



**Funding Opportunity Announcement
FY2017 Office of Naval Research (ONR)
Immersive Sciences for Training, Education,
Mission Rehearsal, and Operations**

The purpose of this amendment is to change the schedule of events table found on page 20, **Section IV., D. Significant Dates and Times**. This amendment hereby replaces all previous postings of N00014-17-S-F007.

INTRODUCTION:

This publication constitutes a Funding Opportunity Announcement (FOA) as contemplated in the Department of Defense Grants and Agreements regulations (DoDGARS) 32 CFR 22.315(a). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to fund all, some, or none of the proposals received under this FOA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this FOA will not be returned. It is the policy of ONR to treat all proposals submitted under this FOA as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

This FOA is intended for proposals related to basic research projects. Proposals that do not meet the criteria specified by this document will not be reviewed. Awards will take the form of grants.

For grant proposals submitted through Grants.gov, applicants should include responses to the Representations indicated in Section [VII. C and D](#) of this FOA and located at <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal.aspx>

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I. PROGRAM DESCRIPTION

A. Agency Name

Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995

B. Research Opportunity Title

Funding Opportunity Announcement FY2017 Office of Naval Research (ONR) Immersive Sciences for Training, Education, Mission Rehearsal, and Operations

C. Program Name

Expeditionary Maneuver Warfare and Combating Terrorism Department, Human Performance, Training & Education

D. Research Opportunity Number

N00014-17-S-F007

E. Response Date

Proposals: 9 March 2017 (Thursday) 11:59 PM Eastern Standard Time

IMPORTANT NOTE: White Papers are NOT being solicited but are OPTIONAL if you wish to submit before submitting a proposal.

F. Research Opportunity Description

The Office of Naval Research, Expeditionary Maneuver Warfare and Combating Terrorism S&T Department (Code 30) is soliciting white papers and proposals for basic research in immersive sciences. The Navy and Marine Corps seeks to use augmented reality (AR) and mixed reality technologies to improve training and operations for infantry combat personnel; with a specific focus on small unit leaders (e.g. Squad Leader). This includes a range of applications, including augmented training environments that can simulate environments, assets, and friendly/opposing forces and operational tools that can overlay useful virtual information onto the real-world environment. While the Navy and Marine Corps have envisioned these applications, this research opportunity is focused more on the development of the scientific area than on capability.

In support of this goal, the Immersive Sciences research program seeks to address basic research challenges in three key areas: automated methods for generating content and/or

behaviors for use augmented and mixed reality technologies (with an emphasis on AR); valid, reliable, and objective measures of presence and immersion; and a human-factors based taxonomy of visualization and interaction in AR.

Key Area No. 1: Automated methods for generating content and/or behaviors for use augmented and mixed reality technologies (with an emphasis on AR).

This area involves automated methods for generating content for immersive environments. Current methods of content generation are slow (e.g., manual creation), expensive, or require specialized equipment (e.g., LIDAR scanners) or expertise. The goal of this research is to develop tools and techniques for processing, extraction, and identification of 3D content from easily accessible sources, such as crowd-sourced photos and videos on the Internet. This content should include terrain, roads, buildings, people, vehicles, and other relevant environmental features necessary to create immersive environments that reflect the intricacies of future operating environments such as megacities. Proposals describing new and innovative techniques are welcome, as are proposals that seek to improve currently-existing techniques, such as photogrammetry. Technologies that allow for rough estimates of behavior patterns (but not full pattern of life) are also desired.

Key Area No. 2: Valid, reliable, and objective measures of presence and immersion.

This area involves objective measures of presence and immersion. The current state of the art involves subjective surveys or other measurements (e.g., behavioral or physiological) that may only correlate with increased presence instead of provide a direct measure. The goal of this research is to develop valid, reliable, objective, sensitive, and minimally-invasive techniques to quantify the amount of presence a person is experiencing in an environment compared to the real world and/or other baselines; and how the level of presence influences training and learning.

Key Area No. 3: A human-factors based taxonomy of visualization and interaction in AR.

The third key area involves developing taxonomies and/or theories of visualization and interaction, particularly in augmented reality. The current state of the art includes a variety of prototype AR user interfaces using a variety of interaction techniques, such as gestures in the air or control via a separate device. However, these prototypes are not thoroughly evaluated from a human factors perspective. The goal of this research would examine various use cases to develop and substantiate, with evidence, which AR visualization and interaction schemes are optimal.

G. Points of Contact (POC)

Questions of a **Technical** nature shall be directed to:

Peter Squire, PhD
Program Officer
Advanced Electronics
Code 301
Office of Naval Research
875 North Randolph Street
Arlington VA 22203-1995
peter.squire@navy.mil

Questions of a **Business** nature should be submitted to:

David Broadwell
Grants Officer
Code 255
Office of Naval Research
875 North Randolph Street
Arlington VA 22203-1995
david.broadwell@navy.mil

All questions shall be submitted via email and should be concise and to the point. In addition, the relevant part and paragraph of the FOA should be referenced. Questions presented by telephone call, fax message, or other means will not be responded to.

Amendments to this FOA will be posted to one or more of the following web pages:

-Grants.gov Webpage – <http://www.grants.gov/>

-ONR Funding Opportunity Announcement (FOA) Webpage -

<http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx>

H. Instrument Type

Awards will take the form of grants. Any assistance instrument awarded under this announcement will be governed by the award terms and conditions that conform to DoD's implementation of OMB circulars applicable to financial assistance. Terms and conditions of new awards made after December 26, 2014, may include revisions to reflect DoD implementation of new OMB guidance in 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards."

