



Communications and Networking Discovery & Invention

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2), the Department of Defense Grants and Agreements Regulations (DoDGARS) 22.315(a), and DoD's Other Transaction Guide for Prototypes Projects, USD(AT&L), OT Guide, Jan 2001. A formal Request for Proposals (RFP), other solicitation, 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 BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

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

I GENERAL INFORMATION:

SPECIAL NOTICE 1: All Grant Applications submitted under this BAA shall be submitted via the Grants.Gov "APPLY" function. No other form of paper or electronic submission will be accepted unless the prospective grantee organization applies for and receives a waiver in accordance with Section IV, Application and Submission Information, Paragraph 5 entitled 'Submission of Grant Proposals to Grants.gov' below.

SPECIAL NOTICE 2: 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.

- 1. Agency Name** - Office of Naval Research
- 2. Research Opportunity Title** - Communications and Networking Discovery & Invention
- 3. Program Name** - Communications and Networking Discovery & Invention
- 4. Research Opportunity Number** - BAA 09-016
- 5. Response Date** -

White Papers: 3/31/2009
Full Proposals: 6/30/2009

- 6. Research Opportunity Description** -

Communications technology that can provide seamless, robust, connectivity is at the foundation of the Sea Power 21 and FORCEnet Vision "... to have the right information, at the right place, at the right time ..." The performance of Command and Control (C2) systems and decision making at all levels of command depend critically on reliable, interoperable, survivable, secure and timely communications and networking, and the availability of high capacity multimedia (voice, data, imagery) communication networks is fundamental to nearly all Department of Navy missions.

The current evolution of naval warfighting from a platform-centric to a network-centric paradigm depends on successfully meeting the implied need for significantly enhanced communications and networking capabilities, extending both to fixed shore facilities and to highly mobile air, surface, land and subsurface platforms, including the so-called "disadvantaged user", e.g., small-deck combatants, submarines, unmanned air vehicles (UAVs), dispersed ground units in urban and radio frequency (RF) challenged environments. Many of these tactical platforms and users routinely operate in a highly intermittent, often disconnected communications environment.

The goal of the Communications and Networking Program within the Office of Naval Research (ONR 312) is to support the FORCEnet vision by developing measurable advances in technology that can directly enable and enhance end-to-end connectivity and quality-of-service for mission-critical information exchange among such widely dispersed naval, joint and coalition forces. The vision is to provide high throughput robust communications and autonomous networking to ensure all warfighters - from the operational command to the tactical edge - have access to information, knowledge, and decision-making necessary to perform their assigned tasks.

White papers for potential FY10 Exploratory Development/Applied Research (Budget category 6.2) projects are sought under the following focus areas:

1. Next generation tactical data link waveforms/networks simultaneously satisfying conflicting requirements of low-intercept, anti-jam and bandwidth, while being scalable to hundreds of nodes within a few hops (i.e., maintain low latency).
2. Electronic protection for High Frequency (HF) Communications (e.g., electrically small antennas, low observable or feature-less waveforms, rapid synch/detection, blind beam forming, and dynamic interference cancellation).
3. Efficient and robust multi-hop networking in the presence of significant differences in communications performance between transmit and receive links (e.g., asymmetry in error rate due to link disruption) of some pairs of nodes.
4. Concepts using the platform superstructure as an antenna and efficiently coupling the signal to the communications system, both in the receive as well as in the transmit direction. Some receive capability has been shown in the HF, but needs to be expanded to other frequency bands.
5. Mitigation techniques to overcome poor optical propagation through aerosols/obscurants (e.g., fog and cloud propagation/scattering of 1.5 micron communications wavelength)

ONR is also receptive to highly innovative ideas in other general communications and networking areas that are not designated focus as above, but nonetheless important to Navy/Marine Corps, as determined under the synopsis section above.

Work funded under a BAA may include basic research, applied research and some advanced technology development (ATD). With regard to any restrictions on the conduct or outcome of work funded under this BAA, 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 26 June 2008. 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 or by industry. ATD is funded through Budget Activity 3. 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 fundamental research, except as otherwise required by statute, regulation or Executive Order. Normally, fundamental research is awarded under grants with universities and under contracts with industry. ATD is normally awarded under contracts and may require restrictions during the conduct of the research and DoD

pre-publication review of research results due to subject matter sensitivity.

