December 4, 2013

ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY (FFO)
Precision Measurement Grant Program (PMGP)

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:** 2014-NIST-PMGP-01

- **Catalog of Federal Domestic Assistance (CFDA) Number:** 11.609, Measurement and Engineering Research and Standards

- **Dates:** Abbreviated Proposals must be received no later than 5:00 p.m. Eastern Time on Tuesday, February 4, 2014. Abbreviated proposals received after this deadline will not be reviewed or considered. Review of abbreviated proposals and selection of finalists is expected to be completed by Tuesday, March 25, 2014. Full proposals submitted through Grants.gov must be received no later than 11:59 p.m. Eastern Time, on Tuesday, May 6, 2014. Paper or e-mailed full proposals must be received no later than 5:00 p.m. Eastern Time, on Tuesday, May 6, 2014. Full proposals received after the respective deadline will not be reviewed or considered. Review of full proposals, selection of successful proposers, and award processing is expected to be completed in August 2014. The earliest anticipated start date for awards under this FFO is expected to be October 1, 2014.

  If you have been invited to submit a full proposal, please keep in mind when developing your submission timeline that (1) a free annual registration process in the electronic System for Award Management (SAM) (see Section VI.2.b.) may take between three and five business days or as long as more than two weeks, and (2) applicants using Grants.gov will receive a series of receipts over a period of up to two business days before learning via a validation or rejection whether a Federal agency's electronic system has received its application.

- **Proposal Submission Address:** See Section IV. in the Full Announcement Text of this FFO.

- **Funding Opportunity Description:** NIST is soliciting proposals from eligible proposers to support significant research in the field of fundamental measurement or the determination of fundamental constants.

- **Funding Availability:** NIST anticipates up to approximately $100,000 may be available to fund the first year of new multi-year awards, supporting at most two (2) projects, depending on the availability of funding, for up to three (3) years at $50,000 per year, consistent with the multi-year funding policy described in Section II.2. of this FFO.

- **Funding Instrument:** Grant or cooperative agreement, as appropriate.

- **Who is Eligible:** Accredited institutions of higher education; hospitals; non-profit organizations; commercial organizations; state, local, and Indian tribal governments; foreign governments; organizations under the jurisdiction of foreign governments; international organizations; and Federal agencies with appropriate legal authority.

- **Cost Sharing Requirements:** This program does not require **c**ost sharing.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

The statutory authority for the Precision Measurement Grant Program (PMGP) is 15 U.S.C. § 272(b) and (c).

Program Description: Since 1970, NIST, as part of its research program, has provided funding under the Precision Measurement Grant Program (PMGP) primarily to universities and colleges so that faculty may conduct significant research in the field of fundamental measurement or the determination of fundamental constants. NIST sponsors these research projects primarily to encourage basic, measurement-related research in universities and colleges and other research laboratories and to foster contacts between NIST scientists and those faculty members of academic institutions and other researchers who are actively engaged in such work. 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. The key requirement is that the proposed project is consistent with NIST's ongoing work in the field of basic measurement science (http://pml.nist.gov).

II. Award Information

1. **Funding Instrument.** The funding instrument that will be used is a grant or cooperative agreement. The nature of NIST's "substantial involvement" will generally be collaboration between NIST and the recipient organizations. This includes NIST collaboration with a recipient on the scope of work. Additional forms of substantial involvement that may arise are described in Chapter 5.C of the Department of Commerce (DoC) Grants and Cooperative Agreements Manual, which is available at http://www.osec.doc.gov/oam/grants_management/policy/documents/FINAL%20Master%20DOC%20Grants%20Manual%202013%20(03.01.13)_b.pdf

2. **Multi-Year Funding Policy.** When a proposal for a multi-year award is approved, funding will usually be provided for only the first year of the program. If a project is selected for funding, NIST has no obligation to provide any additional funding in connection with 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.

3. **Funding Availability**. NIST anticipates up to approximately $100,000 may be available to fund the first year of new multi-year awards, supporting at most two (2) projects, depending on the availability of funding, for up to three (3) years at $50,000 per year, consistent with the multi-year funding policy described in Section II.2. of this FFO.