The DoD Terms and Conditions located at <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-terms-conditions.aspx>.

Examples of model grants can be found on the ONR website at the following link: <http://www.onr.navy.mil/en/Contracts-Grants/submit-proposal/grants-proposal/model-grant.aspx>

I. Catalog of Federal Domestic Assistance (CFDA) Numbers

12.300

J. Catalog of Federal Domestic Assistance (CFDA) Titles

Basic and Applied Scientific Research (ONR)

K. Other Information

This FOA is intended for proposals related to basic research. With regard to any restrictions on the conduct or outcome of work funded under this FOA, ONR will follow the guidance on and definition of “contracted fundamental research” as provided in the Under Secretary of Defense (Acquisition, Technology and Logistics) Memorandum of 24 May 2010.

As regards to the present FOA, the research and development efforts to be funded will consist of basic research. The funds available to support awards are Budget Activity 1 as defined in the DoD Financial Management Regulation.

As defined therein the definition of “contracted fundamental research,” in a DoD contractual context, includes research performed under grants and contracts that are (a) funded by Research, Development, Test and Evaluation Budget Activity 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Activity 2 (Applied Research) and performed on campus at a university. The research shall not be considered fundamental in those rare and exceptional circumstances where the applied research effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.

Pursuant to DoD policy, research performed under grants and contracts that are a) funded by Budget Activity 2 (Applied Research) and NOT performed on-campus at a university or b) funded by Budget Activity 3 (Advanced Technology Development) does not meet the definition of “contracted fundamental research.” In conformance with the USD (AT&L) guidance and National Security Decision Directive 189, ONR will place no restriction on the conduct or reporting of unclassified “contracted fundamental research,” except as otherwise

required by statute, regulation or executive order. For certain research projects, it may be possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting “contracted fundamental research.” In those cases, it is the *prime contractor’s responsibility* in the proposal to identify and describe the subcontracted unclassified research and include a statement confirming that the work has been scoped, negotiated, and determined to be fundamental research according to the prime contractor and research performer.

Normally, fundamental research is awarded under grants with universities and under contracts with industry. Non-fundamental research is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of such research results due to subject matter sensitivity. Potential applicants should consult with the appropriate ONR Technical POCs to determine whether the proposed effort would constitute basic research, applied research or advanced research.

Grants and other assistance agreements made under FOAs are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

THIS ANNOUNCEMENT **IS NOT FOR** THE ACQUISITION OF TECHNICAL, ENGINEERING AND OTHER TYPES OF SUPPORT SERVICES.

II. AWARD INFORMATION

A. Funding Amount and Period of Performance

Under this FOA, ONR intends to award 3 - 5 grants with a budget of approximately \$3M. Each grant is anticipated to be approximately \$200-500K per grant per year. The period of performance will be between 2 - 3 years and incrementally funded based on available funding.

B. Peer Reviews

In the case of proposals funded as basic research, ONR may utilize peer reviewers from academia, industry, and Government agencies to assist in the periodic appraisal of performance under the awards, as outlined in ONR Instruction 3966.1A. Such periodic program reviews monitor the cost, schedule and technical performance of funded basic research efforts. The reviews are used in part to determine which basic research projects will receive continued ONR funding. Peer reviewers who are not U.S. Government employees must sign nondisclosure agreements before receiving full or partial copies of proposals and reports submitted by the basic research performers. Applicants may include travel costs for the Principal Investigator (PI) to attend the peer review.

III. ELIGIBILITY INFORMATION

- All responsible sources from academia and industry may submit proposals under this FOA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this FOA will be set aside for Small Business or other socio-economic participation.
- Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, **are not** eligible to receive awards under this FOA. However, teaming arrangements between FFRDCs and eligible principal Applicants are allowed so long as such arrangements are permitted under the sponsoring agreement between the Government and the specific FFRDC.
- Navy laboratories, military universities and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this FOA and should not directly submit either white papers or proposals in response to this FOA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR Technical POC to discuss its area of interest. The various scientific divisions of ONR are identified at <http://www.onr.navy.mil/>. As with FFRDCs, these types of federal organizations may team with other eligible sources from academia and industry that are submitting proposals under this FOA.
- University Affiliated Research Centers (UARCs) are eligible to submit proposals under this FOA unless precluded from doing so by their Department of Defense UARC contract.
- Teams are also encouraged and may submit proposals in any and all areas. However, Applicants must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.
- Applicants should be aware of recent changes in export control laws. Applicants are responsible for ensuring compliance with all International Traffic in Arms Regulation (ITAR) (22 CFR §120 *et seq.*) requirements, as applicable. In some cases, developmental items funded by the Department of Defense are now included on the United States Munition List (USML) and are therefore subject to ITAR jurisdiction. Applicants should address in their proposals whether ITAR restrictions apply or do not apply, such as in the case when research products would have both civil and military application, to the work they are proposing to perform for ONR.

The USML is available online at <http://www.ecfr.gov/cgi-bin/text-idx?node=pt22.1.121>. Additional information regarding the President's Export Control Reform Initiative can be found at <http://export.gov/ecr/index.asp>.

