



Human, Social, Cultural and Behavioral Sciences basic research, applied research and advanced technology development opportunities

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and the Department of Defense Grants and Agreements (DoDGARS) Subpart 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 select for award all some or none of the proposals in response to 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.

Awards may take the form of contracts, grants, or cooperative agreements (CAs). Proposals submitted as a result of this announcement thus may fall under the purview of either the Federal Acquisition Regulation (FAR) or the Department of Defense Grant and Agreement Regulations (DODGARS).

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research

2. Research Opportunity Title -

Human, Social, Cultural and Behavioral Sciences (HSCB) basic research, applied research and advanced technology development opportunities

3. Program Name -

Human, Social, Cultural and Behavioral Sciences

4. Research Opportunity Number -

ONR BAA 08-025

5. Response Date -

White Papers Due: 16 October 2008
Full Proposals Due: 8 January 2009

6. Research Opportunity Description -

Synopsis

The Office of Naval Research, Expeditionary Maneuver Warfare and Combating Terrorism S&T Department (ONR 30) is soliciting white papers and proposals for Basic Research, Applied Research and Advanced Technology Development.

The overall goal of this solicitation is to foster new developments in Science and Technology which may ultimately lead to future operational capabilities beyond those represented by current acquisition programs and requirements. As such, it is anticipated that successful proposals would ultimately contribute to the scientific and technological underpinning from which future Naval Expeditionary and Combating Terrorism warfighting requirements and capabilities may become possible.

Human, Social, Cultural and Behavioral Sciences

General background information:

Science and technology investment in human, social, cultural and behavioral (HSCB) sciences is focused on building capability through the development of a knowledge base, building models, and creating training capacity in order to understand, predict, and shape human behavior cross-culturally. The need to understand the motivations and influences underlying adversarial behavior, behavior of contested populations, and populations with whom US Forces have not yet interacted, how they vary cross-culturally, and what is innately human behavior that extends across cultural boundaries is required at all levels of military operations. An understanding of these motivations and influences will be gleaned from inter- and multi-disciplinary approaches that draw on approaches and methods from a wide range of social and human/behavioral sciences including (but not exclusively) anthropology, sociology, linguistics, political science, theology, economics, history, criminology, psychology, cognitive sciences, genetics, mathematics, statistics

and neuroscience. Understanding how these influences are exerted, through media, community, schools, familial ties, etc. is important.

There are two goals in this investment area. The first is to develop the knowledge base that will allow US Forces to first have an understanding of the influences on the populations that they are working with through coalition forces and on adversarial actors. The second goal will be to develop tools that will allow US Forces to influence populations through non-violent/non-kinetic means. This information will provide models and strategic planning tools that will assist in understanding second and third order effects of US Force behavior. Investments will be made in both fundamental basic research and early applied research; this includes ethnographic field research.

Vision: In asymmetric and irregular warfare environments shaping and security, stability, transition, and reconstruction (SSTR) missions require greater interaction with civilian populations and understanding of the cultures in which the warfighter is working. The knowledge and tools that are necessary for performing missions varies depending on the roles and responsibilities of the warfighter. Therefore, there is a wide range of potential applications that HSCB sciences will support. Some of the application needs include tactical warfighter training in communication (language and non-verbal communication) and socio-cultural skills. Socio-culturally accurate models and simulations for training systems are needed to meet these application requirements. This includes developing training against intelligent agents modeling adversaries and contested populations.

For operational, strategic and tactical warfighters, there is a significant need for predictive models that provide insight into the behavior of adversaries and contested populations. Crucially, HSCB findings can provide insight into the influences of human, social and cultural factors on the behavior of individuals and groups that influence the edges in human networks. Understanding these influences will provide insight into the behavior of human networks and allow better prediction models. These predictive models of human networks will also enable the warfighter to forecast the effects of exerting influence on different parts of a network, what types of influences are likely to be effective, and how they can be applied tactically and strategically to shape the battlespace.

Specific areas of interest for this BAA:

1. Understanding human, social, cultural and behavioral influences.

Objective: Identify human, social, cultural and behavioral factors that will inform prediction/forecast models and training and education curriculum. The focus of this specific research area is to understand human, social, and cultural influences on civilian and contested populations. Of particular interest is understanding all these influences on the “gray layer”, the population that is sympathetic to but not currently actively supporting insurgent or terrorist behavior, and the “green layer” or general population.