III. Eligibility Information

1. **Eligible Proposers**. Eligible proposers are accredited institutions of higher education; hospitals; non-profit organizations; commercial organizations; state, local and Indian tribal governments; foreign governments; organizations under the jurisdiction of foreign governments; international organizations; and Federal agencies with appropriate legal authority.

2. **Cost Sharing or Matching**. This program does not require cost sharing.

3. **Other**

Abbreviated Proposals. NIST requires abbreviated proposals under the PMGP (*see* Section IV.2.a. of this FFO).

IV. Application/Proposal and Submission Information

1. Address to Request Application Package. The application form for the Abbreviated Proposal, the SF-424, is available at www.grants.gov. The SF-424 may also be requested by contacting the NIST personnel listed below:

Ms. Gail Newrock, National Institute of Standards and Technology, PMGP, 100 Bureau Drive, Mail Stop 8420, Gaithersburg, MD 20899-8420. Phone: (301) 975-3200; e-mail pmg@nist.gov)

2. Content and Format of Application/Proposal Submission

a. Required Abbreviated Proposal Form and Document

Abbreviated proposals must be submitted under the PMGP in order to be considered for funding. The abbreviated proposal must contain the following:

(1) SF-424, Application for Federal Assistance. The SF-424 must be signed by an authorized representative of the proposer organization. The list of certifications and assurances referenced in item 21 of the SF-424 is not needed for the Abbreviated Proposal.

(2) A **word-processed document** written by the proposer 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 FFO).

b. Required Full Proposal Forms and Documents

Only proposers whose abbreviated proposals have been selected by NIST as "finalists" and who have been requested by NIST to submit a full proposal are permitted to submit full proposals to NIST for the PMGP. Full proposals submitted by proposers that have not been selected as finalists will be returned to the proposer without review. The full proposal must contain the following:

(1) SF-424, Application for Federal Assistance. The SF-424 must be signed by an authorized representative of the proposer organization. The FFO number 2014-NIST-PMGP-01 must be identified in item 12 of the SF-424. The list of certifications and assurances referenced in item 21 of the SF-424 is contained in the SF-424B.

(2) SF-424A, Budget Information - Non-Construction Programs. (The budget should reflect anticipated expenses for each year of the project in $50,000 increments up to three (3) years, considering all potential cost increases, including cost of living adjustments.)

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

(4) CD-511, Certification Regarding Lobbying

(5) SF-LLL, Disclosure of Lobbying Activities (if applicable)

(6) Technical Proposal. The Technical Proposal is a word-processed document of no more than ten (10) double-spaced pages responsive to the program description (*see* Section I. of this FFO) and the evaluation criteria (*see* Section V.1. of this FFO). It should contain the following sections:

(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 FFO).

(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 proposer to achieve that could not be achieved with the other sources of funds.

(e) **Similar Research Proposals.** Provide a list of all current and pending proposals for similar research, including the amounts requested and the source that was or is considering it.

(7) Budget Narrative. There is no set format for the Budget Narrative; however, it should provide a breakdown of each of the object class categories as reflected on the SF-424A for each year. If an applicant has never received Federal funding from any Federal agency, a certification will be required from a CPA to determine whether the applicant has a functioning financial management system that meets the provisions of 15 C.F.R. § 14.21.

(8) 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. Successful proposers will be required to obtain such a rate.

If submitting the proposal electronically via Grants.gov, 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. Items IV.2.b.(6) through IV.2.b.(8) must be completed and attached by clicking on "Add Attachments" found in item 15 of the SF-424, Application for Federal Assistance. This will create a zip file that allows for transmittal of the documents electronically via Grants.gov. Proposers should carefully follow specific Grants.gov instructions at www.grants.gov to ensure the attachments will be accepted by the Grants.gov system. ***A receipt from Grants.gov indicating a proposal is received does not provide information about whether attachments have been received.***

If submitting a proposal by paper or e-mail all of the required proposal documents should be submitted in the order listed above.

c. Proposal Format

(1) Double-sided copy. For paper submissions, print on both sides of the paper (front to back counts as two (2) pages).

(2) Facsimile submissions (fax). 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.

(4) Font. Easy to read font (10-point minimum). Smaller type may be used in figures and tables but must be clearly legible.

(5) Line spacing. Double-spaced except for the forms and Budget Narrative, which should be single-spaced.

(6) Margins. One (1) inch top, bottom, left, and right.