7. Point(s) of Contact -

Questions of a technical nature should be submitted to:

Primary:

Dr. Santanu Das
ONR Code: 312 Communications and Networking Science and Technology Program Officer
Office of Naval Research
875 North Randolph Street, Suite 11115
Arlington, VA 22203-1995
Email: santanu.das@navy.mil

Secondary:

Ms. Sheila Richardson
875 North Randolph Street, Suite W1105D
Arlington, VA 22203-1995
Email: sheila.richardson@navy.mil

Questions of a business nature should be submitted to:

Primary:

Name: Amarelis Cartagena
Address: 875 North Randolph Street - Suite W1271
Code: BD 0251
Email: amarelis.cartagena@navy.mil

Secondary:

Name: Vera M. Carroll
Address: 875 North Randolph Street - Suite 1279
Code: BD 0251
Email: vera.carroll@navy.mil

Questions of a security nature should be submitted to:

Derrick Shack
Information Security Specialist
Office of Naval Research
Security Department, Code 43
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995
Email Address: derrick.shack@navy.mil

Note: All UNCLASSIFIED communications shall be submitted via e-mail. All questions of an UNCLASSIFIED nature to the Technical Point of Contract (POC) or Security POC shall be sent via e-mail with a copy to the designated Business POC. Questions submitted within 2 weeks prior to a deadline may or may not receive a response.

Any CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any entity wanting to ask a CLASSIFIED question shall send an email to the ONR Security POC with copy to both the Technical POC and the Business POC stating that the entity would like to ask a CLASSIFIED question. DO NOT EMAIL ANY CLASSIFIED QUESTIONS. The Security POC will contact the entity

and arrange for the CLASSIFIED question to be asked through a secure method of communication.

8. Instrument Type(s) - Contracts and Grants

Awards may take the form of Contracts and Grants as appropriate.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers -

12.300

10. Catalog of Federal Domestic Assistance (CFDA) Titles -

Basic & Applied Scientific Research

11. Other Information -

This announcement is restricted to applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts and grants made under this BAA are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

II. AWARD INFORMATION

The amount and period of performance of each selected proposal will vary depending on the research area and the technical approach to be pursued by the selected offeror.

The Office of Naval Research (ONR) plans to award multiple technology development contracts (particularly cost plus fixed fee (CPFF) type contracts) and grants that represent the best value to the Government in accordance with the evaluation criteria. The Office of Naval Research is seeking participants for this program that are capable of supporting the goals described in this announcement. Offerors have the opportunity to be creative in the selection of the technical and management processes and approaches to address the research topics.

ONR anticipates an annual budget of approximately \$2,000,000 for this program. ONR plans to fund \$300,000 to \$500,000 per year per award using Applied Research funds (Budget Category 6.2). However, lower and higher cost proposals will be considered. The average funding level of past awards was approximately \$500,000 per year. The period of performance for projects may be from one to three years, with an estimated start date of 2 Nov 2009, subject to date of final award and availability of new fiscal year funds.

ONR has funded related technology development under numerous programs. If Offerors are enhancing work performed under other ONR or DoD projects, they must clearly identify the point of departure and what existing work will be brought forward and what new work will be performed under this BAA.

*Estimated Total Amount of Funding Available (\$K):

FY2010	FY2011	FY2012	FY	FY	Total
\$2000	\$2000	\$2000	\$0	\$0	\$6000

III. ELIGIBILITY INFORMATION

All responsible sources from academia and industry may submit proposals under this BAA. 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 BAA will be set aside for HBCU and MI participation.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy

National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this BAA and should not directly submit either white papers or full proposals in response to this BAA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR 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 responsible sources from academia and industry that are submitting proposals under this BAA.

Teams are also encouraged and may submit proposals in any and all areas. However, Offerors 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.

Some topics cover export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulations (ITAR) - 22 CFR § 1201.1 et seq.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process - White Paper, Oral Presentation, Full Proposals

White papers are required prior to submitting full proposals. Each white paper should state that it is submitted in response to this BAA. White papers received after the published due date will not be considered for funding.