Discussion: Understanding the human, social, cultural and behavioral factors that influence human behavior can provide the warfighter with improved situational awareness, sophisticated decision tools based on predictive cultural data, and culturally valid training and education. Improved understanding of the dynamics of human, social and cultural influences on behavior will improve our ability to model these influences and understand their impact on human behavior considered at the individual and network levels of analysis, and on the perceptions/public opinion of the populations with which the warfighter is engaged. Basic and early applied research is needed to elucidate the critical human, social, cultural and behavioral variables that influence human behavior. Areas of research investment may address the following questions and research areas:

- a. In what way are decision-making frameworks informed by socio-cultural information? Building on theoretical frameworks, how can we model these influences on decision making at individual, group and population levels?
- b. Are there neuro-cognitive differences that exist across cultures that influence individual and group decision making? Are there cognitive or psychological factors that make certain decisions unlikely or impossible? What psychological boundaries exist for specific cultures/societies? Under what conditions are cultural taboos and boundaries broken?
- c. What are the roles and/or structures in societies which define power relationships, governing structures, and formal and informal organizations? How do these roles/structures influence individual and group behavior?
- d. Methods are needed to transform ethnographic findings about society's self-perceptions and decision-making skills into frameworks that can inform behavior models.
- e. Basic research is needed that will inform tactical and strategic planning tools and models. Specifically, understanding is needed of the effects (linear and non-linear) of security and economic initiatives (e.g., building a school, jobs initiatives, increased police presence) to determine in a socio-culturally relevant context the best outcome for a set of initiatives.
- f. Tools and methods are needed to measure public opinion through both direct and indirect means in both conflict and non-conflict environments in real time. It is critical for the warfighters to be able to understand the effects of their actions on the perceptions and opinions of the population. In addition to being able to measure the perceptions and opinions within a population, additional research is needed to enable the prediction of the effects of warfighter actions (e.g., providing security, schools, health facilities) on public perceptions.

2. Understanding and predicting adversarial behavior.

Objective: To understand the motivations and influences underlying terrorist and insurgent behavior in order to build predictive human network models.

Discussion: Understanding human dynamics and influences is crucial in asymmetric and irregular warfare environments. Appreciating the cognitive, social, and cultural influences on behavior is necessary to understand how and why individuals turn to violence and terrorism and to understand the human dynamics of the networks that organize to support terrorist and insurgent behavior. Understanding the variables that influence individuals, groups, and organizations to commit terrorist/violent acts will inform predictive models of humans and human network behavior, inform modeling and simulation applications used to develop training for warfighters, and improve decision-making tools for identifying risk factors for terrorist behavior and potential strategies for deterring terrorist behavior. Research that addresses the following challenges is needed:

- a. Frameworks used for decision making are thought to vary culturally and dynamically. Research is needed to elucidate the decision-making frameworks used by adversaries, to determine how they change over time and to identify the conditions or influences that cause decision frameworks to change over time. Identifying the social, cultural, political, economic and demographic influences on these decision-making frameworks is crucial. Also of interest is how these influences are transmitted/communicated (e.g., through the media, peer groups). The goal of this work is to develop the knowledge base that will provide the capability to build dynamic predictive models of adversary courses of action. Of interest is determining what decision frameworks are used to engage in general acts of terrorism or political violence and/or specific acts such as construction/emplacement of IEDs.
- b. Human networks that carry out insurgent or terrorist acts cannot be understood or predicted without an understanding of humans resources, motivations, environment and resources available to the network. Research is needed to effectively aggregate and model information from disparate data sources that contain relevant information. In addition, research is needed to understand how to detect change as human networks evolve to increase effectiveness or in response to external factors.

3. Computational Modeling and Simulation

Objective: Improve modeling and simulation capabilities to develop reliable planning tools for across the Department of Defense mission space to include shaping the environment; Security, Stability, Transition and Reconstruction (SSTR); and humanitarian and disaster relief. The development of data corpuses, including the collection of metadata and other techniques to ensure data quality, is included under this

topic. Techniques for validating models, model docking and for the generation of user-friendly outputs are also highly desired.