(7) **Number of paper copies.** For paper submissions, one (1) signed stapled original. If submitting electronically via e-mail or through Grants.gov, paper copies are not required. Although proposers submitting paper proposals are not required to submit more than one (1) copy of the proposal, the normal review process for the PMGP utilizes ten (10) copies. Therefore, proposers may submit sufficient proposal copies for the full review process if they wish. If the original proposal is in color, the additional copies must also be in color.

(8) **Page layout.** Portrait orientation only (except figures, graphs, and pictures (*see* Section IV.2.c.(3)).

(9) **Page Limit.** Abbreviated proposals are limited to five (5) pages, and full proposals are limited to ten (10) pages.

Page limit includes: Table of contents (if included), Technical Proposal with all required sections, including CVs, figures, graphs, tables, images, and pictures.

Page limit excludes: SF-424, Application for Federal Assistance; SF-424A, Budget Information – Non-Construction Programs; SF-424B, Assurances – Non-Construction Programs; SF-LLL, Disclosure of Lobbying Activities; CD-511, Certification Regarding Lobbying; Budget Narrative; and Indirect Cost Rate Agreement.

(10) **Page numbering.** Number pages sequentially.

(11) **Paper size.** 21.6 by 27.9 centimeters (8 ½ by 11 inches).

(12) **Proposal language.** English.

(13) **Staple paper submission.** For paper submissions, staple the original signed proposal and each of the two (2) copies securely with one (1) staple in the upper left-hand corner.

(14) **Typed document.** All proposals, including forms, must be typed.

3. Submission Dates and Times

a. **Abbreviated Proposals.** Abbreviated proposals must be received by NIST no later than 5:00 p.m. Eastern Time on Tuesday, February 4, 2014. This deadline applies to all modes of abbreviated proposal submission, including e-mail, courier services, and express mailing.

b. **Full Proposals.** Full proposals submitted through Grants.gov must be received no later than 11:59 p.m. Eastern Time, on Tuesday, May 6, 2014. Otherwise, full proposals must be received no later than 5:00 p.m. Eastern Time, on Tuesday, May 6, 2014. This latter deadline applies to all modes of full proposal submission, including e-mail, courier services, and express mailing.

Abbreviated and full proposals not received by the specified due dates and times will not be considered and will be returned without review. NIST determines whether the abbreviated and full proposals submitted by paper have been timely received by the deadline by the date and time receipt they are physically received by NIST at its Gaithersburg, Maryland campus. For abbreviated and full proposal submissions via e-mail, NIST will consider the date and time of the e-mail. For full proposal submissions via Grants.gov, NIST will consider the date and time stamped on the validation generated by www.grants.gov as the official submission time.

NIST strongly recommends that applicants do not wait until the last minute to submit an application. NIST will not make allowance for any late submissions. To avoid any potential processing backlogs due to last minute Grants.gov registrations, applicants are highly encouraged to begin their Grants.gov registration process early.

When developing your submission timeline, keep in mind that (1) a free annual registration process in the electronic System for Award Management (SAM) (see Section VI.2.b.) may take between three and five business days or as long as more than two weeks, and (2) applicants using Grants.gov will receive a series of receipts over a period of up to two business days before learning via a validation or rejection whether a Federal agency's electronic system has received its application.

In the event of a natural disaster that interferes with timely proposal submissions, NIST may issue an amendment to this FFO to change the proposal submission due date.

4. Intergovernmental Review. Proposals under this Program are not subject to Executive Order 12372.

5. Funding Restrictions. Profit or fee is not an allowable cost.

6. Other Submission Requirements

a. Abbreviated Proposals. Abbreviated Proposals may be submitted in paper format or electronically by e-mail as follows:

Paper Submission:
Dr. Peter J. Mohr
National Institute of Standards and Technology
NIST Precision Measurement Grant Program
100 Bureau Drive, Mail Stop 8420
Gaithersburg, MD 20899-8420

Phone: (301) 975-3217

E-mail Submission: pmg@nist.gov

b. Full Proposals. Proposers whose abbreviated proposals are selected as finalists and who are invited by NIST to submit full proposals may submit them by paper or electronically.

