF-424 (R&R) must be signed by an authorized representative of the applicant organization.

For SF-424 (R&R), Items 5, 14, and 19, use the Zip Code + 4 format (##### - ####) when addresses are called for.

For SF-424 (R&R), Item 17, the list of certifications and assurances is contained in the SF-424B (item (3) below).

SF-424 (R&R), Item 18. If the SF-LLL, Disclosure of Lobbying Activities form (item (6) below) is applicable, attach it to field 18.

Instructions for filling in the SF-424 (R&R) can be found in the 2019-NIST-PMGP-01 Application Instructions document found on Grants.gov, as well as at [Instructions SF-424 \(R&R\), Application for Federal Assistance](#).

**(2) Research & Related Budget (Total Fed + Non-Fed).** The budget should reflect anticipated expenses for the full term of the project, considering all potential cost increases, including cost of living adjustments.

The budget should be detailed in these categories:

- A. Senior/Key Person;
- B. Other Personnel;
- C. Equipment Description;
- D. Travel;

- E. Participant/Trainee Support Costs (not relevant to this competition);
- F. Other Direct Costs;
- G. Direct Costs (automatically generated);
- H. Indirect Costs;
- I. Total Direct and Indirect Costs (automatically generated);
- J. Fee (not relevant to this competition);
- K. Total Costs and Fee (automatically generated);
- L. Budget Narrative and Justification document (item (8) below) should be attached to field L.

A separate detailed R&R Budget must be completed for each budget period during the proposed award (e.g. annual basis). To add additional budget periods (e.g. year 2), click “Add Period” embedded at the end of the form. Instructions for completing the Research & Related Budget (Total Fed + Non-Fed) form can be found in the 2019-NIST-PMGP-01 Application Instructions document on Grants.gov, as well as at [Instructions Research & Related Budget \(Total Fed + Non-Fed\) – Budget](#).

**(3) SF-424B, Assurances – Non-Construction Programs**

**(4) CD-511, Certification Regarding Lobbying.** Enter “2019-NIST-PMGP-01” in the Award Number field. Enter the title of the application, or an abbreviation of that title, in the Project Name field.

**(5) Research and Related Other Project Information.** Answer the highlighted questions and use this form to attach the Project Narrative (item (7) below), the Indirect Cost Rate Agreement (item (9) below), and the Data Management Plan (item (10) below). Instructions for completing the Research and Related Other Project Information can be found in the 2019-NIST-PMGP-01 Application Instructions document on Grants.gov, as well as at [Instructions Research and Related Other Project Information](#). Please note that the Project Summary/Abstract field, which has a place to attach an optional Project Summary/Abstract, is not relevant to this competition.

**(6) SF-LLL, Disclosure of Lobbying Activities** (if applicable).

**(7) Project Narrative.**

The Project Narrative is a word-processed document of no more than ten (10) pages (double-spaced between lines), which is responsive to the program description (see Section I. of this NOFO) and the evaluation criteria (see Section V.1. of this NOFO). A suggested format is:

- a. **Abstract.** Provide a concise title and a 100-200 word abstract.

- b. **Project Narrative.** Address each of the four (4) evaluation criteria (see Section V.1. of this NOFO).
- c. **Curriculum Vitae (CV).** Provide a CV of the principal investigator, including a list of his/her most recent and relevant publications.
- d. **Current Support.** Indicate if your research is supported by other sources of funding and make clear what NIST funds will enable the applicant to achieve that could not be achieved with the other sources of funds. Please note the terms and limitations indicated in Section II of this NOFO.
- e. **Similar Research Applications.** Provide a list of all current and pending applications for similar research, including the amounts requested and the source that was or is considering them.

**(8) Budget Narrative and Justification.**

The Budget Narrative does not count against the ten (10) page limit of the Project Narrative. There is no set format for the Budget Narrative and Justification; however, further explanation must be provided for the specific cost categories and line items identified in the [Instructions Research & Related Budget \(Total Fed + Non-Fed\) – Budget](#), as well as any other information you deem necessary for NIST's consideration. The Budget Narrative and Justification must be attached to the Research & Related Budget (Total Fed + Non-Fed).

The written justification should include the necessity and the basis for the cost. Proposed funding levels must be consistent with the project scope, and only allowable costs should be included in the budget. Information on cost allowability is available in the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 C.F.R. Part 200 (<http://go.usa.gov/SBYh>), which apply to awards in this program.

Information needed for each cost category is as follows:

**A. Senior/Key Person** – At a minimum, the budget justification should include the following: name, job title, commitment of effort on the proposed project in terms of average number of hours per week or percentage of time, salary rate, total direct charges on the proposed project, description of the role of the individual on the proposed project and the work to be performed.

Fringe benefits should be identified separately from salaries and wages and based on rates determined by organizational policy. The items

included in the fringe benefit rate (e.g. health insurance, parking, etc.) should not be charged under another cost category.

**B. Other Personnel** - Data is requested at the project role level, and not at the individual level for Other Personnel. The budget justification should include the following: job title, commitment of effort on the proposed project in terms of average number of hours per week or percentage of time, salary rate, total direct charges on the proposed project, description of the role of the position on the proposed project and the work to be performed.

Fringe benefits should be identified separately from salaries and wages and based on rates determined by organizational policy. The items included in the fringe benefit rate (e.g. health insurance, parking, etc.) should not be charged under another cost category.

**C. Equipment Description** – 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. The budget justification should list each piece of equipment, the cost, and a description of how it will be used and why it is necessary to the successful completion of the proposed project. Please note that any general use equipment (computers, etc.) charged directly to the award should be allocated to the award according to expected usage on the project. Applicants should provide at least two (2) quotes, if available, for equipment costing \$25,000 or more. If two (2) quotes are not available, please provide a statement as to why two (2) quotes are not available.

Any items that do not meet the threshold for equipment can be included under the Materials and Supplies line item in Section F, Other Direct Costs.

**D. Travel** - For all travel costs, required by the recipient to complete the project, including attendance at any relevant conferences, the budget justification for travel should include the following: destination; names or number of people traveling; dates and/or duration; mode of transportation, lodging and subsistence rates; and description of how the travel is directly related to the proposed project. For travel that is yet to be determined, please provide best estimates based on prior experience. If a destination is not known, an approximate amount may be used with the assumptions given for the location of the meeting.