Due Date: No later than 4:00 p.m. (Eastern Daylight Time) on 31 Mar 2009.

The only acceptable methods for submission of white papers are hard copy to the technical point of contact (Dr. Das) by the United States Postal Service (USPS) with delivery confirmation, or via a commercial carrier (FedEx, DHL, and UPS). NOTE: White Papers sent by email or fax will not be considered. Delivery of materials by USPS, even when sent as Express Mail, may take up to a week or more due to current security procedures in place to ensure the safety of U.S. mail to DoD activities.

Initial Navy evaluations of the white papers will be issued via e-mail notification on or about 16 Apr 2009. An expanded oral presentation will be subsequently requested from those Offerors whose proposed technologies have been identified through the aforementioned e-mail as being of "particular value" to the Navy. However, a positive e-mail response to the white paper from ONR does not assure a subsequent award. Offerors whose white papers are not judged to be of "particular value" to the Navy may not submit an oral presentation or a final proposal under this BAA.

The purpose of the oral presentation is to better acquaint the Government with the Offeror's proposal, especially in its understanding of how the proposed technology will affect military applications. Offerors whose white papers are selected for oral presentations will be invited by e-mail no less than five (5) working days before the scheduled event. The oral presentations are tentatively scheduled for 7 May 2009.

A detailed format for the presentation will be provided in the e-mail invitation. Each presentation will be no longer than twenty five (25) minutes in duration. An additional five (5) minutes will be allowed for questions (if any) from the panel of government reviewers.

Following oral presentations, Offerors will be notified by e-mail regarding the Navy's response to their oral presentations. Those Offerors whose technology is still considered as having "particular value" to the Navy will be encouraged to submit detailed technical and cost proposals. However, such encouragement after oral presentations does not assure a subsequent award. If the Offeror receives notification that its technology is not considered at this point as having "particular value" to the Navy, it cannot submit a full proposal. Full proposals will not be considered under this BAA unless both a white paper was received by the due date and time specified above and a presentation was made during the

Oral Presentation event. The evaluation provided after white papers and oral presentations should give Offerors some indication of whether a later full proposal would likely result in an award. Evaluation of oral presentations and subsequent encouragement to submit full proposals will be completed on or about 3 Jun 2009.

The due date for receipt of Full Proposals is 4:00 p.m. (Eastern Daylight Time) 30 Jun 2009.

The only acceptable method for submission of full proposals for contracts are hard copy to the technical point of contact (Dr. Das) by the United States Postal Service (USPS) with delivery confirmation, or via a commercial carrier (FedEx, DHL, and UPS). NOTE: White Papers sent by email or fax will not be considered. Delivery of materials by USPS, even when sent as Express Mail, may take a week or more due to current security procedures in place to ensure the safety of U.S. mail to DoD activities.

The only acceptable method for submission of full proposals for grants is Grants.gov located at <http://www.grants.gov/>.

ONR will select the efforts to be funded for FY10 start-up contingent upon the quality and completeness of the proposal and the level of available funding. It is anticipated that final selections will be made within 30 days after proposal submission. As soon as the final proposal evaluation process is completed, the Offeror will be notified via e-mail of its project's selection or non-selection for FY10 funding. Proposals received after the published due date and time will not be considered for funding. Proposals exceeding the page limit may not be evaluated.

2. Content and Format of White Papers/Full Proposals -

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

The proposal format and content identified below are applicable to the submission of proposals for contracts. As noted in Paragraph 5 below, proposals selecting grant awards are to be formatted as required by Standard Form 424 (R&R), which is available via the internet at <http://www.grants.gov/>.

White Papers and Full Proposals submitted under the BAA are expected to be unclassified; however, confidential/classified responses are permitted. If a classified response is submitted, the resultant contract will be unclassified.

Unclassified Proposal Instructions:

Unclassified White Papers and Full Proposals shall be submitted directly to the appropriate Technical Point of Contract (TPOC).