IV. APPLICATION AND SUBMISSION INFORMATION

A. Application and Submission Process

White Papers: White papers are **optional** and, if submitted, must be submitted by email to the attention of the Technical POC: peter.squire@navy.mil by Wednesday, 1 February 2017, 11:59 PM Eastern Standard Time (EST). Each white paper should state that it is submitted in response to this FOA and cite the particular Key Area in the [Research Opportunity Description](#) that the white paper is primarily addressing.

White Paper Review/Notification: White Papers will be reviewed by the Technical POC and notifications will be issued via email on or about Friday, 17 February 2017.

Proposals: Proposals are due Thursday, 9 March 2017, 11:59 PM (EST). It is anticipated that final selections will be made within four weeks after proposal submission. As soon as the final proposal evaluation process is completed, PI's will be notified via email of their project's selection or non-selection. Proposals received after the published due date and time will not be considered. It is **STRONGLY** recommended that proposals be uploaded sufficiently in advance to avoid any possible delays with Grants.gov.

B. Content and Format White Papers and Proposals

1. WHITE PAPERS (optional)

White Paper Format

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single-spaced
- Font – Times New Roman, 12 point
- Page limit – 5 pages. Consult with the technical POC if unable to comply.

White Paper Content

- **Cover Page:** The Cover Page shall be labeled “WHITE PAPER” and shall include the FOA Number N00014-17-S-F007, proposed title, technical points of contact, telephone number, facsimile number, and E-mail address.

- **Technical Concept:** A description of the technology innovation and technical risk areas.
- **Future Naval Relevance (where applicable):** A description of potential Naval relevance and contributions of the effort to the agency's specific mission.
- **Rough Order of Magnitude:** A description of the rough order of magnitude cost showing requested funding per year, total cost, and suggests spending priorities to satisfy Section I.F. Break requested cost down into categories of salaries and benefits, materials and supplies, travel, cost associated with student participation (tuition and fees) and indirect costs.
- **Curriculum Vitae:** One (2 page maximum) curriculum vitae of the Principal Investigator. (The CV is not included in the white paper page limit.)

2. **PROPOSALS**

Proposals submitted under this FOA shall be unclassified and for unclassified basic research. Proposal submissions will be protected from unauthorized disclosure in accordance with applicable laws and DoD regulations.

IMPORTANT NOTE: Titles given to the Proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

Prospective Applicants must complete the mandatory forms in accordance with the instructions provided on the forms and the additional instructions below. Files that are attached to the forms must be in Adobe Portable Document Format (.PDF) unless otherwise specified in this announcement.

Form: SF 424 (RESEARCH & RELATED)

Complete all the required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the "Help Mode" (icon with the pointer and question mark at the top of the form). The following information must be completed in the SF 424 located on [Grants.gov](https://www.grants.gov) to ensure that the application is directed to the correct individual for review and to be considered for award, Applicants must fill out Block 4 of the SF 424 R&R as follows:

- **Block 4a, Federal Identifier** - Enter N00014.
- **Block 4b, Agency Routing Number** - Enter the three (3) digit Program Office Code and the Program Officer's name, last name first, in brackets (e.g., 301 [Squire, Peter]).

- Applicants who fail to provide a Program Officer Code identifier may receive a notice that their proposal is rejected.
- Block 4c, Previous Grants.gov Tracking ID - If this submission is for a Changed/Corrected Application, enter the Grants.gov tracking number of the previous proposal submission; otherwise, leave blank.

Form: Project Abstract

Abstracts of all funded research projects will be posted on a DTIC website, <https://dodgrantawards.dtic.mil/grants/index.html#/home>. The abstract should be a summary of the entire proposal. The points to cover should consist of, but are not limited to:

- Problem statement / significance of the research;
- Objective;
- Procedures / Methods to accomplish objective;
- Potential impact of the research / implications.

Do not include proprietary or confidential information. Use only characters available on a standard QWERTY keyboard. Spell out all Greek letters, other non-English letters and symbols. Graphics are not allowed and there is a 4,000 character limit including spaces.

Form: RESEARCH & RELATED Other Project Information

Attach the Technical Proposal as follows:

- Download the application package;
- Click on "Research and Related Other Project Information";
- Click on "Move form to Submission List";
- Click on "Open Form";
- A new PDF entitled "Research & Related Other Project Information" will appear;
- Locate Field 8 entitled, "Project Narrative;"
- Click on "Add Attachment;" and
- Attach the technical proposal.

NOTE: Ensure the attachment is a single PDF file with File name: "Technical Proposal."

Proposal Format – Technical Proposal, and Cost Proposal

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single spaced

- Font – Times New Roman, 12 point
- Technical Proposal – Discuss the limit on the number of pages with the cognizant Program Officer.
- Cost Proposal – There are no page limitations.
- The proposal should be submitted electronically at <http://www.grants.gov/> as delineated in paragraph E below.

NOTE: The electronic file name for all documents submitted under this FOA must not exceed 68 characters in length, including the file name extension.