**F. Other Direct Costs** – For costs that do not easily fit into the other cost categories, please list the cost, and the breakdown of the total costs by quantity or unit of cost. Include the necessity of the cost for the completion of the proposed project. Only allowable costs can be charged to the

award.

Each subaward or contractual cost or should be treated as a separate item in the Other Direct Costs category. Describe the services to be provided and the necessity of the subaward or contract to the successful performance of the proposed project. Contracts are for obtaining goods and services. Subawardees perform part of the project scope of work. For each subaward, applicants must provide budget detail justifying the cost of the work performed on the project.

**G. Indirect Costs** – Commonly referred to as Facilities & Administrative Costs, Indirect Costs are defined as costs incurred by the applicant organization that cannot otherwise be directly assigned or attributed to a specific project. For more details, see Section IV.2.b.(9) of this NOFO.

**(9) Indirect Cost Rate Agreement.** If indirect costs are included in the proposed budget, provide a copy of the approved negotiated agreement if this rate was negotiated with a cognizant Federal audit agency. If the rate was not established by a cognizant Federal audit agency, provide a statement to this effect. If the successful applicant includes indirect costs in the budget and has not established an indirect cost rate with a cognizant Federal audit agency, the applicant will be required to obtain such a rate in accordance with the [Department of Commerce Financial Assistance Standard Terms and Conditions](#), dated October 9, 2018.

Alternatively, in accordance with 2 C.F.R. § 200.414(f), applicants that have never received a negotiated indirect cost rate may elect to charge indirect costs to an award pursuant to a de minimis rate of 10 percent of modified total direct costs (MTDC), in which case a negotiated indirect cost rate agreement is not required. Applicants proposing a 10 percent de minimis rate pursuant to 2 C.F.R. § 200.414(f) should note this election as part of the budget portion of the application.

**(10) Data Management Plan.** Consistent with NIST Policy 5700.00<sup>1</sup>, *Managing Public Access to Results of Federally Funded Research*, and NIST Order 5701.00<sup>2</sup>, *Managing Public Access to Results of Federally Funded Research*, applicants must include a Data Management Plan (DMP).

The DMP is a supplementary document of not more than two pages that must include, at a minimum, a summary of proposed activities that are expected to generate data, a summary of the types of data expected to be generated by the identified activities, a plan for storage and maintenance

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<sup>1</sup> <https://www.nist.gov/sites/default/files/documents/2017/05/09/Final-P-5700.pdf>

<sup>2</sup> [https://www.nist.gov/sites/default/files/documents/2017/05/09/Final-O-5701\\_0.pdf](https://www.nist.gov/sites/default/files/documents/2017/05/09/Final-O-5701_0.pdf)

of the data expected to be generated by the identified activities, and a plan describing whether and how data generated by the identified activities will be reviewed and made available to the public. As long as the DMP meets these NIST requirements, it may take the form specified by the applicant's institution or some other entity (e.g., the National Science Foundation<sup>3</sup> or the National Institutes of Health<sup>4</sup>).

All applications for activities that will generate scientific data using NIST funding are required to adhere to a DMP or explain why data sharing and/or preservation are not within the scope of the project.

For the purposes of the DMP, NIST adopted the definition of "research data" at 2 C.F.R. § 200.315(e)(3) (available at <http://go.usa.gov/3sZvQ>).

Reasonable costs for data preservation and access may be included in the application.

The inclusion of the DMP will be considered as part of the administrative review (see Section V.3.a. of this NOFO); however, the DMP will not be evaluated against any evaluation criteria.

- (11) Subaward Budget Form.** The Research & Related Subaward Budget Attachment Form is required if sub-recipients and contractors are included in the application budget.

Instructions for completing subaward budget forms are found at: <https://www.Grants.gov/forms/r-r-family.html>

**c. Attachment of Required Documents**

Items IV.2.b.(1) through IV.2.b.(5) above are part of the standard application package in Grants.gov and can be completed through the download application process.

Item IV.2.b.(6), the SF-LLL, Disclosure of Lobbying Activities form, is an optional application form which is part of the standard application package in Grants.gov. If item IV.2.b.(6), the SF-LLL, Disclosure of Lobbying Activities form is applicable to this proposal, attach it to field 18 of the SF-424 (R&R), Application for Federal Assistance.

Item IV.2.b.(7), the Project Narrative, should be attached to field 8 (Project Narrative) of the Research and Related Other Project Information form by clicking on "Add Attachment".

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<sup>3</sup> <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>

<sup>4</sup> [http://grants.nih.gov/grants/policy/data\\_sharing/data\\_sharing\\_guidance.htm](http://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm)

Item IV.2.b.(8), the Budget Narrative and Justification, should be attached to field L (Budget Justification) of the Research and Related Budget (Total Fed + Total Non-Fed) form by clicking on “Add Attachment”.

Items IV.2.b.(9), the Indirect Cost Rate Agreement, and IV.2.b.(10), the Data Management Plan, must be completed and attached by clicking on “Add Attachments” found in item 12 (Other Attachments) of the Research and Related Other Project Information form.

Item IV.2.b.(11), the Subaward Budget Form(s), if applicable to the submission, should be attached to the Research & Related Subaward Budget (Total Fed + Non-Fed) Attachment(s) Form in the application package.

Following these directions will create zip files which permit transmittal of the documents electronically via Grants.gov.

Applicants should carefully follow specific instructions at [www.Grants.gov](http://www.Grants.gov) to ensure the attachments will be accepted by the Grants.gov system. A receipt from Grants.gov indicates only that an application was transferred to a system. It does not provide details concerning whether all attachments (or how many attachments) transferred successfully.

Applicants are strongly advised to use Grants.gov’s “Download Submitted Forms and Applications” option to check that their application’s required attachments were contained in their submission.

After submitting the application, follow the directions found at this link, <https://www.Grants.gov/help/html/help/index.htm#t=GetStarted%2FGetStarted.htm> in the Grants.gov Online Help page. If any, or all, of the required attachments are absent from the submission, follow the attachment directions found above, resubmit the application, and check again for the presence of the required attachments.

If the directions found at <https://www.Grants.gov/help/html/help/index.htm#t=GetStarted%2FGetStarted.htm> are not effective, please contact the Grants.gov Help Desk immediately. If calling from within the United States or from a U.S. territory, please call 800-518-4726. If calling from a place outside the United States or a U.S. territory, please call 606-545-5035. E-mails should be addressed to [support@Grants.gov](mailto:support@Grants.gov). Assistance from the Grants.gov Help Desk will be available around the clock every day, with the exception of Federal holidays. Help Desk service will resume at 7:00 a.m. Eastern Time the day after Federal holidays.