Classified Proposal Instructions:

Classified White Papers and Full Proposals shall be submitted directly to the attention of ONR's Document Control Unit at the following address:

OUTSIDE EVELOPE (no classification marking):

Office of Naval Research
Document Control Unit
ONR Code 43
875 North Randolph Street
Arlington, VA 22203-1995

The inner wrapper of the classified proposal should be addressed to the attention of Dr. Santanu Das (santanu.das@navy.mil), ONR Code 312 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)
Program: Communications and Networking Discovery & Invention
Office of Naval Research
Attn: Dr. Santanu Das
ONR Code: 312
875 North Randolph Street
Arlington, VA 22203-1995

An 'unclassified' Statement of Work (SOW) must accompany any classified proposal.

Proposal submissions will be protected from unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information. The full proposal shall include a severable, self-standing Statement of Work, which contains only unclassified information and does not include any proprietary restrictions.

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

The formats and content identified below are applicable to submissions for contracts. As noted in Paragraph 5 below, submissions for grant awards are to be formatted as required by Standard Form 424 (R&R), which is available via the internet at <http://www.grants.gov/>.

WHITE PAPERS

White Paper Format

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single or double-spaced
- Font - Times New Roman, 12 point
- Max. Number of Pages permitted: 5 pages (excluding cover page, resumes, bibliographies, and table of contents)
- Copies - one (1) original, five (5) copies, and one (1) electronic copy on CD-Rom (in Microsoft® Word or .PDF format).

White Paper Content

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER" and shall include the BAA number, 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.

There is considerable freedom to formulate the main body of the white paper (not to exceed five (5) pages) as the Offeror sees fit. Here is some general guidance on what may be included: a description of the project objectives, problem being solved, technical approach, what's new, relevance to Navy and the Marine Corps, the concept of operation for the new capabilities to be delivered and the expected operational performance improvements, a plan for demonstrating and evaluating the operational effectiveness of the Offeror's product in laboratory or simulated environment including evaluation metrics, transition potential to Navy communications networks, proprietary aspects of the project and any assertions of data rights applicable to the results of this effort.

FULL PROPOSALS

Full Proposal Format - Volume 1 - Technical and Volume 2 - Cost Proposal

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single or double-spaced
- Font - Times New Roman, 12 point
- Number of Pages - Volume 1 is limited to no more than 29 pages. Volume 2 has no page limit. The cover page, table of contents, resumes, and bibliographies are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated.
- Copies - one (1) original, five (5) copies, and one (1) electronic copy on CD-Rom (in Microsoft® Word or .PDF format). If a grant is sought, the full proposal shall be submitted electronically at <http://www.grants.gov/> as delineated below.

Full Proposal Content

Volume 1: Technical Proposal

- **Cover Page:** This should include the words "Technical Proposal" and the following:
 1. BAA number;
 2. Title of Proposal;
 3. Identity of prime Offeror and complete list of subcontractors, 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. Duration of effort
- **Table of Contents:** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.
- **Statement of Work:** A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, the proposals must include a severable, self-standing SOW, without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year. Limit the number of pages for this section to 5.
- **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 could expect it to enable the objectives of the proposal to be met. Limit the number of pages for this section to 12.
 - **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.
 - **Operational Utility Assessment Plan:** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.
- **Project Schedule and Milestones:** A summary of the schedule of events and milestones. Limit the number of pages for this section to 1.
- **Assertion of Data Rights and/or Rights in Computer Software:** For a contract award an Offeror may provide with its proposal assertions to restrict use, release or disclosure of data and/or computer software that will be provided in the course of contract performance. The rules governing these assertions are prescribed in Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7013, -7014 and - 7017. These clauses may be accessed at the following web address:

<http://farsite.hill.af.mil/VDFDARA.HTM>

The Government may challenge assertions that are provided in improper format or that do not properly acknowledge earlier federal funding of related research by the Offeror. Limit the number of pages for this section to 1.

- **Deliverables:** A detailed description of the results and products to be delivered inclusive of the timeframe in which they will be delivered. Limit the number of pages for this section to 1.
- **Management Approach:** A discussion of the overall approach to the management of this effort, including brief discussions of the total organization; use of personnel; project/function/subcontractor/subrecipient relationships; government research interfaces; and planning, scheduling and control practice. Identify which personnel and subcontractors/subrecipients (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment/Hardware/Software/Information required, by version and/or configuration. Limit the number of pages for this section to 5.
- **Qualifications:** A discussion of the Offeror's previous accomplishments and work in this, or closely related, areas and the qualifications of the investigators. Key personnel resumes shall be attached to the proposal and will not count toward the page limitations. Limit the number of pages for this section to 3.
- **Other Agencies:** Include the name(s) of any other agencies to which the proposal has also been submitted. Limit the number of pages for this section to 1.