(1) Paper proposals must be submitted in triplicate (an original and two copies) and sent to:

Dr. Peter J. Mohr
National Institute of Standards and Technology
NIST Precision Measurement Grant Program
100 Bureau Drive, Mail Stop 8420
Gaithersburg, MD 20899-8420

Phone: (301) 975-3217

(2) Electronic proposals may be submitted either by e-mail or through Grants.gov as follows:

(a) **E-mail**. E-mail to pmg@nist.gov

Or

(b) **Grants.gov**. Grants.gov at www.grants.gov, announcement 2014-NIST-PMGP-01

i. Submitters of electronic proposals should carefully follow specific Grants.gov instructions to ensure the attachments will be accepted by the Grants.gov system. A receipt from Grants.gov indicating a proposal is received does not provide information about whether attachments have been received. For further information or questions regarding applying electronically for the 2014-NIST-

PMGP-01 announcement, contact Christopher Hunton by phone at 301-975-5718 or by e-mail at christopher.hunton@nist.gov.

ii. Applicants are strongly encouraged to start early and not wait until the approaching due date before logging on and reviewing the instructions for submitting a proposal 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 (3) to five (5) business days. If problems are encountered, the registration process can take up to two (2) weeks or more. Applicants must have a Dun and Bradstreet Data Universal Numbering System (DUNS) number (*see* Section VI.2.b) 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. After registering, it may take several days or longer from the initial log-on before a new Grants.gov system user can submit a proposal. Only authorized individual(s) will be able to submit the proposal, and the system may need time to process a submitted proposal. 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, with the exception of Federal holidays. Help Desk service will resume at 7:00 a.m. Eastern Time the day after Federal holidays. For assistance using Grants.gov, you may also contact support@grants.gov.

iii. To find instructions on 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 home page. Clicking on the "Applicants" tab produces the "Grant Applicants" page.

In addition to following the "Steps" and instructions described in the "Applicant Actions" section and its sub-categories, further detailed instructions are described in "Applicant Resources" and all of its subcategories. This appears in the box near the top left of the Grant Applicants page. Applicants should follow the links associated with each subcategory.

Applicants will receive a series of receipts during a process of up to two business days before the application is either validated as electronically received by the Federal agency system, or rejected by it. Closely following the detailed information in these subcategories will increase the likelihood of acceptance of the application by the Federal agency's electronic system.

Applicants should pay close attention to the instructions 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.
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All proposers, both electronic and paper submitters, should be aware that adequate time must be factored into proposers' schedules for delivery of their proposal. Submitters of electronic proposals are advised that volume on Grants.gov may be extremely heavy on the deadline date, and if Grants.gov is unable to accept proposals electronically in a timely fashion, proposers are encouraged to exercise their option to submit proposals in paper format. Submitters of paper proposals should allow adequate time to ensure a paper proposal will be received on time, taking into account that Federal Government security screening

for U.S. Postal Service mail may delay receipt of mail for up to two (2) weeks and that guaranteed express mailings and/or couriers are not always able to fulfill their guarantees.

Refer to important information in Section IV.3. Submission Dates and Times, to help ensure your proposal is received on time.

c. Amendments. Any amendments to this FFO will be announced through Grants.gov. Proposers may sign up for grants.gov FFO amendments or may request copies from Gail Newrock by telephone at (301) 975-3200 or by e-mail to pmg@nist.gov.

V. Application/Proposal Review Information

1. Evaluation Criteria. The evaluation criteria that will be used in evaluating both abbreviated proposals and full proposals 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 it 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 proposer - How strongly do the educational and employment background and the quality of the research, based on recent publications, of the proposer 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 proposals for award taking into consideration the rank order of the proposals, and may select a proposal out of rank based on one or more of the following selection factors:

a. The availability of Federal funds.

b. Whether the project duplicates other projects funded by DoC or by other Federal agencies.

c. Relevance to the funding program description (*see* Section I. of this FFO).

3. Review and Selection Process

a. Initial Administrative Review of Abbreviated and Full Proposals. An initial review of timely received abbreviated and full proposals will be conducted to determine eligibility, e.g., full proposals submitted by proposers who did not submit the required abbreviated proposal or submitted by proposers whose abbreviated proposals have not been selected by NIST as finalists; completeness; and responsiveness to this FFO and the scope of the stated program objectives. Proposals determined to be ineligible, incomplete, and/or non-responsive may be eliminated from further review.