*Applicants can track their submission in the Grants.gov system by following the procedures at the Grants.gov site (<http://go.usa.gov/cjamz>). It can take up to two business days for an application to fully move through the Grants.gov system to NIST.*

*NIST uses the Tracking Numbers assigned by Grants.gov, and does not issue Agency Tracking Numbers.*

#### **d. Application Format**

- (1) Email and Upload Submissions.** Abbreviated Applications for initial review are accepted only via email (see Section IV.7.a. under “Other Submission Requirements” in this NOFO). Full Applications from invited finalists are accepted only through [www.Grants.gov](http://www.Grants.gov) and shall not be accepted via e-mail (see Section IV.7.b. under “Other Submission Requirements” in this NOFO).
- (2) Paper and facsimile (fax) submissions.** Will not be accepted.
- (3) Figures, Graphs, Images, and Pictures.** Should be of a size that is easily readable or viewable and may be landscape orientation. Any figures, graphs, images, or pictures will count toward the page limits for the Project Narrative.
- (4) Font.** Easy to read font (10-point minimum). Smaller type may be used in figures and tables but must be clearly legible.
- (5) Page Limit.** The Abbreviated Application Narrative is limited to five (5) pages double spaced. The Full Application Project Narrative is limited to ten (10) pages double spaced. In both cases, the Page Limit includes: Table of contents (if provided), all required information including CVs, figures, tables, images, pictures, and references, as applicable.
- (6) Page Limit Exclusion for Abbreviated Applications:**  
SF-424 (R&R), Application for Federal Assistance.
- (7) Page Limit Exclusions for Full Applications:**  
SF-424 (R&R), Application for Federal Assistance;  
SF-424B, Assurances – Non-Construction Programs;  
CD-511, Certification Regarding Lobbying;  
SF-LLL, Disclosure of Lobbying Activities;  
Budget Narrative;  
Indirect Cost Rate Agreement;  
Data Management Plan;  
Subaward Budget Form

- (8) Page Layout.** The Project Narrative must be in portrait orientation.
- (9) Page size.** 21.6 centimeters by 27.9 centimeters (8 ½ inches by 11 inches).
- (10) Page numbering.** Number pages sequentially.
- (11) Application language.** All documents must be in English, including but not limited to the initial application, any additional documents submitted in response to a NIST request, all reports, and any correspondence with NIST.
- (12) Typed document.** All applications, including forms, must be typed; handwritten forms will not be accepted.
- e. Application Replacement Pages.** Applicants may not submit replacement pages and/or missing documents once an application has been submitted. Any revisions must be made by submission of a new application that must be received by NIST by the submission deadline.
- f. Pre-Applications.** The PMGP requires Abbreviated Applications (pre-applications), as detailed in Section IV.2.a and Section IV.7.a. of this NOFO. The Selecting Official will select a group of finalists to submit Full Applications from among the Abbreviated Applications (see Section V.3.b.(1) of this NOFO).
- g. Certifications Regarding Federal Felony and Federal Criminal Tax Convictions, Unpaid Federal Tax Assessments and Delinquent Federal Tax Returns.** In accordance with Federal appropriations law, an authorized representative of the selected applicant(s) may be required to provide certain pre-award certifications regarding federal felony and federal criminal tax convictions, unpaid federal tax assessments, and delinquent federal tax returns.
- 3. Unique Entity Identifier and System for Award Management (SAM).**  
Pursuant to 2 C.F.R. part 25, applicants and recipients are required to: (i) be registered in SAM before submitting its application; (ii) provide a valid unique entity identifier in its application; and (iii) continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency, unless otherwise excepted from these requirements pursuant to 2 C.F.R. § 25.110. NIST will not make a Federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements and, if an applicant has not fully complied with the requirements by the time that NIST is ready to make a Federal award

pursuant to this NOFO, NIST may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

#### 4. Submission Dates and Times

- a. **Abbreviated Applications.** Abbreviated Applications must be received by NIST via e-mail no later than 5:00 p.m. Eastern Time on Tuesday, April 16, 2019 (see Section IV.7.a. of this NOFO). Abbreviated Applications received after this deadline will not be reviewed or considered. Review of Abbreviated Applications and selection of finalists who will be invited to submit a Full Application is expected to be completed by May 22, 2019.
- b. **Full Applications.** Full Applications must be received electronically through Grants.gov no later than 11:59 p.m. Eastern Time, on Monday, July 22, 2019. Applications received after this deadline will not be reviewed or considered. Paper applications will not be accepted. NIST will consider the date and time recorded by [www.Grants.gov](http://www.Grants.gov) as the official time that the application was received by NIST. **Applicants are cautioned that the validation process may take up to two full business days after the application is submitted to Grants.gov.**

NIST strongly recommends that applicants do not wait until the last minute to submit applications. NIST will not make allowance for any late submissions. The responsibility for ensuring a complete application is received by NIST by the deadline rests solely with the applicant. To avoid any potential processing backlogs due to last minute Grants.gov registrations, applicants are strongly encouraged to start their Grants.gov registration process at least four (4) weeks prior to the application due date.

If you are invited to submit a Full Application, when developing the submission timeline, please keep in mind that: (1) all applicants are required to have current registrations in the electronic System for Award Management (SAM.gov) and Grants.gov; (2) the free annual registration process in the SAM.gov (see Sections IV.3. and IV.7.b.(2). of this NOFO) often takes between three and five business days and may take as long as two weeks; and (3) applicants will receive e-mail notifications over a period of up to two business days as the application moves through intermediate systems before the applicant learns via a validation or rejection notification whether NIST has received the application. (See [Grants.gov](http://Grants.gov) for full information on application and notification through Grants.gov.). ***Please note that a Federal assistance award cannot be issued if the designated recipient's registration in the System for Award Management (SAM.gov) is not current at the time of the award.***

**Submitters of Full Applications will find instructions on registering with SAM.gov as part of the Grants.gov process at:**