Technical Proposal

- **Cover Page:** This should include the words “Technical Proposal” and the following:
 - 1) FOA Number: N00014-17-S-F007;
 - 2) Title of Proposal;
 - 3) Identity of prime Applicant and complete list of subawards, if applicable;
 - 4) Technical contact (name, address, phone/fax, electronic mail address)
 - 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and;
 - 6) Proposed period of performance (identify both the base period and any options, if included).
- **Table of Contents:** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.
- **Technical Approach and Justification:** The major portion of the proposal should consist of a clear description of the technical approach being proposed. This discussion should provide the technical foundation/justification for pursuing this particular approach/direction and why one would expect it to enable the objectives of the proposal to be met.
- **Future Naval Relevance (where applicable):** A description of potential Naval relevance and contributions of the effort to the agency’s specific mission.
- **Project Schedule and Milestones:** A summary of the schedule of events and milestones:

- **Reports:**

The following are sample reports that are typically required under a research effort:

- Technical and Financial Progress Reports
- Final Report

Grants do not include the delivery of software, prototypes, and other hardware deliverables.

- **Management Approach:** Identify which personnel and subcontractors/subrecipients (if any) will be involved. Include a description of the facilities that are required for the proposed effort, along with a description of any Government Furnished Equipment/Hardware/ Software/Information required, by version and/or configuration.

- **Current and Pending Project and Proposal Submissions:** Applicants are required to provide information on all current and pending support for ongoing projects and proposals, including subsequent funding in the case of continuing contracts, grants, and other assistance agreements. Applicants shall provide the following information of any related or complementary proposal submissions from whatever sources (e.g., ONR, Federal, State, local or foreign government agencies, public or private foundations, industrial or other commercial organizations).

Concurrent submission of a proposal to other organizations will not prejudice its review by ONR:

- 1) Title of Proposal and Summary;
- 2) Source and amount of funding (annual direct costs; provide contract and/or grant numbers for current contracts/grants);
- 3) Percentage effort devoted to each project;
- 4) Identity of prime Applicant and complete list of subwards, if applicable;
- 5) Technical contact (name, address, phone/fax, electronic mail address)
- 6) Administrative/business contact (name, address, phone/fax, electronic mail address);
- 7) Period of performance (differentiate basic effort);
- 8) The proposed project and all other projects or activities requiring a portion of time of the Principal Investigator and other senior personnel must be included, even if they receive no salary support from the project(s);
- 9) The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months or labor hours per year to

be devoted to the project, regardless of source of support; and

10) State how projects are related to the proposed effort and indicate degree of overlap.

- **Qualifications:** A discussion of the qualifications of the proposed Principal Investigator and any other key personnel. Include resumes or curricula vitae for the Principal Investigator, other key personnel and consultants. The resumes/curricula vitae shall be attached to the proposal.

Applicants are requested to provide the following information to ONR in order to assist in ONR's evaluation of the Applicant's responsibility:

- a. Describe how you have adequate resources or the ability to obtain such research as required to complete the activities proposed.
- b. Describe how you have the ability to comply with the grant conditions, taking into account all existing and currently prospective commitments of the Applicant, nongovernmental and governmental.
- c. Describe your performance history, specifically your record in managing Federal awards and the extent to which any previously awarded amounts will be expended prior to future awards.
- d. Describe your record of integrity and business ethics.
- e. Describe qualifications and eligibility to receive an award under applicable laws and regulations.
- f. Describe your organization, experience, accounting, and operational controls and technical skills, or the ability to obtain them (including as appropriate such elements as property control systems, quality assurance measures, and safety programs applicable to the services to be performed)

Cost Proposal

The Applicant must use the Grants.gov forms (including the Standard Form (SF) Research and Related (R&R) Budget Form) from the application package template associated with the BAA on the Grants.gov web site located at <http://www.grants.gov/>. If options are proposed, the cost proposal must provide the pricing information for the option periods; failure to include the proposed costs for the option periods will result in the options not being included in the award.

A separate Adobe .pdf document should be included in the application that provides appropriate justification and/or supporting documentation for each element of cost proposed.

Itemized Budget: The itemized budget must include the following:

- Direct Labor – Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years.
- Administrative and Clerical Labor – Salaries of administrative and clerical staff are normally indirect costs (and included in an indirect cost rate). Direct charging of these costs may be appropriate when a major project requires an extensive amount of administrative or clerical support significantly greater than normal and routine levels of support. Budgets proposing direct charging of administrative or clerical salaries must be supported with a budget justification which adequately describes the major project and the administrative and/or clerical work to be performed.
- Fringe Benefits and Indirect Costs (F&A, Overhead, G&A, etc.) – The proposal must show the rates and calculation of the costs for each rate category. If the rates have been approved/negotiated by a Government agency, provide a copy of the memorandum/agreement. If the rates have not been approved/negotiated, provide sufficient detail to enable a determination of allowability, allocability and reasonableness of the allocation bases, and how the rates are calculated. Additional information may be requested, if needed. If composite rates are used, provide the calculations used in deriving the composite rates.
- Travel – The proposed travel cost must include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the organizations historical average cost per trip or other reasonable basis for estimation. Such estimates and the resultant costs claimed must conform to the applicable Federal cost principals. Applicants may include travel costs for the Principal Investigator to attend the peer reviews described in Section II of this FOA.
- Subawards/Subcontracts – Provide a description of the work to be performed by the subrecipient/subcontractor. For each subaward, a detailed cost proposal is required to be submitted by the subrecipient(s). A proposal and supporting documentation must be received and reviewed before the Government can complete its cost analysis of the proposal and enter negotiations. ONR's preferred method of receiving subcontract information is for this information to be included with the Prime's proposal. However, a subcontractor's cost proposal can be provided in a sealed envelope with the recipient's cost proposal or via e-mail directly to the Program Officer at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Applicant and that the attached proposal is a subcontract.
- Consultants – Provide a breakdown of the consultant's hours, the hourly rate proposed, any other proposed consultant costs, a copy of the signed Consulting Agreement or other

documentation supporting the proposed consultant rate/cost, and a copy of the consultant's proposed statement of work if it is not already separately identified in the prime contractor's proposal.