VOLUME 2: Cost Proposal

INSTRUCTIONS FOR CONTRACTS

Although not required and provided for informational purposes only, adhering to the instructions delineated below may expedite contract or assistance award placement. Detailed instructions, entitled "Instructions for Preparing Cost Proposals for Contracts and Agreements", including a sample template for preparing costs proposals for contracts and agreements, may be found at ONR's website listed under the 'Acquisition Department - Contracts & Grants Submitting a Proposal' link at: http://www.onr.navy.mil/02/how_to.asp

The Cost Proposal shall consist of a cover page and two parts, Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar or Government fiscal year, and Part 2 will provide a cost breakdown by task/sub-task corresponding to the task numbers in the proposed Statement of Work. Options must be separately priced.

Cover Page: The use of the SF 1411 is optional. The words "Cost Proposal" should appear on the cover page in addition to the following information:

- BAA number
- Title of Proposal
- Identity of prime Offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address) and

Part 1 - Detailed breakdown of all costs by cost category by calendar or Government fiscal year:

- **Direct Labor** - Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years;
- **Indirect Costs** - Fringe Benefits, Overhead, G&A, COM, etc. and their applicable allocation bases. If composite rates are used, provide the calculations used in deriving the composite rates.
- **Travel** - The proposed travel cost should 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 principles.

- Subcontracts - A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or may be sent directly to the Government. Subcontractor proposals must be received and reviewed prior to contract award. The prime contractor should perform and provide a cost/price analysis of each subcontractor's cost proposal.*

*Note: DoD Federal Acquisition Regulation provision 252.215-7003 (48 CFR §252.215-7003) is incorporated into this solicitation by reference. The offeror is to exclude excessive pass-through charges from subcontractors. The offeror must identify in its proposal the percentage of effort it intends to perform and the percentage to be performed by each of its proposed subcontractors. If more than 70 percent of the total effort will be formed through subcontractors, the offeror must include the additional information required by the above-cited clause.

- Consultant - 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 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, proposed vendors (if known), and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- Contractor Acquired Equipment or Facilities - Equipment and/or facilities are normally furnished by the Contractor. 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).
- Other Directs Costs - Provide an itemized list of all other proposed other direct costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- Options - The Base Period of Performance and Option Periods must be priced at the submission of the proposal. Unpriced options will not be included in any resulting contract or agreement.
- Fee/profit ("CONTRACT PROPOSALS ONLY") - Profit or fee is not allowed on direct costs for facilities or in cost-sharing contracts.

Note: Indicate if you have an approved Purchasing/Estimating System and/or describe the process used to determine the basis of reasonableness (e.g., competition, market research, best value analysis) for subcontractors, consultants, materials, supplies, equipment/facilities, and other direct costs.

* **Note:** DoD Federal Acquisition Regulation provision 252.215-7003 (48 CFR § 252.215-7003) is incorporated into this solicitation by reference. The offeror is to exclude excessive pass-through charges from subcontractors. The offeror must identify in its proposal the percentage of effort it intends to perform and the percentage to be performed by each of its proposed subcontractors. If more than 70 percent of the total effort will be performed through subcontracts, the offeror must include the additional information required by the above-cited clause.

Part 2 Cost breakdown by task/sub-task corresponding to the same task breakdown in the proposed Statement of Work. When options are contemplated, options must be separately identified and priced by task/subtask.