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

(1) Abbreviated Proposals. Each abbreviated proposal will be reviewed by the same eight (8) independent, objective reviewers, which will include written evaluations and scores, based on the evaluation criteria (*see* Section V.1. of this FFO). If non-Federal reviewers are used, the reviewers may discuss the proposals with each other, but scores 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 rank the abbreviated proposals based on their assigned scores. An aggregated ranking will then be derived based on reviewers' rankings. This 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 rank order. The Selecting Official may select an application out of rank order based upon the selection factors in Section V.2. of this FFO.

(2) Full Proposals. Each full proposal submitted by a proposer whose abbreviated proposal was selected as a finalist will be reviewed by the same eight (8) independent reviewers that reviewed the abbreviated proposals. If non-Federal reviewers are used, the reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus. The reviews will include written evaluations and scores based on the same evaluation criteria (*see* Section V.1. of this FFO). Each reviewer will rank the full proposals based on their assigned scores. An aggregated ranking will then be derived based on reviewers' rankings. This 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 funding recipients based upon the rank order. The Selecting Official may select an application out of rank order based upon the selection factors in Section V.2. of this FFO.

NIST reserves the right to negotiate the budget costs with the proposers that have been selected to receive awards, which may include requesting that the proposer remove certain costs. Additionally, NIST may request that the proposer modify objectives or work plans and provide supplemental information required by the agency prior to award. For international applications, NIST will follow applicable U.S. laws and policies. NIST also reserves the right to reject a proposal where information is uncovered that raises a reasonable doubt as to the responsibility of the proposer. NIST may select some, all, or none of the proposals. The final approval of selected proposals and issuance of awards will be by the NIST Grants Officer. The award decisions of the NIST Grants Officer are final.

4. Anticipated Announcement and Award Dates. Awards may be made approximately in the August 2014 time frame.

5. Additional Information

a. Proposal Replacement Pages. Proposers may not submit replacement pages and/or missing documents once a proposal has been submitted. Any revisions must be made by submission of a new proposal that must be received by NIST by the submission deadline.

b. Notification to Unsuccessful Proposers. Unsuccessful proposers will be notified in writing.

c. Notification to Finalists. Proposers whose abbreviated proposals are selected by NIST as "finalists" will be notified in writing and invited by NIST to submit full proposals.

d. Retention of Unsuccessful Proposals. One (1) of each non-selected proposal will be retained for three (3) years for record keeping purposes and any other copies will be destroyed. After three (3)

years the remaining copy will be destroyed.

VI. Award Administration Information

1. **Award Notices.** Successful applicants will receive an award from the NIST Grants Officer. The award cover page, i.e., CD-450, Financial Assistance Award is available at http://ocio.os.doc.gov/s/groups/public/@doc/@os/@ocio/@oitpp/documents/content/dev01_002513.pdf and the DoC Financial Assistance Standard Terms and Conditions (January 2013) are available at http://www.osec.doc.gov/oam/grants_management/policy/documents/DOC_Standard_Terms_and_Conditions_01_10_2013.pdf.

2. **Administrative and National Policy Requirements**

a. **DoC Pre-Award Notification Requirements.** The DoC Pre-Award Notification Requirements for Grants and Cooperative Agreements, 77 FR 74634 (December 17, 2012), are applicable to this FFO and are available at https://www.federalregister.gov/articles/2012/12/17/2012-30228/department-of-commerce-pre-award-notification-requirements-for-grants-and-cooperative-agreements.

b. **Employer/Taxpayer Identification Number (EIN/TIN), Dun and Bradstreet Data Universal Numbering System (DUNS), and System for Award Management (SAM)** All applicants for Federal financial assistance are required to obtain a universal identifier in the form of DUNS number and maintain a current registration in the Federal government's primary registrant database, SAM. On the form SF-424 items 8.b. and 8.c., the applicant's 9-digit EIN/TIN and 9-digit DUNS number must be consistent with the information in SAM (https://www.sam.gov/) and Automated Standard Application for Payment System (ASAP). For complex organizations with multiple EIN/TIN and DUNS numbers, the EIN/TIN and DUNS numbers MUST be the numbers for the applying organization. Organizations that provide incorrect/inconsistent EIN/TIN and DUNS numbers may experience significant delays in receiving funds if their proposal is selected for funding. Confirm that the EIN/TIN and DUNS number are consistent with the information on the SAM and ASAP.