- Materials & Supplies – Provide an itemized list of all proposed materials and supplies including quantities, unit prices, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- Recipient Acquired Equipment or Facilities – Equipment and/or facilities are normally furnished by the Recipient. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided. Provide an itemized list of all equipment and/or facilities costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). Allowable items normally are limited to research equipment not already available for the project. General purpose equipment (i.e., equipment not used exclusively for research, scientific or other technical activities, such as personal computers, laptops, office equipment) should not be requested unless they will be used primarily or exclusively for the project. For computer/laptop purchases and other general purpose equipment, if proposed, include a statement indicating how each item of equipment will be integrated into the program or used as an integral part of the research effort.
- Other Direct Costs – Provide an itemized list of all other proposed other direct costs such as Graduate Assistant tuition, laboratory fees, report and publication costs, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- Fee/Profit – Fee/profit is unallowable under assistance agreements at either the prime or subaward level but may be permitted on subcontracts issued by the prime awardee.

C. Submission of Grant Proposals through Grants.gov

Detailed instructions entitled “Grants.Gov Electronic Application and Submission Information” on how to submit a Grant proposal through Grants.gov are under the Contracts and Grants — Submitting Proposals section of the ONR website at <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-gov.aspx>.

White Papers must not be submitted through the Grants.gov application process. White paper submissions should be e-mailed directly to the appropriate ONR Program Officer/Program Manager. White paper format requirements are found in Part IV, Section B (1) above.

For electronic submission of proposals for grants, there are several one-time actions that must be completed in order to submit an application through Grants.gov. These include obtaining a Dun and Bradstreet Data Universal Numbering System (DUNS)

number, registering with System for Award Management (SAM), registering with the credential provider, and registering with Grants.gov. See <http://www.grants.gov>.

Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/web/grants/applicants/organization-registration.html> which will provide guidance through the process. Designating an E-Business Point of Contact (E-Biz POC) and obtaining a special password called 'MPIN' are important steps in the SAM registration process. Applicants who are not registered with SAM.gov and Grants.gov should allow at least 21 days to complete these requirements. The process should be started as soon as possible. Any questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 (1-606-545-5035 for foreign applicants) or support@grants.gov.

Special Notices Relative to Grant Applications to be submitted through Grants.Gov:

All attachments to grant applications submitted through Grants.Gov must be in Adobe Portable Document Format. Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format will not be considered for award.

Proposal Receipt Notices:

After a proposal is submitted through Grants.gov, the Authorized Organization Representative (AOR) will receive a series of three e-mails. It is extremely important that the AOR watch for and save each of the e-mails. You will know that your proposal has reached ONR when the AOR receives e-mail Number 3. You will need the Submission Receipt Number (e-mail Number 1) to track a submission.

The three e-mails are:

Number 1 – The applicant will receive a confirmation page upon completing the submission to Grants.gov. This confirmation page is a record of the time and date stamp that is used to determine whether the proposal was submitted.

Number 2 – The applicant will receive an e-mail indicating that the proposal has been validated by Grants.gov within two days of submission (This means that all of the required fields have been completed). After an institution submits an application, Grants.gov generates a submission receipt via email and also sets the application status to "Received." This receipt verifies the Application has been successfully delivered to the Grants.gov system. Next, Grants.gov verifies the submission is valid by ensuring it does not contain viruses, the opportunity is still open, and the applicant login and applicant DUNS number match. If the submission is valid, Grants.gov generates a submission validation receipt via email and sets the application status to "Validated." If the application is not validated, the application status

is set to "Rejected." The system sends a rejection email notification to the institution, and the institution must resubmit the application package. Applicants can track the status of their application by logging in to Grants.gov.

Number 3 – The third notice is an acknowledgment of receipt in e-mail form from ONR within ten days from the proposal due date, if applicable. The e-mail is sent to the authorized representative for the institution. The e-mail for proposals notes that the proposal has been received and provides the assigned tracking number.

D. Significant Dates and Times

Schedule of Events		
Event	Date	Time
White Papers Due (optional)	1 February 2017 (Wednesday)	11:59 PM Eastern Standard Time
Review of White Papers and Notification	2 March 2017 (Thursday)	
Questions Regarding Proposals*	16 March 2017 (Thursday)	
Proposals Due	30 March 2017 (Thursday)	11:59 PM Eastern Standard Time
Notification of Selection for Award	28 April 2017 (Friday)**	
Start Date of Grant	1 August 2017 (Tuesday)**	

* Questions submitted after the Q&A deadline will not be answered.

** These dates are estimates as of the date of this announcement.

V. APPLICATION REVIEW INFORMATION

A. Evaluation Criteria

The primary basis for selecting proposals for acceptance will be technical, importance to agency programs, and fund availability. Cost realism and reasonableness will also be considered when selecting proposals. ONR reserves the right to request and require any additional information and documentation after it makes the award instrument determination. ONR reserves the right to remove Applicants from award consideration when the parties fail to reach agreement on award terms, conditions, and cost/price within a reasonable time, or when the Applicant fails to timely provide requested or required additional information.