INSTRUCTIONS FOR GRANTS

The offeror must use the Grants.Gov forms from the application package template associated with the BAA on the Grants.Gov web site located at <http://www.grants.gov/> . Elements of the budget should include:

- Direct Labor - Individual labor categories or persons, with associated labor hours and unburdened direct labor rates or percentage of effort or total man-years. Provide escalation rates for out years. Justify in Field K

- Indirect Costs - Fringe Benefits, Overhead, F&A, G&A etc. and their applicable allocation bases. If composite rates are used, provide the calculations used in deriving the composite rates. Justify in Field K
- Travel - The proposed travel cost should 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 principles.
- Subawards - Cost proposal as detailed as the recipient's cost proposal will be required to be submitted by the subrecipient. The subawardee's or sub recipient's cost proposal can be provided in a sealed envelope with the recipient's cost proposal or may be sent directly to the Government. Subawardee's proposals must be received and reviewed prior to award.
- Consultants - Provide a breakdown of the consultant's hours, the hourly rate proposed, any other proposed consultant costs and a copy of the consultant's proposed statement of work if it is not already separately identified in the prime recipient's proposal. Strong justification must be provided, and consultants are to be used only under exceptional circumstances where no equivalent expertise can be found at a participating university. Justify in Field K.
- Materials & Supplies - Provide an itemized list of all proposed materials and supplies including quantities, unit prices, proposed vendors (if known), and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). Justify in Field K.
- 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). For computer/laptop purchases include a statement indicating the computer/laptop will be integrated into the program or used as an integral part of the research effort. Justify in Field K.
- 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 estimates (e.g., quotes, prior purchases, catalog price lists). Justify in Field K.
NOTE: If the grant proposal is for a conference, workshop, or symposium, the proposal should include the following statement: "The funds provided by ONR will not be used for food or beverages."
- Options - The Base Period of Performance and Option Periods must be priced at the submission of the proposal. Unpriced options will not be included in any resulting award or agreement.
- Fee/Profit - Fee/profit is unallowable.

3. Significant Dates and Times -

Event	Date	Time
White Paper Due Date	3/31/2009	4:00 PM Eastern Daylight Time
Notification of White Paper Evaluation*	4/16/2009	
Oral Presentations*	5/7/2009	
Notification of Oral Presentation Evaluation*	6/3/2009	
Full Proposal Due Date	6/30/2009	4:00 PM Eastern Daylight Time
Notification of Selection: Full Proposals*	7/31/2009	
Awards*	10/31/2009	

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

NOTE: Note: Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be received at the Office of Naval Research has increased. Materials submitted through the U.S. Postal Service, for example, may take seven days or more to be received, even when sent by Express Mail. Thus any hard-copy proposal should be submitted long enough

before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration.

4. Submission of Late Proposals -

Any proposal, modification, or revision that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and:

- If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 P.M. one working day prior to the date specified for receipt of proposals; or
- There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or
- It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

5. Submission of Grant Proposals through Grants.gov

(NOT APPLICABLE TO PROPOSALS FOR CONTRACTS)

Detailed instructions entitled "Grants.Gov Electronic Application and Submission Information" on how to submit a grant proposal through Grants.gov may be found at the ONR website listed under the 'Acquisition Department - Contracts & Grants Submitting a Proposal' link at:
http://www.onr.navy.mil/02/how_to.asp

Grant proposals shall be submitted through Grants.Gov using the Grants.gov forms from the application package template associated with the BAA on the Grants.Gov website. To be considered for award, applicants must include the ONR Department Code 312 in Block 4 entitled 'Federal Identifier' of the Standard Form (SF) 424 R&R.

White Papers should not be submitted through the Grants.gov Apply process but rather should be sent directly to ONR. White Papers should be submitted in accordance with section IV. APPLICATION AND SUBMISSION INFORMATION.

By completing Blocks 18 and 19 the Grant Applicant is providing the certification on lobbying required by 32 CFR Part 28. Refer to Section VI, 'Award Administration Information' entitled "Certifications" for further information.

For electronic submission of grant full proposals, several one-time actions 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 the Central Contract Registration (CCR), registering with the credential provider, and registering with Grants.gov. See www.grants.gov, specifically www.grants.gov/GetStarted.

Use the Grants.gov Organization Registration Checklist at http://www.grants.gov/applicants/register_your_organization.jsp which will provide guidance through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called 'MPIN' are important steps in the CCR registration process. Applicants who are not registered with CCR 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 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 (i.e., .PDF files). Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format will not be considered for award.