Discussion: The expansion of the military's mission space to include SSTR and humanitarian relief has created significant needs for mission aids that can holistically address new roles as agents of development, social welfare and humanitarian care. Soldiers have found themselves in charge of villages and cities during periods of transition and rapid change; they have had to make decisions about the development of schools, clinics, agricultural innovations, and irrigation systems, without good modeling and simulation tools to help understand the totality of likely second and third order consequences to the whole system. Non-government organizations, government organizations such as USAID and private voluntary organizations have good understandings of the impact of aid on societies, even war-torn, unstable ones, but none have codified into a modeling or simulation package that would provide insight into the complex, adaptive relationships involved in development work or humanitarian relief.

Mission planning tools for SSTR, disaster relief and humanitarian missions are greatly needed. Anti-terror/anti-insurgency issues are tightly bound into the success or failure of the SSTR mission as a whole. Complex adaptive models have the potential to capture important processes; for example: models that can account for the interplay between non-kinetic mission options (building of hospitals and clinic, agricultural extension, etc.), warlord activity and rising/falling levels of insurgency. Environmental issues, including desertification, disaster damage, and crop failure, are an important part of determining the degree and type of stress on a population, which may be critical parts of the equation in developing non-kinetic mission plans for SSTR. Research is needed to develop models that are sufficiently complex to account for critical resource variables, yet computationally simple enough so that the modeling does not become intractable.

Research that addresses the following modeling and simulation challenges is needed:

- a. Data needed to account for the complex interactions may be missing or incomplete; a principled method of developing models that can handle problems with missing, poor or incomplete data is needed.
- b. Increasing amounts of potentially useful information is available in open source digital form. Automated tools that can compute an appropriate confidence level are also sought. Facts are often counterbalanced with opinion; research is needed to automatically assess the opinion level/bias of a source as part of reliability scoring.
- c. Models are intended to help answer a specific question within a specific context. Research is needed to explore how to characterize persona, human network and decision model resolution and how to map resolution requirements to contextual questions. Additional work is also needed to develop better analytic tools to determine which parameters should be included in a model, given the intended use of that model (causality).

- d. Many research questions make the practical use of persona, human network and decision models difficult. Models developed from data rich cases are difficult to use in predicting the future due to data inconsistencies. Techniques are needed to properly penalize persona, human network and decision models in cases where causal terms are indeterminate. Practical use of persona, human network and decision models is also complicated by the inclusion of terms within the models whose values cannot be normalized. The translation of imperfect data to models in the absence of common dimensional references needs further research. Additionally, the mapping of persona and human network models to behaviors required for practical application is currently not well understood.
- e. The determination of intent in an actionable manner places demands on decision models that are currently intractable. Techniques to determine the time dependence of key causal features must be matured. The use of probabilistic reasoning techniques to account for missing observations is also an area that requires further research. Additional inference techniques that can weigh evidence across an un-normalized or unreferenced feature, time and space domain are needed.
- f. Multiple models that can be docked/federated together are a likely outcome; good modeling frameworks that can handle multiple inputs and outputs are desirable, as are cross-model validation systems built into the framework of models created for this announcement.

4. Advanced technology development of application of human, social, cultural and behavioral science.

Objective: Develop tools that will assist in the planning and execution of tactical, operational and strategic missions through the application of human, social, cultural and behavioral knowledge and models.

Discussion: The current and future anticipated mission space for the armed forces will require better tools to understand, interpret and respond to adversary, contested and civilian populations in close contact. This requires equipping the warfighters with the training, tools and information that will improve their ability to work with and within these populations with maximal efficiency and minimum impact. Development of applications is needed to provide the following capabilities:

- a. Digital area studies for societal microcosms. This would be a digital notebook (or other format) that would autonomously pull and continuously update information that provides representations of the influential geographical, organizational, political, societal, and economic relationships for small sectors of a region or society. The information would represent the internal organization and construct of a regionally defined group (for example, in the US one might have a book for a