Applicants' proposals will be evaluated against the following criteria:

- 1) Overall scientific and technical merits of the proposal and responsiveness to the topic (i.e., the degree of innovation, soundness of technical concept, Applicant's awareness of the state of the art and understanding of the scope of the problem, significance and originality of the technical approach and effort needed to address/solve the problem, and anticipated scientific impact within the field. The following areas will also be considered: (1) the Applicant's capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the proposal objectives, and (2) the qualifications, capabilities and experience of the proposed Principal Investigator (PI), team leader and key personnel who are critical to achieving the proposal objectives.
- 2) Potential Naval relevance and contribution to the ONR and Department of Navy mission.
- 3) The availability of funds.

Criteria 1, 2, and 3 are equally important.

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. ONR's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

The ultimate recommendation for award of proposals is made by ONR's scientific/technical community. Recommended proposals will then be forwarded to the ONR Contracts and Grant Awards Management office. Any notification received from ONR that indicates that the Applicant's proposal has been recommended does not ultimately guarantee an award will be made. This notice indicates that the proposal has been selected in accordance with the evaluation criteria stated above and has been sent to the Contracting Department to conduct cost analysis, determine the Applicant's responsibility, to confirm whether funds are available, and to take other relevant steps necessary prior to commencing negotiations with the Applicant.

B. Options

The Government will evaluate options for award purposes by adding the total cost for all options to the total cost for the basic requirement. Evaluation of options will not obligate the Government to exercise the options during contract or grant performance.

C. Evaluation Panel

Technical and cost proposals submitted under this FOA will be protected from unauthorized disclosure. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Restrictive notices notwithstanding, one or

more support contractors may be utilized as subject- matter-expert technical consultants. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to technical and cost proposals submitted in response to this FOA will be required to sign a non- disclosure agreement prior to receipt of any proposal submissions.

D. General Information Regarding the Review and Selection Process for Grants

- i) Prior to making an award with total amount of Federal share greater than the simplified acquisition threshold, ONR shall review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS).
- ii) The applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a Federal awarding agency previously entered and is currently in the designated integrity and performance system accessible through SAM.
- iii) ONR will consider any comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under Federal awards when completing the review of risk posed by the applicant as described in 2 CFR 200.205, Federal awarding agency review of risk posed by applicants.

VI. AWARD ADMINISTRATION INFORMATION

A. Administrative Requirements

System for Award Management (SAM): All Applicants submitting proposals or applications must:

- 1) be registered in the SAM prior to submission;
- 2) maintain an active SAM registration with current information at all times during which it has an active Federal award or an application under consideration by any agency; and
- 3) provide its DUNS number in each application or proposal it submits to the agency.

SAM may be accessed at <https://www.sam.gov/portal/SAM/>

B. Reporting

In general, for each grant award, annual research performance progress reports and a final report are required to summarize the technical progress and accomplishments during the performance period. These reports must be submitted electronically.

C. Access to your Grant Award

Office of Naval Research (ONR) award/modification documents are only available via the Department of Defense (DoD) Electronic Document Access System (EDA) within the WideArea WorkFlow e-Business Suite (<https://wawf.eb.mil/>).

EDA is a Web-based system that provides secure online access, storage and retrieval of awards and modifications to DoD employees and vendors.

ONR creates an award notification profile for every award.

For grants, the notification profile will use the email addresses from the Application for Federal Assistance, SF424, to notify the recipient of an award. ONR is using the following three email addresses entered by the grantee on the SF424 application to create the EDA notification profile:

- a. Project Director / Principal Investigator (Block 14 - Email)
- b. Applicant Information (Block 5 - Email)
- c. Authorized Representative (Block 19 - Email)

For all other awards, the notification profile will use the email address from the Business Point of Contact to notify the recipient of an award.

IMPORTANT: In some cases, EDA notifications are appearing in recipients' Junk Email folder. If you are experiencing issues receiving EDA notifications, please check your junk email. If found, please mark EDA notifications as "not junk."

If you do not currently have access to EDA, you may complete a self-registration request as a "Vendor" via <https://wawf.eb.mil/> following the steps below:

1. Click "Accept"
2. Click "Register" (top right)
3. Click "Agree"
4. In the "What type of user are you?" drop down, select "Vendor"
5. Select the systems you would like to access (iRAPT at a minimum)
6. Complete the User Profile and follow the site instructions

Allow five business days for your registration to be processed. EDA will notify you by email when your account is approved.

To access awards after your registration has been approved, log into <https://wawf.eb.mil/>, select "EDA", select either EDA location, Select "Contracts", select your search preference, enter the Contract Number (or, if applicable, enter the Grant Number in the Contract Number field), and select "View".

Registration questions may be directed to the EDA help desk toll free at 866-618-5988, commercial at 801-605-7095, or via email at disa.ogden.esd.mbx.cscassig@mail.mil

VII. OTHER INFORMATION

A. Federal Funding Accountability and Transparency Act of 2006:

The Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by Section 6202 of Public Law 110-252, requires that all agencies establish requirements for recipients reporting information on subawards and executive total compensation as codified in 2 CFR Part 170. Any company, non-profit agency or university that applies for financial assistance (either grants, cooperative agreements or other transaction agreements) as either a prime or sub-recipient under this FOA must provide information in its proposal that describes the necessary processes and systems in place to comply with the reporting requirements identified in 2 CFR Part 170 Appendix A. Entities are required to meet reporting requirements unless an exception or exemption applies. Please refer to 2 CFR Part 170, including Appendix A, for a detailed explanation of the requirements, exceptions, and exemptions.