<http://www.Grants.gov/web/grants/applicants/organization-registration.html>

5. **Intergovernmental Review.** Applications under all programs in this NOFO are not subject to Executive Order 12372.
6. **Funding Restrictions.** Applications for product development and/or commercialization are not considered responsive to this NOFO.
7. **Other Submission Requirements.**
  - a. **Abbreviated Applications.** Must be submitted via e-mail to [pmg@nist.gov](mailto:pmg@nist.gov).
  - b. **Full Applications by finalists.** Applicants whose Abbreviated Applications are selected as finalists shall be invited by NIST to submit Full Applications, which must be submitted at [Grants.gov](http://Grants.gov).
    - (1) Applicants should carefully follow specific Grants.gov instructions to ensure that all attachments will be accepted by the Grants.gov system. A receipt from Grants.gov indicating an application is received does not provide information about whether attachments have been received. For further information or questions regarding applying electronically for the 2019-NIST-PMGP-01 announcement, contact Leon Sampson by phone at 301-975-3086 or by e-mail at [grants@nist.gov](mailto:grants@nist.gov).
    - (2) Applicants are strongly encouraged to start early and not wait until the approaching due date before logging on and reviewing the instructions for submitting an application through Grants.gov. The Grants.gov registration process must be completed before a new registrant can apply electronically. If all goes well, the registration process takes three to five business days. If problems are encountered, the registration process can take up to two weeks or more. Applicants must have a valid unique entity identifier number and must maintain a current registration in the Federal government's primary registrant database, the System for Award Management (<https://www.sam.gov/>), as explained on the Grants.gov Web site (also see Section IV.4. of this NOFO). After registering, it may take several days or longer from the initial log-on before a new Grants.gov system user can submit an application. Only individuals authorized as organization representatives will be able to submit the application, and the system may need time to process a submitted application. Applicants should save and print the proof of submission they receive from Grants.gov. If problems occur while using Grants.gov, the applicant is advised to (a) print any error message received and (b) call Grants.gov directly for immediate assistance. If calling from within the United States or

from a U.S. territory, please call 800-518-4726. If calling from a place other than the United States or a U.S. territory, please call 606-545-5035. Assistance from the Grants.gov Help Desk will be available around the clock every day, except for Federal holidays. Help Desk service will resume at 7:00 a.m. Eastern Time the day after Federal holidays. For assistance using Grants.gov, the applicant may also contact [support@Grants.gov](mailto:support@Grants.gov).

- (3) To find instructions for submitting an application on Grants.gov, Applicants should refer to the “Applicants” tab in the banner just below the top of the [www.Grants.gov](http://www.Grants.gov) home page. Clicking on the “Applicants” tab produces two exceptionally useful sources of information, Applicant Actions and Applicant Resources, which applicants are advised to review.

Applicants should pay close attention to the guidance under “Applicant FAQs,” as it contains information important to successful submission on Grants.gov, including essential details on the naming conventions for attachments to Grants.gov applications.

All applicants should be aware that adequate time must be factored into applicants’ schedules for delivery of their application. Applicants are advised that volume on Grants.gov may be extremely heavy leading up to the deadline date.

The application must be both received and validated by Grants.gov. The application is “received” when Grants.gov provides the applicant a confirmation of receipt and an application tracking number. If an applicant does not see this confirmation and tracking number, the application has not been received. After the application has been received, it must still be validated. During this process, it may be “validated” or “rejected with errors”. To know whether the application was rejected with errors and the reasons why, the applicant must log in to Grants.gov, select “Applicants” from the top navigation, and select “Track my application” from the drop-down list. If the status is “rejected with errors,” the applicant may still seek to correct the errors and resubmit the application before the deadline. If the applicant does not correct the errors, the application will not be forwarded to NIST by Grants.gov.

Refer to important information in Section IV.4. Submission Dates and Times, to help ensure the application is received on time.

- c. Amendments.** Any amendments to this NOFO will be announced through Grants.gov. Applicants may sign up on Grants.gov to receive amendments by e-mail or may request copies by e-mail from [pmg@nist.gov](mailto:pmg@nist.gov), or call Jody Payne by telephone at 301-975-3200.

## **V. Application Review Information**

1. **Evaluation Criteria.** The evaluation criteria that will be used in evaluating both Abbreviated Applications and Full Applications are as follows:
  - a. **The importance of the proposed research** - What is its potential for answering some currently pressing question or of opening up a whole new area of activity?
  - b. **The relationship of the proposed research to NIST's ongoing work** - How well does the proposed research support one of NIST's current efforts to: develop a new or improved fundamental measurement method or physical standard; test the basic laws of physics; or provide an improved value for a fundamental constant? (See <http://pml.nist.gov>).
  - c. **The feasibility of the research and the potential impact of the project/award** - How likely is it that significant progress can be made in a three-year time period with the funds and personnel available and that the funding will enable work that would otherwise not be done?
  - d. **The qualifications of the applicant** - How strongly does the applicant's educational and employment background and the quality of their research based on recent publications indicate that there is a high probability that the proposed research will be carried out successfully?

**Each of these factors will be given equal weight in the evaluation process.**

2. **Selection Factors.** The Selecting Official shall select no more than two Full Applications for award based upon the aggregated rank order of the Full Applications (see Section V.3.b.(2) of this NOFO), and may select a Full Application out of rank based on one or more of the following selection factors:
  - a. The availability of Federal funding.
  - b. Whether the project duplicates other projects funded by NIST or other Federal agencies.
  - c. Relevance to the program objectives as indicated in Section I of this NOFO.

### 3. Review and Selection Process

Proposals, reports, documents and other information related to applications submitted to NIST and/or relating to financial assistance awards issued by NIST will be reviewed and considered by Federal employees, or non-Federal personnel who have entered into conflict of interest and confidentiality agreements covering such information, when applicable.

**a. Initial Administrative Review of Applications.** An initial review of timely-received Abbreviated and Full Applications will be conducted to determine eligibility, completeness, and responsiveness to this NOFO and to the scope of the stated program objectives (see Section I of this NOFO). Applications determined to be ineligible, incomplete, and/or nonresponsive may be eliminated from further review. However, NIST, in its sole discretion, may continue the review process for an application that is missing non-substantive information, the absence of which may easily be rectified during the review process.

**b. Full Review of Eligible, Complete, and Responsive Applications.** Abbreviated Applications and Full Applications that are determined to be eligible, complete, and responsive will proceed for full reviews in accordance with the review and selection process below:

**(1) Abbreviated Applications.** Each Abbreviated Application will be reviewed by up to eight (8) independent, objective reviewers. The reviewers may discuss the applications with each other, but rankings will be determined on an individual basis, not as a consensus. The independent reviewers will be scientists knowledgeable in the scientific areas of the program. Each reviewer will create a rank order of the Abbreviated Applications based on the evaluation criteria (see Section V.1. of this NOFO). An aggregated ranking will then be derived based on the numerical average of the individual reviewers' rankings. This aggregated ranking will then be provided to the Selecting Official for further consideration.