- neighborhood within a small town.). The notebook would be able to incorporate human network models and provide tools to assess the impact of specific actions and operations in the region. Additionally it would have a section on the relationship of this small microcosm with the broader culture/region within which it belongs. The digital notebook would provide commanders the critical information needed to promote security and stability within their areas of operations.
- b. Cultural translator. The cultural translator will provide culturally specific interpretations of what an individual is trying to communicate to include language, prosody, gestures, facial expressions, and cultural context. This device would provide a comprehensive translation capability that captures the cultural-specific nuances of the language and non-verbal communications allowing more accurate communication between members of different cultures and language groups. This would potentially be done through the use of an avatar. Principal areas of use would be for negotiation, medical dialogue and potentially as a tool for general intelligence gathering (HUMINT).
 - c. Training systems for social-cultural skills and cultural awareness. Training of both specific social-cultural skills and general cultural awareness and sensitivity are needed. Specifically, training that will provide warfighters with the ability to quickly assess and identify the societal norms, behaviors, and social structures in a social or cultural group. HSCB- related training that provides an understanding of adversarial or neutral populations is need by military personnel at all levels. However, the focus and outcomes of the training varies by group: military leadership, junior officers, NCOs, and the junior enlisted. Proposals looking at novel and innovative ways to training these different populations will be considered.

Research to address these topics may draw on multiple disciplines, including but not limited to: anthropology, sociology, psychology, religion, cognitive sciences, economics, history, mathematics, political science and neuroscience. Work proposed under this topic may include new data collection efforts, including both experimental and field data collection, as well as work to harness existing data sources.

It is anticipated that findings from this work will inform predictive/forecast models of human behavior and network behavior. Proposals that include development of models of findings or interdisciplinary teams that match investigators conducting field research with modeling experts are encouraged. International performers affiliated with universities and research institutes are encouraged to submit proposals.

Questions of a *technical nature* shall be directed to the primary Technical Point of Contact, as specified below:

5. Science and Technology Point of Contact:

Primary Point of Contact Name: Dr. Ivy Estabrooke
Point of Contact Occupation Title: Program Officer
Department Title: Expeditionary Maneuver Warfare & Combating Terrorism S&T
Department
Department Code: ONR 30
Address: Office of Naval Research
One Liberty Center, OLC 1044D
875 N. Randolph Street
Arlington, VA 22203-1995
E-mail address: ivy.estabrooke@navy.mil

Alternate Points of Contact:

Name: Dr. Harold Hawkins
Alternative Point of Contact Occupation Title: Program Officer
Department Title: Warfighter Performance and Protection
Department Code: ONR 34
Address: Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995
E-mail address: harold.hawkins@navy.mil

Name: Dr. Rebecca Goolsby
Alternative Point of Contact Occupation Title: Program Officer
Department Title: Warfighter Performance and Protection
Department Code: ONR 34
Address: Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995
E-mail address: Rebecca.goolsby@navy.mil

Questions of a *business nature* shall be directed to the cognizant Contract Specialist, as specified below:

Procurement Contracting Officer:

Point of Contact Name: R. Brain Bradley
Point of Contact Occupation Title: Branch Head, Code 0253
Division Title: Contract & Grant Awards, Management
Division Code: Code ONR 0253

Business Point of Contact:

Point of Contact Name: David Hershey
Point of Contact Occupation Title: CACI Support Contractor
Division Title: Contract & Grant Awards, Management
Division Code: Code ONR 0253
Address: Office of Naval Research
One Liberty Center,
875 N. Randolph Street
Arlington, VA 22203-1995
Email Address: David.Hershey@navy.mil

6. Instrument Type(s) -

It is anticipated that awards may take the form of contracts, grants, and cooperative agreements.

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

12.300

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

DOD Basic and Applied Scientific Research

9. Other Information -

This announcement is restricted to basic and applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts, grants and other awards 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

Total amount of funding available: ~ \$10 M spread over FY09-FY11.

Anticipated Average Award Value: \$100K to \$3M per year

Period of Performance: Up to 30 months

Funding Type: Research and Development Funding of Budget Activity 1 (Basic Research), Budget Activity 2 (Applied Research), and Budget Activity 3 (Advanced Technology Development) is available for this effort.

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 encouraged to 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 Papers are required prior to submitting a Full Proposal - The due date for White Papers is no later than 3 p.m. (Eastern Daylight Time) on 10/16/08. Initial Navy evaluations of the White Papers will be issued via E-mail notification on or about 11/20/08. Detailed technical and cost proposals will be subsequently encouraged from those offerors whose proposed research has been identified through the above-referenced E-mail as being of "particular value" to the Navy. However, any such encouragement does not assure a subsequent award. Any offeror may submit a full proposal even if its white paper was not identified as being of "particular value." Full Proposals will not be considered under this BAA unless a white paper was received before the white paper due date specified above.