   Per 2 C.F.R. Part 25, each applicant must:

   (1) Be registered in the Central Contractor Registration (CCR) before submitting a proposal noting the CCR now resides in SAM;
   (2) Maintain an active CCR registration, noting the CCR now resides in SAM, with current information at all times during which it has an active Federal award or a proposal under consideration by an agency; and
   (3) Provide its DUNS number in each application or proposal it submits to the agency.

   The applicant can obtain a DUNS number from Dun and Bradstreet. A DUNS number can be created within one business day. The CCR or SAM registration process may take five or more business days to complete. If you are currently registered with the CCR, you may not need to make any changes. However, please make certain that the TIN associated with your DUNS number is correct. Also note that you will need to update your CCR registration annually. This may take three or more business days to complete. Information about SAM is available at SAM.gov. See also 2 C.F.R. Part 25 and the *Federal Register* notice published on September 14, 2010, at 75 FR 55671.

c. **Collaborations with NIST Employees.** All proposals should include a description of any work proposed to be performed by an entity other than the proposer, and the cost of such work should ordinarily be included in the budget.

   If a proposer 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 proposal prior to the merit review.

d. Use of NIST Intellectual Property. If the proposer anticipates using any NIST-owned intellectual property to carry out the work proposed, the proposer 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 proposer intends to use NIST-owned intellectual property, the proposer 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, 15 C.F.R. § 14.36, and in Section B.21 of the DoC Pre-Award Notification Requirements, 77 FR 74634 (December 17, 2012). Questions about these requirements may be directed to the Chief Counsel for NIST, (301) 975-2803.

Any use of NIST-owned intellectual property by a proposer is at the sole discretion of NIST and will be negotiated on a case-by-case basis if a project is deemed meritorious. The proposer 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 FFO, 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.

e. 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 involving human subjects, including software testing, must meet the requirements of the Common Rule for the Protection of Human Subjects ("Common Rule"), codified for the Department of Commerce (DoC) at 15 C.F.R. Part 27. In addition, any such application that includes research activities on these topics must be in compliance with any statutory requirements imposed upon the Department of Health and Human Services (DHHS) and other Federal agencies regarding these topics, all regulatory policies and guidance adopted by DHHS, the Food and Drug Administration, and other Federal agencies on these topics, and all Executive Orders and Presidential statements of policy on these topics.

NIST reserves the right to make an independent determination of whether an applicant's research activities involve human subjects. NIST policy also requires a NIST administrative review for research involving human subjects approved by a non-NIST Institutional Review Board (IRB). (15 C.F.R. § 27.112 Review by Institution.) If NIST determines that your application involves human subjects, you will be required to provide additional information for review and approval. If an award is issued, no research activities involving human subjects shall be initiated or costs incurred under the award until the NIST Grants Officer issues written approval. Retroactive approvals are not permitted.

NIST will accept applications that include exempt and non-exempt human subjects research activities. Organizations that have an IRB are required to follow the procedures of their organization for approval of exempt and non-exempt research activities that involve human subjects, if the application is funded. Non-exempt human subjects research activities by either domestic or foreign organizations 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 possessing a currently valid Federalwide Assurance (FWA) on file from OHRP. Information regarding how to apply for an FWA and register and IRB with OHRP can be found at http://www.hhs.gov/ohrp/assurances/index.html. 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.

The applicant should clearly indicate in the application, by separable task, all research activities believed to be exempt or non-exempt research involving human subjects and the

expected institution(s) where the research activities involving human subjects may be conducted.

If an activity/task involves data obtained through intervention or interaction with living individuals or identifiable private information obtained from or about living individuals but the applicant participant(s) believes that the activity/task is not research as defined under the Common Rule, the following may be requested for that activity/task:

> Justification, including the rationale for the determination and in some cases additional documentation, to support a determination that the activity/task in the application is not research as defined under the Common Rule. See 15 C.F.R. § 27.102. This may result in a NIST determination. If the applicant participant(s) uses a cognizant IRB that provides an IRB approval, a copy of that IRB approval documentation will be required by NIST. The applicant participant(s) is not required to establish a relationship with a cognizant IRB if they do not have one, but if the applicant participant(s) has a cognizant IRB that requires review of the activity/task, or the applicant participant(s) elects to obtain IRB review, a copy of the IRB approval documentation will be required by NIST.