The Selecting Official, who is the Chief of the Quantum Measurement Division of the Physical Measurement Laboratory, will then select approximately four (4) to six (6) finalists based upon the aggregated rank order. The Selecting Official may select an Abbreviated Application out of rank order based upon the selection factors in Section V.2. of this NOFO.

**(2) Full Applications.** Each Full Application submitted by an applicant whose Abbreviated Application was selected as a finalist will be reviewed by the same independent reviewers that reviewed the Abbreviated Applications. The reviewers may discuss the applications with each other, but rankings

will be determined on an individual basis, not as a consensus. Each reviewer will create a rank order of the Full Applications based on the evaluation criteria (see Section V.1. of this NOFO). An aggregated ranking will then be derived based on the numerical average of the individual reviewers' rankings. This aggregated ranking will then be provided to the Selecting Official for further consideration.

The Selecting Official, who is the Chief of the Quantum Measurement Division of the Physical Measurement Laboratory, will then select and recommend Full Applications for funding based upon the aggregated rank order. The Selecting Official may select a Full Application out of rank order based upon the selection factors in Section V.2. of this NOFO.

NIST reserves the right to negotiate the budget costs with any applicant selected to receive an award, which may include requesting that the applicant removes certain costs. Additionally, NIST may request that successful applicants modify objectives or work plans and provide supplemental information required by the agency prior to award. NIST also reserves the right to reject an application where information is uncovered that raises a reasonable doubt as to the responsibility of the applicant. NIST may select some, all, or none of the applications, or part(s) of any application. The final approval of selected applications and issuance of awards will be by the NIST Grants Officer. The award decisions of the NIST Grants Officer are final.

- c. Federal Awarding Agency Review of Risk Posed by Applicants.** After applications are proposed for funding by the Selecting Official, the NIST Grants Management Division (GMD) performs pre-award risk assessments in accordance with 2 C.F.R. § 200.205, which may include a review of the financial stability of an applicant, the quality of the applicant's management systems, the history of performance, and/or the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-Federal entities.

In addition, prior to making an award where the total Federal share is expected to exceed the simplified acquisition threshold (currently \$150,000), NIST GMD will review and consider the publicly available information about that applicant in the Federal Awardee Performance and Integrity Information System (FAPIIS). An applicant may review and comment on information about itself previously entered into FAPIIS by a Federal awarding agency. As part of its review of risk posed by applicants, NIST GMD will consider any comments made by the applicant in FAPIIS in making its determination about the applicant's integrity, business ethics, and record of performance under Federal awards. Upon completion of the pre-award risk assessment, the Grants Officer will make a responsibility determination concerning whether

the applicant is qualified to receive the subject award and, if so, whether appropriate specific conditions that correspond to the degree of risk posed by the applicant should be applied to an award.

#### **4. Anticipated Announcement and Award Date**

Review of Applications, selection of successful applicants, and award processing is expected to be completed by September 2019. The earliest start date for awards under this NOFO is expected to be October 1, 2019.

#### **5. Additional Information**

- a. Safety.** Safety is a top priority at NIST. Employees and affiliates of award recipients who conduct project work at NIST will be expected to be safety-conscious, to attend NIST safety training, and to comply with all NIST safety policies and procedures, and with all applicable terms of their guest research agreement.
- b. Notification to Unsuccessful Applicants.** Unsuccessful applicants will be notified by e-mail.
- c. Notification to Finalists.** Applicants whose Abbreviated Applications are selected by NIST as “finalists” will be notified by e-mail and invited by NIST to submit Full Applications.
- d. Retention of Unsuccessful Applications.** Unsuccessful applications will be retained in accordance with the [General Record Schedule 1.2/021](#).

### **VI. Federal Award Administration Information**

- 1. Federal Award Notices.** Successful applicants will receive an award package from the NIST Grants Officer.
- 2. Administrative and National Policy Requirements**
  - a. Uniform Administrative Requirements, Cost Principles and Audit Requirements.** Through 2 C.F.R. § 1327.101, the Department of Commerce adopted Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 C.F.R. Part 200, which apply to awards in this program. Refer to <http://go.usa.gov/SBYh> and <http://go.usa.gov/SBq4>.
  - b. Department of Commerce Financial Assistance Standard Terms and Conditions.** The Department of Commerce will apply to each award in this program, the Financial Assistance Standard Terms and Conditions in effect on the date of award. The current version, dated October 9, 2018, is

accessible [here](#). Refer to Section VII. of this NOFO, Federal Awarding Agency Contacts, Grant Rules and Regulations, if you need more information.

- c. Pre-Award Notification Requirements.** The Department of Commerce will apply the Pre-Award Notification Requirements for Grants and Cooperative Agreements dated December 30, 2014 (79 FR 78390), accessible at <http://go.usa.gov/hKkR>. Refer to Section VII. of this NOFO, Federal Awarding Agency Contacts, Grant Rules and Regulations, for more information.
- d. Funding Availability and Limitation of Liability.** NIST issues this notice subject to the appropriations made available under the current continuing resolution funding the Department of Commerce: Section 101 of the Further Additional Continuing Appropriations Act, 2019, Public Law 116-5, January 25, 2019. NIST anticipates making awards for the program listed in this notice provided that funding for Fiscal Year 2019 is continued beyond February 15, 2019, the expiration of the current continuing resolution.

In no event will NIST or the Department of Commerce be responsible for application preparation costs, including, but not limited to, if this program fails to receive funding or is cancelled because of agency priorities. Publication of this NOFO does not oblige NIST or the Department of Commerce to award any specific project or to obligate any available funds.

- e. Collaborations with NIST Employees.** If an applicant proposes collaboration with NIST, the statement of work should include a statement of this intention, a description of the collaboration, and prominently identify the NIST employee(s) involved, if known. Any collaboration by a NIST employee must be approved by appropriate NIST management and is at the sole discretion of NIST. Prior to beginning the merit review process, NIST will verify the approval of the proposed collaboration. Any unapproved collaboration will be stricken from the application prior to the merit review. Any collaboration with an identified NIST employee that is approved by appropriate NIST management will not make an application more or less favorable in the competitive process.
- f. Use of NIST Intellectual Property.** If the applicant anticipates using any NIST-owned intellectual property to carry out the work proposed, the applicant should identify such intellectual property. This information will be used to ensure that no NIST employee involved in the development of the intellectual property will participate in the review process for that competition. In addition, if the applicant intends to use NIST-owned intellectual property, the applicant must comply with all statutes and regulations governing the licensing of Federal government patents and inventions, described in 35 U.S.C. §§ 200-212, 37 C.F.R. Part 401, 2 C.F.R. §200.315, and in Section

C.03 of the [Department of Commerce Financial Assistance Terms and Conditions](#) dated October 9, 2018.