B. Certification regarding Restrictions on Lobbying:

Grant and Cooperative Agreement awards greater than \$100,000, as well as OTAs not under Section 845, require a certification of compliance with a national policy mandate concerning lobbying. Grant applicants shall provide this certification by electronic submission of SF424 (R&R) as a part of the electronic proposal submitted via Grants.gov (complete Block 17). The following certification applies likewise to each Cooperative Agreement and normal OTA applicant seeking federal assistance funds exceeding \$100,000:

- (1) No Federal appropriated funds have been paid or will be paid by or on behalf of the applicant, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the applicant shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

- (3) The applicant shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S.C.

Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

C. Representation Regarding an Unpaid Delinquent Tax Liability or a Felony Conviction Under any Federal Law - DOD Appropriations:

All grant applicants are required to complete the "Representation on Tax Delinquency and Felony Conviction" found at <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal.aspx> by checking the "I agree" box in block 17 and attaching the representation to block 18 of the SF424 (R&R) as part of the electronic proposal submitted via Grants.gov. The representation reads as follows:

(1) The applicant represents that it ____ is not ____ a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

(2) The applicant represents that it ____ is not ____ a corporation that was convicted of a felony criminal violation under any Federal law within the preceding 24 months. NOTE: If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the agency suspension and debarment official (SDO) has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information about its tax liability or conviction to the agency's SDO as soon as it can do so, to facilitate completion of the required consideration before award decisions are made.

D. Representation Regarding the Prohibition on Using Funds with Entities that Require Certain Internal Confidentiality Agreements:

Agreement with the representation below will be affirmed by checking the "I agree" box in block 17 of the SF424 (R&R) as part of the electronic proposal submitted via Grants.gov. The representation reads as follows:

By submission of its proposal or application, the applicant represents that it does not require any of its employees, contractors, or subrecipients seeking to report fraud, waste, or abuse to

sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting those employees, contractors, subrecipients from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

Note that, as applicable, the bases for this representation are the prohibition(s) as follow:

- i. Section 743 of the Financial Services and General Government Appropriation Act, 2015 (Division E of the Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. 113-235).
- ii. Section 101(a) of the Continuing Appropriation Act, 2016 (Pub. L. 114-53) and any subsequent FY2016 appropriations act that extends to FY2016 the same restrictions as are contained in section 743 of Division E, title VII of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub L. 113-235).
- iii. Pub. L. 114-223, Continuing Appropriations Act, 2017, or any other Act that extends to fiscal year 2017 funds the same prohibitions as contained in section 743, Division E, title VII, of the Consolidated Appropriations Act, 2016 (Pub. L. 114-113).
- iv. Any successor provision of law on making funds available through grants and cooperative agreements to entities with certain internal confidentiality agreements or statements.

The prohibitions stated above do not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

E. Code of Conduct:

Applicants for grants, cooperative agreements, or other transaction agreements as applicable are required to comply with 2 CFR 200.318(c), Codes of Conduct, to prevent real or apparent conflicts of interest in the award and administration of any contracts supported by federal funds. This provision will be incorporated into all assistance instruments awarded under this FOA.

F. Reporting:

If the Federal share of any Federal award may include more than \$500,000 over the period of performance, the post award reporting requirements , Award Term and Condition for Recipient Integrity and Performance Matters (2 U.S.C. 200 Appendix XII), is applicable as follows:

1. Reporting of Matters Related to Recipient Integrity and Performance

a. General Reporting Requirement

If the total value of your 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 this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management (SAM) that is made available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIS)) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required by section 3010 of Public Law 111-212, all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

2. Proceedings About Which You Must Report

Submit the information required about each proceeding that:

- a. Is in connection with the award or performance of a grant, cooperative agreement, or procurement contract from the Federal Government;
- b. Reached its final disposition during the most recent five year period; and
- c. Is one of the following:
 - (1) A criminal proceeding that resulted in a conviction, as defined in paragraph 5 of this award term and condition;
 - (2) A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more;
 - (3) An administrative proceeding, as defined in paragraph 5. of this award term and condition, that resulted in a finding of fault and liability and your payment of either a monetary fine or penalty of \$5,000 or more or reimbursement, restitution, or damages in excess of \$100,000; or
 - (4) Any other criminal, civil, or administrative proceeding if:
 - (i) It could have led to an outcome described in paragraph 2.c.(1), (2), or (3) of this award term and condition;

(ii) It had a different disposition arrived at by consent or compromise with an acknowledgment of fault on your part; and

(iii) The requirement in this award term and condition to disclose information about the proceeding does not conflict with applicable laws and regulations.

3. Reporting Procedures

Enter in the SAM Entity Management area the information that SAM requires about each proceeding described in paragraph 2 of this award term and condition. You do not need to submit the information a second time under assistance awards that you received if you already provided the information through SAM because you were required to do so under Federal procurement contracts that you were awarded.