Process to Obtain a Waiver from the Use of Grants.Gov for Submission of Full Grant Proposals: If a prospective grantee is unable to comply with the requirement to use Grants.Gov "APPLY" for submission of a grant application under this BAA or finds it would be an excessive burden to comply with this requirement, a waiver request may be submitted not less than 30 calendar days prior to the closing date for receipt of Full Proposals. Such request should be submitted by the Electronic Business Point of Contact listed in the CCR for the organization and should contain the Organization/Individual's name, address, telephone number, and email address. The request should state the reason for the request in sufficient detail so a decision can be made. The Waiver Request should be submitted to the ONR Acquisition Department point of contact or Grants Officer listed in the BAA. Such request can be sent by registered mail or email. The "postmark" stamp on the envelope or the time annotated on the email will be used to determine timeliness of the request. A decision and response will be issued within 14 calendar days of receipt of the request by ONR. Foreign Grantees who are not registered in CCR may request a waiver on that basis since CCR registration is integral to the Grants.Gov application process.

6. Address for the Submission of White Papers and Full Proposals.

Full Proposals for Contracts should be sent to the Office of Naval Research at the following address:

White Paper Submission Format	Full Proposal Submission Format
Hard Copy	Hard Copy

Hard copies of white papers and full proposals for Contracts should be sent to the Office of Naval Research at the following address:

Primary Contact	Secondary Contact
Office of Naval Research Attn*: Dr. Santanu Das ONR Department Code: 312 875 North Randolph Street Arlington, VA 22203-1995	Office of Naval Research Attn*: Ms. Sheila Richardson ONR Department Code: 312 875 North Randolph Street Arlington, VA 22203-1995

V. EVALUATION INFORMATION

1. Evaluation Criteria -

Award decisions will be based on a competitive selection of proposals resulting from a scientific and cost review. Evaluations will be conducted using the following evaluation criteria:

1. Overall scientific and technical merits of the proposal:
 - A. The degree of innovation,
 - B. The soundness of technical concept,
 - C. The Offeror's awareness of the state of the art and understanding of the scope of the problem,
 - D. The technical approach and effort needed to address/solve the problem, and
 - E. Anticipated scientific impact (fundamental contribution to the field of Communications and Networking).
2. Offeror's capabilities, related experience, and past performance:
 - A. The qualifications, capabilities and experience of technical personnel proposed,
 - B. The Offeror's experience in relevant efforts with similar resources, and
 - C. The ability to manage the proposed effort.
3. reserved
4. Potential Naval relevance and contributions of the effort to the agency's specific mission and
5. The realism of the proposed costs and availability of funds.

These submissions will be selected through a technical/scientific/cost decision process with technical and scientific considerations being more important than cost. Criteria are listed in descending order of priority. Due to the 6.2 Discovery & Invention (applied research emphasis) nature of the program, the offeror needs to pay special attention to the first criterion, that is adequately address the technical issues and approach, going to technical depth where needed to show what's new and novel, clearly and unambiguously, with associated risks/payoffs. Transition potential is important to the extent that a clear path exists how and when the technology is able to move from the "Discovery and Invention" phase to the "Enabling and Maturing" phase in a 'vertically integrated' sense, for subsequent acquisition by the fleet and use by the warfighter. (Note the "Enabling and Maturing" phase is NOT part of this BAA.) The degree of importance of cost will increase with the degree of equality of the proposals in relation to the other factors on which selection is to be based, or when the cost is so significantly high as to diminish the value of the technical superiority to the Government. Any sub-criteria listed under a particular criterion are of equal importance to each other.

For proposed awards to be made as contracts to other than small businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

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 performance.

2. Evaluation Panel -

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and 15.207. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Cost proposals will be evaluated by Government business professionals. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject-matter-expert technical consultants. Similarly, support contractors may be utilized to evaluate cost proposals. 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 BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements -

- The North American Industry Classification System (NAICS) code - The North American Industry Classification System (NAICS) code for this announcement is "541712" with a small business size standard of "500 employees".
- Central Contractor Registry (CCR) - Successful Offerors not already registered in the CCR will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at <http://www.onr.navy.mil/02/ccr.htm>.
- Subcontracting Plans - Successful contract proposals that exceed \$550,000, submitted by all but small business concerns, will be required to submit prior to award a Small Business Subcontracting Plan in accordance with FAR 52.219-9.
- Certifications - Proposals for contracts and assistance agreements should be accompanied by a completed certification package.