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 biological materials, or data 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. § 27.101).

a. The name(s) of the institution(s) where the exempt research will be conducted; and/or from which biological materials, or data from human subjects will be provided.
b. A copy of the protocol of the research to be conducted; and/or the biological materials, or data from human subjects to be collected/provided, not pre-existing samples (*i.e.,* will proposed research collect only information without personal identifiable information, will biological materials or data be de-identified and when and by whom was the de-identification performed, how were the materials or data originally collected).
c. For pre-existing biological materials, or data from human subjects provide copies of the consent forms used for collection and a description of how the materials or data were originally collected and stripped of personal identifiers. If copies of consent forms are not available, explain.
d. Any additional clarifying documentation that NIST may request during the review process in order to make a determination that the activity or use of biological materials or data from human subjects is exempt under the Common Rule (see 15 C.F.R. § 27.101).

If the application appears to NIST to include research activities (exempt or non-exempt) involving human subjects, and the performer of the activity has a cognizant IRB, 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 FWAs or IRB registrations are being applied for, that should be clearly stated.

Additional documentation may be requested by NIST for performers with a cognizant IRB during review of the application, and may include the following for research activities involving human subjects that are planned in the first year of the award:

(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 what 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 may be requested;
(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.)

f. Research Applications Involving Live Vertebrate Animals. Any application that includes research activities involving live vertebrate animals, that are being cared for, euthanized, or used by participants in the application to accomplish research goals, teaching, or testing, must be in compliance with the National Research Council's "Guide for the Care and Use of Laboratory Animals," which can be obtained from National Academy Press, 500 5th Street, N.W., Department 285, Washington, DC 20055. In addition, such applications must meet the requirements of the Animal Welfare Act (7 U.S.C. § 2131 et seq.), 9 C.F.R. Parts 1, 2, and 3, and if appropriate, 21 C.F.R. Part 58. These regulations do not apply to proposed research using **preexisting** images of animals or to research plans that do not include live animals. These regulations also do not apply to obtaining stock items from animal material suppliers (*e.g.,* tissue banks), such as cell lines and tissue samples, or from commercial food processors, where the vertebrate animal was euthanized for food purposes and not for sample collection. NIST does require documentation for obtaining custom samples from live vertebrate animals from animal material suppliers and other organizations (*i.e.,* universities, companies, and government laboratories, etc.). Custom samples includes samples from animal material suppliers, such as when a catalog item indicates that the researcher is to specify the characteristics of the live vertebrate animal to be used, or how a sample is to be collected from the live vertebrate animal.

The applicant should clearly indicate in the application, by separable task, all research activities believed to include research involving live vertebrate animals and the institution(s) where the research activities involving live vertebrate animals may be conducted.

NIST reserves the right to make an independent determination of whether an applicant's research activities involve live vertebrate animals or custom samples from live vertebrate animals. If NIST determines that the application includes research activities or custom samples involving live vertebrate animals, you will be required to provide additional information for review and approval. If an award is issued, no research activities involving live vertebrate animals subjects shall be initiated or costs incurred under the award until the NIST Grants Officer issues written approval.

If the applicant's application appears to include research activities or custom sample collections involving live vertebrate animals the following information may be requested during the application review process:

(1) The name(s) of the institution(s) where the animal research will be conducted and/or custom

samples collected;

(2) The assurance type and number, as applicable, for the cognizant Institutional Animal Care and Use Committee (IACUC) where the research activity is located. [For example: Animal Welfare Assurance from the Office of Laboratory Animal Welfare (OLAW) should be indicated by the OLAW assurance number, i.e. A-1234; an USDA Animal Welfare Act certification should be indicated by the certification number i.e. 12-R-3456; and an Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC) should be indicated by AAALAC.]
(3) The IACUC approval date (if currently approved);
(4) If the review by the cognizant IACUC is pending, the estimated start date for research involving vertebrate animals;
(5) If any assurances or IACUCs need to be obtained or established, that should be clearly stated.