4. Reporting Frequency

During any period of time when you are subject to the requirement in paragraph 1 of this award term and condition, you must report proceedings information through SAM for the most recent five year period, either to report new information about any proceeding(s) that you have not reported previously or affirm that there is no new information to report. Recipients that have Federal contract, grant, and cooperative agreement awards with a cumulative total value greater than \$10,000,000 must disclose semiannually any information about the criminal, civil, and administrative proceedings.

5. Definitions

For purposes of this award term and condition:

a. Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative proceedings, Civilian Board of Contract Appeals proceedings, and Armed Services Board of Contract Appeals proceedings). This includes proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include audits, site visits, corrective plans, or inspection of deliverables.

b. Conviction, for purposes of this award term and condition, means a judgment or conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, and includes a conviction entered upon a plea of nolo contendere.

c. Total value of currently active grants, cooperative agreements, and procurement contracts includes—

(1) Only the Federal share of the funding under any Federal award with a recipient cost share or match; and

(2) The value of all expected funding increments under a Federal award and options, even if not yet exercised.

G. Security Classification:

ONR does not provide access to classified material under grants.

H. Requirements Concerning Live Organisms:

(1) Use of Animals:

If animals are to be utilized in the research effort proposed, the Applicant must submit a Full Appendix or Abbreviated Appendix with supporting documentation (copies of IACUC Approval, IACUC Approved Protocol, and most recent USDA Inspection Report) prior to award. For assistance with submission of animal research related documentation, contact the ONR Animal Use Administrator at (703) 696-4046. Guidance: <http://www.onr.navy.mil/en/About-ONR/compliance-protections/Research-Protections/Animal-Recombinant-DNA.aspx>

(2) Use of Human Subjects in Research:

(a) You must protect the rights and welfare of individuals who participate as human subjects in research under this award and comply with the requirements of the Common Rule at 32 CFR part 219 and applicable provisions of DoD Instruction 3216.02, Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research (2011), the DON implementation of the human research protection program contained in SECNAVINST 3900.39D (or its replacement), 10 USC 980 “Limitation on Use of Humans as Experimental Subjects,” and when applicable, Food and Drug Administration (FDA) and other federal and state law and regulations.

(b) For proposals containing activities that include or may include “research involving human subjects” as defined in DoDI 3216.02, prior to award, the Applicant must submit documentation of:

(i) Approval from an Institutional Review Board (IRB) (IRB-approved research protocol, IRB- approved informed consent document, and other material they considered); proof of completed human research training (e.g., training

certificate or institutional verification of training for the principal investigator, co-investigators); and the Applicant's Department of Health and Human Services (DHHS)-issued Federalwide Assurance (FWA#),

(ii) Any claimed exemption under 32 CFR 219 101(b), including the category of exemption, supporting documentation considered by your institution in making the determination (e.g., protocol, data collection tools, advertisements, etc.). The documentation shall include a short rationale supporting the exemption determination. This documentation should be signed by the IRB Chair or IRB vice Chair, designated IRB administrator or official of the human research protection program.

(iii) Any determinations that the proposal does not contain activities that constitute research involving human subjects, including supporting documentation considered by your institution in making the determination. This documentation should be issued by the IRB Chair or IRB vice Chair, designated IRB administrator or official of the human research protection program.

(c) Documentation must be submitted to the ONR Human Research Protection Official (HRPO), by way of the ONR Program Officer. If the research is determined by the IRB to be greater than minimal risk, you also must provide the name and contact information for the independent research monitor and a written summary of the monitors' duties, authorities, and responsibilities as approved by the IRB. For assistance with submission of human subject research related documentation, contact the ONR Human Research Protection Official (HRPO) at (703) 696-4046.

(d) Research involving human subjects must not be commenced under any contract award or modification or any subcontract or grant subaward or modification until awardee receives notification from the Contracting or Grants Officer that the HRPO has approved the assurance as appropriate for the research under the award or modification and that the HRPO has reviewed the protocol and accepted the IRB approval or determination for compliance with Federal, DoD and DON research protection requirements. See, DFARS 252.235-7004. Guidance: <http://www.onr.navy.mil/About-ONR/compliance-protections/Research-Protections/Human-Subject-Research.aspx>

(3) Use of Recombinant DNA or Synthetic Nucleic Acid Molecules:

Proposals which call for experiments using recombinant or synthetic nucleic acid molecules must include documentation of compliance with NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (NIH Guidelines), approval of the Institutional Biosafety Committee (IBC), and copies of

the DHHS Approval of the IBC letter. Guidance: <http://www.onr.navy.mil/About-ONR/compliance-protections/Research-Protections/Animal-Recombinant-DNA.aspx>

I. Institutional Dual Use Research of Concern:

As of September 24, 2015, all institutions and United States Government (USG) funding agencies subject to the [United States Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern](#) must comply with all the requirements listed therein. If your research proposal directly involves certain biological agents or toxins, contact the cognizant Technical Point of Contact.. U.S. Government Science, Safety, Security (S3) guidance may be found at <http://www.phe.gov/s3/dualuse>.

J. Department of Defense High Performance Computing Program:

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S&T and RDT&E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and other assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at <http://www.hpcmo.hpc.mil/>.

K. Project Meetings and Reviews:

The performer will participate in a kick-off meeting and annual program reviews. Individual program reviews between the ONR sponsor and the performer may be held as necessary. For costing purposes, Applicants should assume that these meetings will be at or near ONR, Arlington VA.