Full Proposals - The due date for receipt of Full Proposals is 3 p.m. (EST) on 1/08/09. It is anticipated that final selections will be made by 2/10/09. As soon as the final proposal evaluation process is completed, the Offeror will be notified via email of its selection or non-selection for an award. Proposals exceeding the page limit may not be evaluated.

Content and Format of White Papers/Full Proposals -

The white papers and proposals submitted in response to this BAA are expected to be unclassified. However, confidential/classified proposals are permitted. Proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information. The 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/proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

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
- Number of Pages – No more than six (6) single-sided pages (excluding cover page and resumes). White Papers exceeding the page limit may not be evaluated.
- Copies – one (1) electronic copy in Microsoft® Word or PDF format submitted via E-mail to the Technical Point of Contact.

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 twenty (20) pages. Volume 2 has no page limit. The cover page, table of contents, and resumes are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated.
- Copies – For contracts: one (1) original, and one (1) electronic copy on CD-ROM (in Microsoft® Word). For grants, offerors must use Grants.gov (see section IV. 5).

White Paper Content

- Cover Page – The Cover Page shall be labeled “PROPOSAL WHITE PAPER” and shall include the BAA number, proposed title, relevant Research

Area within this BAA, and the offeror's administrative and technical points of contact along with their telephone numbers, facsimile numbers, and Internet addresses. The cover page shall be signed by an authorized officer.

- **Technical Concept** – A three (3) page technical section which clearly describes the objectives of the proposed effort, technical issues to be resolved to accomplish objectives, the technical approach proposed to resolve these issues, an assessment of the proposed new capability over the existing state of the art, and a comparison against competing technological developments. This section should include references.
- **Programmatic Section** - A one (1) page programmatic section that includes milestones and a timetable.
- **Resumes** – A single page (each) summary resume (including previous relevant experience and pertinent publications) for the Principal Investigator (PI) and any other Key Personal (KP).
- **Deliverables** – A one (1) page list of any deliverables for the effort, if applicable.
- **Cost** - A one (1) page summary of costs segregated by tasks.

Full Proposal Content

Volume 1: Technical Proposal:

Volume 1 of the Full Proposal shall include the following sections.

- **Cover Page** (not included in page limitation): 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);
 - 6) Duration of effort (differentiate the basic effort from any proposed options, if applicable)
 - 7) Relevant Research Area within this BAA
- **Table of Contents** (not included in page limitation)
- **Abstract:**
 - a. Concise (approximately 200 words) abstract of the proposed effort.
 - b. Discussion of how the proposed research effort will respond to the objectives of the BAA.

- **Statement of Work:**

a. A description (in sufficient detail to evaluate the proposal) of the scientific background, scope, and objective of the proposed effort, along with appropriate references to the scientific literature. It is anticipated that the proposed SOW will be incorporated as an attachment to any resultant award instrument. To this end such proposals must include a severable, self-standing SOW without any proprietary restrictions, which can be included as an attachment to any resultant contract. Include a detailed listing of the technical tasks/subtasks organized by year. When options are contemplated, the SOW must clearly identify separate optional tasks and their periods of performance.

b. A description of general and special facilities available for performing the proposed work, and the rationale for requested support of any facilities, equipment, or materials

- **Project Schedule and Milestones:** A summary of the schedule of events and milestones.

- **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 any pre-existing 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 an improper format or that do not properly acknowledge earlier federal funding of related research by the Offeror.

- **Deliverables:** A detailed description of the results and products to be delivered, along with suggested due dates.

- **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 relationships, government research interfaces, and planning/scheduling/control practice. Identify which personnel and subcontractors (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. Discuss how the proposed effort might be coordinated with Navy and industrial counterparts.

- **Technical Approach** - The offeror shall provide a detailed plan that coherently describes the technical approach proposed for contract performance which

demonstrates a technical understanding of the proposed Statement of Work (SOW). The technical approach should address each of the numbered task areas delineated in the SOW providing specific or unique techniques to be employed and anything else the offeror considers relevant in performing the SOW. The technical approach should indicate how the work will be performed, including the capabilities and resources which will be applied, what problem areas exist, the proposed solutions and a full explanation of the proposed disciplines, procedures and techniques to be followed. Emphasis should be placed upon the extent that the offeror's technical approach ensures timely delivery and successful completion of the tasks outlined by the SOW submission.