Additional documentation may be requested by NIST during review of the application and may include the following for research activities and/or custom sample collections involving live vertebrate animals that are planned in the first year of the award:

(1) A signed (by the Principal Investigator) copy of the IACUC approved Animal Study Application (ASP);
(2) Documentation of the IACUC approval indicating the approval and expiration dates of the ASP; and
(3) If applicable, a non-duplication-of-funding letter if the ASP is funded from several sources.
(4) If a new ASP will only be submitted to an IACUC if an award from NIST issued, a draft of the proposed ASP may be requested.
(5) Any additional clarifying documentation that NIST may request during review of applications to perform the NIST administrative review of research involving live vertebrate animals.

For more information regarding human subjects or research projects involving live vertebrate animals, contact Linda Beth Schilling, Senior Coordinator and Policy Advisor for Human & Animal Subjects Research at NIST (e-mail: linda.schilling@nist.gov; phone: 301-975-2887).

g. Funding Availability and Limitation of Liability. Funding for the program listed in this FFO is contingent upon the availability of appropriations. In no event will NIST or DoC be responsible for proposal preparation costs if this program fails to receive funding or is cancelled because of agency priorities. Publication of this FFO does not oblige NIST or DoC to award any specific project or to obligate any available funds.

h. Collaborations Making Use of Federal Facilities. All proposals should include a description of any work proposed to be performed using Federal facilities.

If a proposer proposes use of NIST facilities, the statement of work should include a statement of this intention and a description of the facilities. Any use of NIST facilities 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 availability of the facilities and approval of the proposed usage. Any unapproved facility use will be stricken from the proposal prior to the merit review. Examples of some facilities that may be available for collaborations are listed on the NIST Technology Services Web site, http://www.nist.gov/user-facilities.cfm.

i. DoC Representation by Corporations Regarding an Unpaid Delinquent Tax Liability or a Felony Conviction Under Any Federal Law. In accordance with the Federal appropriations law expected to be in effect at the time of project funding, NIST anticipates that the selected applicants will be provided a form and asked to make a representation regarding any unpaid delinquent tax liability or felony conviction under any Federal law.

3. Reporting

a. Reporting Requirements. In lieu of the reporting requirements described in Sections A.01 Financial Reports and B.01 Performance (Technical) Reports of the DoC Financial Assistance Standard Terms and Conditions dated January 2013 (http://www.osec.doc.gov/oam/grants_management/policy/documents/DOC_Standard_Terms_and_Conditions_01_10_2013.pdf), the following reporting requirements shall apply:

(1) Financial Reports. Each award recipient will be required to submit an SF-425, Federal Financial Report in triplicate (an original and two (2) copies), 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.

(2) Performance (Technical) Report. Each award recipient will be required to submit a technical progress report in triplicate (an original and two (2) copies), 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. A final technical progress report shall be submitted within 90 days after the expiration date of the award. Two (2) copies of the technical progress report shall be submitted to the Project Manager and the original report to the NIST Grants Officer. Technical progress reports shall contain information as prescribed in 15 C.F.R. § 14.51.

(3) Patent and Property Reports. From time to time, and in accordance with the Uniform Administrative Requirements and other terms and conditions governing the award, the recipient may need to submit property and patent reports.

b. OMB Circular A-133 Audit Requirements. Single or program-specific audits shall be performed in accordance with the requirements contained in OMB Circular A-133, "*Audits of States, Local Governments, and Non-Profit Organizations*," and the related *Compliance Supplement*. OMB Circular A-133 requires any non-Federal entity (*i.e.*, including non-profit institutions of higher education and other non-profit organizations) that expends Federal awards of $500,000 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 Circular. Proposers are reminded that NIST, the DoC 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 (Pub. L. 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. Proposers 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.

VII. Agency Contact(s)

Questions should be directed to the following contact persons:

Subject Area	Point of Contact
Programmatic and technical questions	Dr. Peter J. Mohr Phone: (301) 975-3217 E-mail: mohr@nist.gov
Electronic full proposal submission through Grants.gov	Christopher Hunton Phone: 301-975-5718 E-mail: christopher.hunton@nist.gov Or Grants.gov Phone: 800-518-4726 E-mail: support@grants.gov
Grant rules and regulations	Scott McNichol Phone: 301-975-5603 E-mail: scott.mcnichol@nist.gov