Contracts and Other Transaction Agreements

For contracts, in accordance with FAR 4.1201, prospective contractors shall complete and submit electronic annual representations and certifications at <http://orca.bpn.gov>. In addition to completing the Online Representations and Certifications Application (ORCA), proposals must be accompanied with a completed DFARS and contract specific representations and certifications. These "DFARS and Contract Specific Representations and Certifications", i.e., Section K, may be accessed under the Contracts and Grants Section of the ONR Home Page at http://www.onr.navy.mil/02/rep_cert.asp.

Grants

Grant and Cooperative Agreement awards greater than \$100,000 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 Blocks 18 and 19); The following certification applies to each applicant seeking federal assistance funds exceeding \$100,000:

CERTIFICATION REGARDING LOBBYING ACTIVITIES

(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 sub awards at all tiers (including sub contracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients 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.

Grants and Cooperative Agreements not through Grants.gov:

Proposers seeking grants or cooperative agreements who have received Grants.gov waiver approval for awards greater than \$100,000 shall complete and submit electronic representations and certifications at the Contracts and Grants Section of the ONR Home Page at http://www.onr.navy.mil/02/rep_cert.asp .

2. Reporting -

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

Detailed Technical Data
Technical and Financial Progress Reports
Presentation Material(s)
Other Documentation or Reports, as required
Final Report

Additional data deliverables may be proposed and finalized during negotiations. Research performed under contracts may also include the delivery of software, prototypes, and other hardware deliverables.

VII. OTHER INFORMATION

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Each proposer must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Offerors are expected to provide all facilities (equipment and/or real property) necessary for the performance of the proposed effort. Any direct charge of facilities, not including deliverable items, must be specifically identified in the Offeror's proposal and approved by the Government prior to purchase. In addition, any request to use Government owned facilities must be included in the Offeror's proposal and approved in advance by the cognizant Government official. (Note: proposals that are contingent upon ONR providing government furnished equipment, instrumentation, test facilities, or threat hardware and information for exploitation are NOT acceptable.)

2. Security Classification

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible. If access to classified material will be required at any point during performance, the Offeror must clearly identify such need prominently in its proposal.

3. Use of Animals and Human Subjects in Research

Reserved

4. Recombinant DNA

Reserved

5. 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 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/>.

6. Protection of Proprietary and Sensitive Information

The parties acknowledge that, during performance of the contract, grant, or other assistance agreement resulting from this BAA, the recipient may require access to certain proprietary and confidential information (whether in its original or derived form) submitted to or produced by the Government. Such information includes, but is not limited to, business practices, proposals, designs, mission or operation concepts, sketches, management policies, cost and operating expense, technical data and trade secrets, proposed Navy budgetary information, and acquisition planning or acquisition actions, obtained either directly or indirectly as a result of the effort performed on behalf of ONR. The recipient shall take appropriate steps not only to safeguard such information, but also to prevent disclosure of such information to any party other than the Government. The recipient agrees to indoctrinate company personnel who will have access to or custody of the information concerning the nature of the confidential terms under which the Government received such information and shall stress that the information shall not be disclosed to any other party or to recipient personnel who do not need to know the contents thereof for the performance of the contract/agreement. Recipient personnel shall also be informed that they shall not engage in any other action, venture, or employment wherein this information will be used for any purpose by any other party.

7. Project Meetings and Reviews

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

8. Submission of Questions

Any questions regarding this solicitation must be provided to the Science and Technology Point of Contact and/or Business Point of Contact listed in this solicitation. All questions shall be submitted in writing by electronic mail.

Questions regarding **white papers** must be submitted by **2:00 PM Eastern Time on 06 March 2009**. Questions after this date and time may not be answered, and the due date for submission of the white papers will not be extended.

Questions regarding **full proposals** must be submitted by **2:00 PM Eastern Time on 12 June 2009**. Questions after this date and time may not be answered, and the due date for submission of the proposals will not be extended.

9. Other Guidance, Instructions, and Information

None