- **Personnel** - The offeror shall provide resumes of proposed key personnel to be utilized by the contractor/subcontractor in the performance of this contract. The offeror shall ensure that the proposed personnel are fully capable of performing in an efficient, reliable and professional manner.

- **Past Performance** - Past performance consists of a description of the offeror's Government and commercial contracts (both prime and major subcontracts) received during the past three years for the performance of work similar to the effort being proposed. The offeror may describe any quality awards or certificates that indicate the offeror possesses a high quality process for providing desired research and development outcomes.

Volume 2: Cost Proposal

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 Gov't 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.

Although not required and provided for informational purposes only, detailed instructions, entitled "Instructions for Preparing Cost Proposals for Contracts and Agreements", including a sample template for preparing costs proposals for contracts 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

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
- Duration of effort (separately identify basic effort and any proposed options)

- Summary Statement of Costs
- Cognizant DCAA and DCMA point of contact, address, phone/fax and e-mail address (if readily available)

Part 1: Detailed breakdown of all costs by cost category by calendar or Gov't fiscal year. If options are contemplated, options must be separately identified and priced.

- Direct Labor – Individual labor category or person, with associated labor hours and unburdened direct labor rates
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate)
- Travel – Number of trips, destination, duration, etc.
- Subcontract – 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 will be obtained from the subcontractor prior to contract award.
*see note below
- Consultants – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate
- Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)
- Other Directs Costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. Justifications must be provided when Government funding for such items is sought. Include a brief description of the offeror's procurement method to be used.
- Proposed Fee/Profit.

***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 using the same task numbers in the Statement of Work. When options are contemplated, options must be separately identified and priced by task/sub-task corresponding to the same task numbers in the Statement of Work.

Offerors seeking grants or cooperative agreements would not have in their cost proposals a fee/profit element. But they may have some additional cost categories beyond those listed above for contracts. For example, costs not normally associated with contracts, such as Graduate

Assistant tuition, laboratory fees, and report and publication costs, are anticipated as part of many grant proposals. If a grant is sought for a conference, workshop, or symposium, funds provided by ONR will not be used for food or beverages for the group.

3. Significant Dates and Times-

Anticipated Schedule of Events		
Event	Date	Eastern Time
White Paper Due Date	16 October 2008	3 P.M.
Notification of Initial Evaluations of White Papers*	20 November 2008	N.A
Full Proposal Due Date	8 January 2009	3 P.M.
Proposal Evaluations Complete*	10 February 2009	N.A
Estimated Award Date* (Grants)	1 April 2009	N.A
Estimated Award Date* (Contracts)	15 June 2009	N.A

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

4. Submission of Late Proposals –

1. 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

- (a) 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
- (b) 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
- (c) 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 extend 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 to Grants.gov

Grant proposals must be submitted through Grants.gov. To be considered for award, applicants must include the ONR Department Code in Block 4 entitled 'Federal Identifier' of the Standard Form (SF) 424 R&R. **Use ONR Code 30 for this BAA.** However, it should be noted that "white papers" should not be submitted through the Grants.govApply process. White papers must be submitted electronically directly to the cognizant ONR Program Officer/Program Manager.

For electronic submission of full proposals, there are several one-time actions that must be completed in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See www.grants.gov, specifically www.grants.gov/GetStarted.

Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/assets/OrganizationRegCheck.doc> 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. It is suggested that the process be started as soon as possible. Additionally, in order to download the application package, applicants will need to install PureEdgeViewer. This small, free program will allow applicants to access, complete and submit applications electronically and securely. For a free version of the software, visit the following website: www.grants.gov/DownloadViewer. If any questions that may arise 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.

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.

6. Addresses for the Submission of Electronic White Papers and Hard Copy Full Proposals for contracts.

A. Address for the Submission of White Papers (electronic copy)

White papers for contracts, grants and cooperative agreements should be submitted as a PDF file or Microsoft Word Document

email attachment to: ivy.estabrooke@navy.mil

B. Address for the Submission of hard copy for contract full proposals:

Mail to:

Office of Naval Research
One Liberty Center
875 North Randolph Street
Attn: Ms. Felicia Bush, ONR-30, OLC 1151A
Arlington, VA 22203-1995

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. Thus it is recommended that any hard-copy proposal be mailed several days before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration.