Any use of NIST-owned intellectual property by a recipient of an award under this announcement is at the sole discretion of NIST and will be negotiated on a case-by-case basis if a project is deemed meritorious. The applicant should indicate within the statement of work whether it already has a license to use such intellectual property or whether it intends to seek one.

If any inventions made in whole or in part by a NIST employee arise in the course of an award made pursuant to this NOFO, the United States government may retain its ownership rights in any such invention. Licensing or other disposition of NIST's rights in such inventions will be determined solely by NIST, and include the possibility of NIST putting the intellectual property into the public domain.

- g. Research Activities Involving Human Subjects, Human Tissue, Data or Recordings Involving Human Subjects Including Software Testing. Research Activities Involving Human Subjects, Human Tissue, Data or Recordings Involving Human Subjects Including Software Testing.** Any application that includes research activities involving human subjects, human tissue/cells, or data or recordings from or about human subjects, must satisfy the requirements of the Common Rule for the Protection of Human Subjects (“Common Rule”), codified for the Department of Commerce at 15 C.F.R. Part 27. Research activities involving human subjects that fall within one or more of the classes of vulnerable subjects found in 45 C.F.R. Part 46, Subparts B, C and D must satisfy the requirements of the applicable subpart(s). In addition, any such application that includes research activities on these subjects must be in compliance with all applicable statutory requirements imposed upon the Department of Health and Human Services (DHHS) and other Federal agencies, all regulations, policies and guidance adopted by DHHS, the Food and Drug Administration (FDA), and other Federal agencies on these topics, and all Executive Orders and Presidential statements of policy on applicable topics. (Regulatory Resources: <http://www.hhs.gov/ohrp/humansubjects/index.html> which includes links to FDA regulations, but may not include all applicable regulations and policies).

On January 19, 2017, a final rule was published in the *Federal Register* that made significant amendments to the Common Rule: <https://www.federalregister.gov/documents/2017/01/19/2017-01058/federal-policy-for-the-protection-of-human-subjects>. These amendments, known as the “2018 Requirements,” took effect on January 21, 2019. Any new award made by NIST after January 21, 2019 will be subject to the 2018 Requirements.

NIST uses the following Common Rule definitions for research and human subjects research:

*Research:* A systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Activities which meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program which is considered research for other purposes. For example, some demonstration and service programs may include research activities.

*Human Subject:* A living individual about whom an investigator (whether professional or student) conducting research: (i) Obtains information or biospecimens through intervention or interaction with the individual, and uses, studies, or analyzes the information or biospecimens; or (ii) Obtains, uses, studies, analyzes, or generates identifiable private information or identifiable biospecimens.

- (1) *Intervention* includes both physical procedures by which information or biospecimens are gathered and manipulations of the subject or the subject's environment that are performed for research purposes.
- (2) *Interaction* includes communication or interpersonal contact between investigator and subject.
- (3) *Private information* includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and that the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator associated with the information) in order for obtaining the information to constitute research involving human subjects.
- (4) *Identifiable biospecimen* includes a biospecimen for which the identity of the subject is or may readily be ascertained by the investigator or associated with the biospecimen.

See 15 C.F.R. § 27.102 (Definitions).

- 1) Requirement for Federalwide Assurance.** If the application is accepted for [or awarded] funding, organizations that have an Institutional Review Board (IRB) are required to follow the procedures of their organization for approval of exempt and non-exempt research activities that involve human subjects. Both domestic and foreign organizations performing non-exempt research activities involving human subjects will be required to have protocols approved by a cognizant, active IRB currently registered with the Office for Human Research Protections (OHRP) within the DHHS that is linked to the engaged organizations. All engaged organizations must possess a currently valid Federalwide Assurance (FWA) on file from OHRP. Information regarding how to apply for an FWA and register an IRB with OHRP can be found at <http://www.hhs.gov/ohrp/assurances/index.html>. See 15 C.F.R. § 27.103. NIST relies only on OHRP-issued FWAs and IRB Registrations for both domestic and foreign organizations for NIST supported research involving human subjects. NIST will not issue its own FWAs or IRB Registrations for domestic or foreign organizations.
  
- 2) Administrative Review.** The NIST Human Subjects Protection Office (HSPO) reserves the right to conduct an administrative review<sup>5</sup> of all applications that potentially include research involving human subjects and were approved by an authorized non-NIST institutional entity (an IRB or entity analogous to the NIST HSPO) under 15 C.F.R. § 27.112 (Review by Institution). If the NIST HSPO determines that an application includes research activities that potentially involve human subjects, the applicant will be required to provide additional information to NIST for review and approval. The documents required for funded proposals are listed in each section below. Most documents will need to be produced during the proposal review process; however, the Grants Officer may allow final versions of certain required documents to be produced at an appropriate designated time post-award. Research involving human subjects may not start until the NIST Grants Officer issues an award explicitly authorizing such research. In addition, all amendments, modifications, or changes to approved research and requests for continuing review and closure will be reviewed by the NIST HSPO.
  
- 3) Required documents for proposal review. All applications involving human**

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<sup>5</sup> Conducting an “administrative review” means that the NIST HSPO will review and verify the performing institution’s determination for research not involving human subjects or exempt human subjects research. In addition, for non-exempt human subjects research, the NIST HSPO will review and confirm that the research and performing institution(s) are in compliance with 15 C.F.R. Part 27, which means HSPO will 1) confirm the engaged institution(s) possess, or are covered under a Federalwide Assurance, 2) review the research study documentation submitted to the IRB and verify the IRB’s determination of level of risk and approval of the study for compliance with 15 C.F.R. Part 27, 3) review and verify IRB-approved substantive changes to an approved research study before the changes are implemented, and 4) review and verify that the IRB conducts a continuing review at least annually, as appropriate.

**subjects research must clearly indicate, by separable task, all research activities believed to be exempt or non-exempt research involving human subjects, the expected institution(s) where the research activities involving human subjects may be conducted, and the institution(s) expected to be engaged in the research activities.**

**a. Not research determination.** If an activity/task involves human subjects as defined in the Common Rule, but the applicant participant(s) indicates to NIST that the activity/task is not research as defined in the Common Rule, the following information may be requested for that activity/task:

- (1) Justification, including the rationale for the determination and such additional documentation as may be deemed necessary by NIST to review and/or support a determination that the activity/task in the application is not research as defined in the Common Rule.
- (2) If the applicant participant(s) used a cognizant IRB that provided a determination that the activity/task is not research, a copy of that determination documentation must be provided to NIST. The applicant participant(s) is not required to establish a relationship with a cognizant IRB if they do not have one.

NIST will review the information submitted and may coordinate further with the applicant before determining whether the activity/task will be defined as research under the Common Rule in the applicable NIST financial assistance program or project.

**b. Research not involving human subjects.** If an activity/task is determined to be research and involves human subjects, but is determined to be *not human subjects research* (or *research not involving human subjects*) under the Common Rule, the following information may be requested for that activity/task:

- (1) Justification, including the rationale for the determination and such additional documentation as may be deemed necessary by NIST to review and/or support a determination that the activity/task in the application is not research as defined in the Common Rule.
- (2) If the applicant participant(s) used a cognizant IRB that provided a determination that the activity/task is research not involving human subjects, a copy of that determination documentation must be provided to NIST. The applicant participant(s) is not required to establish a relationship with a cognizant IRB if they do not have one.

**c. Exempt research determination with no IRB.** If the application appears to NIST to include exempt research activities, and the performer of the activity or the supplier and/or the receiver of the information or biospecimens from human subjects **does not** have a cognizant IRB to provide an exemption determination, the following information may be requested during the review process so that NIST can evaluate whether an exemption under the Common Rule applies (see 15 C.F.R. § 27.104(b) and (d)):

- (1) The name(s) of the institution(s) where the exempt research will be conducted.
- (2) The name(s) of the institution(s) providing the biospecimens or information from human subjects.
- (3) A copy of the protocol for the research to be conducted; and/or the biospecimens or information from human subjects to be collected/provided, not pre-existing samples (*i.e.*, will proposed research collect only information without personal identifiable information, will biospecimens or information be de-identified and when and by whom was the de-identification performed, how were the materials or data originally collected).
- (4) For pre-existing biospecimens or information from human subjects, provide copies of the consent forms used for collection and a description of how the biospecimens or information were originally collected and stripped of personal identifiers. If copies of consent forms are not available, explain.
- (5) Any additional clarifying documentation that NIST may deem necessary in order to make a determination whether the activity/task or use of biospecimens or information from human subjects is exempt under the Common Rule.

**d. Research review with an IRB.** If the application appears to NIST to include research activities (exempt or non-exempt) involving human subjects, and the proposed performer of the activity has a cognizant IRB registered with OHRP, and linked to their Federalwide Assurance, the following information may be requested during the review process:

- (1) The name(s) of the institution(s) where the research will be conducted.
- (2) The name(s) and institution(s) of the cognizant IRB(s), and the IRB registration number(s).
- (3) The FWA number of the applicant linked to the cognizant IRB(s).
- (4) The FWAs associated with all organizations engaged in the planned research activity/task, linked to the cognizant IRB.
- (5) If the IRB review(s) is pending, the estimated start date for research involving human subjects.

- (6) The IRB approval date (if currently approved for exempt or non-exempt research).
- (7) If any of the engaged organizations has applied for or will apply for an FWA or IRB registration, those details should be clearly provided for each engaged organization.

If the application includes research activities involving human subjects to be performed in the first year of an award, additional documentation may be requested by NIST during pre-award review for those performers, and may include the following for those research activities:

- (1) A signed (by the study principal investigator) copy of each applicable final IRB-approved protocol.
- (2) A signed and dated approval letter from the cognizant IRB(s) that includes the name of the institution housing each applicable IRB, provides the start and end dates for the approval of the research activities, and any IRB-required interim reporting or continuing review requirements.
- (3) A copy of any IRB-required application information, such as documentation of approval of special clearances (*i.e.*, biohazard, HIPAA, etc.) conflict-of-interest letters, or special training requirements.
- (4) A brief description of which portions of the IRB submitted protocol are specifically included in the application submitted to NIST, if the protocol includes tasks not included in the application, or if the protocol is supported by multiple funding sources. For protocols with multiple funding sources, NIST will not approve the study without a non-duplication-of-funding letter indicating that no other federal funds will be used to support the tasks proposed under the proposed research or ongoing project.
- (5) If a new protocol will only be submitted to an IRB if an award from NIST is issued, a draft of the proposed protocol.
- (6) Any additional clarifying documentation that NIST may request during the review process to perform the NIST administrative review of research involving human subjects. (See 15 C.F.R. § 27.112 (Review by Institution)).

This clause reflects the existing NIST policy and requirements for Research Involving Human Subjects. Should the policy be revised prior to award, a clause reflecting the policy current at time of award may be incorporated into the award.

If the policy is revised after award, a clause reflecting the updated policy may be incorporated into the award.

For more information regarding research projects involving human subjects, contact Anne Andrews, Director, NIST Human Subjects Protection Office (e-mail: [anne.andrews@nist.gov](mailto:anne.andrews@nist.gov); phone: (301) 975-5445).

### 3. Reporting

**a. Reporting Requirements.** The following reporting requirements described in Sections A.01, Reporting Requirements, of the [Department of Commerce Financial Assistance Standard Terms and Conditions](#), dated October 9, 2018, apply to awards in this program.

**(1) Financial Reports.** Each award recipient will be required to submit an SF-425, Federal Financial Report on a semi-annual basis for the periods ending March 31 and September 30 of each year. Reports will be due within 30 days after the end of the reporting period to the NIST Federal Program Officer, Grants Officer and Grants Specialist named in the award documents. A final financial report is due within 90 days after the end of the project period.

**(2) Research Performance Progress Report (RPPR).** Each award recipient will be required to submit a RPPR to the Federal Program Officer, NIST Grants Officer and Grants Specialist named in the award documents on a semi-annual basis for the periods ending March 31 and September 30 of each year. Reports will be due within 30 days after the end of the reporting period. The RPPR shall conform to the requirements in 2 C.F.R. § 200.328 (<http://go.usa.gov/xkVgP>) and [Department of Commerce Financial Assistance Standard Terms and Conditions](#), Section A.01.

A final RPPR shall be submitted within 90 days after the expiration date of the award, and publication citation information as well as links to publicly available data shall be submitted as soon as they become available.

If a recipient's Data Management Plan (DMP) has changed since their last submission of a technical progress report, the recipient must include their revised DMP in the next technical progress report following the revision to the DMP. The revised DMP must include all the requirements described in Section IV.2.b.(10). of this NOFO.

**(3) Patent and Property Reports.** In accordance with the Uniform Administrative Requirements (see Section VI.2. of this NOFO) and other terms and conditions governing the award, the recipient may need to submit property and patent reports.

**(4) Recipient Integrity and Performance Matters.** In accordance with section 872 of Public Law 110-417 (as amended; see 41 U.S.C. 2313), if the total value of a recipient's currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds \$10,000,000 for any period of time during the period of performance of an award made under this NOFO, then the recipient shall be subject to the requirements specified in Appendix XII to 2 C.F.R. Part 200, <http://go.usa.gov/cTBwC>, for maintaining the currency of information reported to SAM that is made available in FAPIIS about certain civil, criminal, or administrative proceedings involving the recipient.

- b. Audit Requirements.** The Department of Commerce Financial Assistance Standard Terms and Conditions, Section D.01, and 2 C.F.R. Part 200 Subpart F, adopted by the Department of Commerce through 2 C.F.R. § 1327.101, require any non-Federal entity (i.e., including non-profit institutions of higher education and non-profit organizations) that expends Federal awards of \$750,000 or more in the recipient's fiscal year to conduct a single or program-specific audit in accordance with the requirements set out in the Subpart. Additionally, unless otherwise specified in the terms and conditions of the award, entities that are not subject to Subpart F of 2 C.F.R. Part 200 (e.g., for-profit commercial entities) that expend \$750,000 or more in DOC funds during their fiscal year must submit to the Grants Officer either: (i) a financial related audit of each DOC award or subaward in accordance with Generally Accepted Government Auditing Standards; or (ii) a project specific audit for each award or subaward in accordance with the requirements contained in 2 C.F.R. § 200.507. Applicants are reminded that NIST, the Department of Commerce Office of Inspector General, or another authorized Federal agency may conduct an audit of an award at any time.
- c. Federal Funding Accountability and Transparency Act of 2006.** In accordance with 2 C.F.R. Part 170, all recipients of a Federal award made on or after October 1, 2010, are required to comply with reporting requirements under the Federal Funding Accountability and Transparency Act of 2006 (Public Law No. 109-282). In general, all recipients are responsible for reporting sub-awards of \$25,000 or more. In addition, recipients that meet certain criteria are responsible for reporting executive compensation. Applicants must ensure they have the necessary processes and systems in place to comply with the reporting requirements should they receive funding. Also see the Federal Register notice published September 14, 2010, at 75 FR 55663 available here <http://go.usa.gov/hKnQ>.

- 4. Award Management and Public Engagement Publication and Technology Transfer.** Each award recipient is expected to present the results of their work in appropriate professional literature and conferences to make the findings broadly available. Data supporting any findings or conclusions shall be made available in a manner consistent with the Data Management Plan.

## **VII. Federal Awarding Agency Contacts**

Questions should be directed to the following:

<b>Subject Area</b>	<b>Point of Contact</b>
Programmatic and Technical Questions	Dr. Peter J. Mohr Phone: 301-975-3217 E-mail: <a href="mailto:mohr@nist.gov">mohr@nist.gov</a>
Technical Assistance with Grants.gov Submissions	Leon Sampson Phone: 301-975-3086 Fax: 301-975-6368 E-mail: <a href="mailto:grants@nist.gov">grants@nist.gov</a> Or <a href="http://Grants.gov">Grants.gov</a> Phone: 800-518-4726 E-mail: <a href="mailto:support@Grants.gov">support@Grants.gov</a>
Grant Rules and Regulations	Dean Iwasaki Phone: 301-975-8449 Fax: 301-975-6368 E-mail: <a href="mailto:dean.iwasaki@nist.gov">dean.iwasaki@nist.gov</a>

## **VIII. Other Information**

### **1. Personal and Business Information**

The applicant acknowledges and understands that information and data contained in applications for financial assistance, as well as information and data contained in financial, performance and other reports submitted by applicants, may be used by the Department of Commerce in conducting reviews and evaluations of its financial assistance programs. For this purpose, applicant information and data may be accessed, reviewed and evaluated by Department of Commerce employees, other Federal employees, and also by Federal agents and contractors, and/or by non-Federal personnel, all of whom enter into appropriate conflict of interest and confidentiality agreements covering the use of such information. As may be provided in the terms and conditions of a specific financial assistance award, applicants are expected to support program reviews and evaluations by submitting required financial and performance information

and data in an accurate and timely manner, and by cooperating with Department of Commerce and external program evaluators. In accordance with 2 C.F.R. § 200.303(e), applicants are reminded that they must take reasonable measures to safeguard protected personally identifiable information and other confidential or sensitive personal or business information created or obtained in connection with a Department of Commerce financial assistance award.

In addition, Department of Commerce regulations implementing the Freedom of Information Act (FOIA), 5 U.S.C. Sec. 552, are found at 15 C.F.R. Part 4, Public Information. These regulations set forth rules for the Department regarding making requested materials, information, and records publicly available under the FOIA. Applications submitted in response to this NOFO may be subject to requests for release under the Act. If an application contains information or data that the applicant deems to be confidential commercial information that should be exempt from disclosure under FOIA, that information should be identified, bracketed, and marked as Privileged, Confidential, Commercial or Financial Information. In accordance with 15 CFR § 4.9, the Department of Commerce will protect from disclosure confidential business information contained in financial assistance applications and other documentation provided by applicants to the extent permitted by law.

## **2. Public Website**

The PMGP has a public website, [www.physics.nist.gov/pmg](http://www.physics.nist.gov/pmg), that provides information pertaining to this Funding Opportunity<sup>6</sup>.

Applicants must submit all questions pertaining to this funding opportunity in writing to [pmg@nist.gov](mailto:pmg@nist.gov) with “PMGP application” in the subject line.

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<sup>6</sup> Refer to Section VII. of this NOFO, Federal Awarding Agency Contacts, Programmatic and Technical Questions, if more information is needed.