FULL PROPOSALS SENT BY FAX OR EMAIL WILL NOT BE CONSIDERED

V. EVALUATION INFORMATION

1. Evaluation Criteria –

The following evaluation criteria apply to both the White Papers and the Full Proposals. Proposals will be selected through a technical/scientific/business decision process with technical and scientific considerations being more important than cost. Criteria A-D are listed in descending order of priority. Any subcriteria listed under a particular criterion are of equal importance to each other.

A. Overall scientific and technical merits of the proposal

1. The degree of innovation
2. The soundness of technical concept
3. The offeror's awareness of the state of the art and understanding of the scope of the problem and the technical effort needed to address it

B. Potential naval relevance and contributions of the effort to the agency's specific mission.

C. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities and experience of the proposed principal investigator and other key personnel.

1. The quality of technical personnel proposed

2. The offeror's experience in relevant efforts with similar resources
 3. The ability to manage the proposed effort.
- D. The realism of the proposed costs.

For proposed awards to be made as contracts to large 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. The evaluation of options will not obligate the Government to exercise the option(s).

2. Evaluation Panel -

White papers and full proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-5 and 15.207. Potential Offerors should understand that government technical experts drawn from the Office of Naval Research, the Naval systems commands, Navy warfare centers, the Naval Research Laboratory (NRL), and other Naval and Defense activities/agencies will evaluate the white papers and full proposals.

The Government may use selected support personnel as subject matter expert technical consultants to assist in providing both technical expertise and administrative support regarding white papers, oral presentation materials, and full proposals resulting from this announcement. Similarly, support contractors may be utilized as subject matter experts in the evaluation of cost proposals. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to the submissions in response to this BAA will be required to sign a non-disclosure agreement prior to receipt in order to protect proprietary and source-selection information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements –

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.
- CCR - Successful Offerors not already registered in the Central Contractor Registry

- (CCR) will be required to register in CCR prior to award of any contract. Information on CCR registration is available at <http://www.onr.navy.mil/02/cc.htm>.
- Certifications – In accordance with FAR 4.1201, prospective contractors shall complete and submit electronic annual representations and certifications at <http://orca.bpn.gov>.
- The Online Representations and Certifications Application (ORCA) must be supplemented by the DFARS and contract specific representations and certifications found at http://www.onr.navy.mil/02/rep_cert.asp.
- Subcontracting Plans - Successful contract proposals that exceed \$650,000, 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, prior to award.

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 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.

2. Reporting -

The following deliverables, primarily in contractor format, are anticipated as necessary. However, other specific deliverables (including software and hardware deliverables under contracts) should be proposed by each Offeror and finalized with the contracting agent:

- Technical and Financial Progress Reports
- Presentation Material
- Other Documents or Reports
- Final Report

VII. OTHER INFORMATION

1. Project Meetings & Reviews

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.

2. 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. It is the Government's desire to have the contractors purchase the equipment/hardware for deliverable items under their contract. 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.

Government research facilities and operational military units are available and should be considered as potential government furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for the basic and applied research. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain as part of their proposals which of these facilities they recommend are critical for the projects success.

3. 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 their proposal.

4. Use of Animals and Human Subjects in Research

If animals are to be utilized in the research effort proposed, the Offeror must complete a DOD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and/or NIH OLAW Animal Welfare Assurance approval letter, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal for research involving human subjects the Offeror must submit prior to award: documentation of approval from an Institutional Review Board (IRB); IRB-approved informed consent form; IRB-approved research protocol; an executive summary of planned research (one-half to one page in length); proof of completed human research training (e.g., training certificate, institutional verification of training, etc.); an application for a DoD Navy Addendum to the offeror's DHHS-issued Federalwide Assurance (FWA) or the offeror's DoD Navy Addendum number. The forms for assurance applications can be found at http://www.onr.navy.mil/sci_tech/34/343/ . If the research is determined by the IRB to be greater than minimal risk, the Offeror also must provide the name and contact information for the independent medical monitor. [Note: for research involving human subjects that is greater than minimal risk, administrative procedures to protect human subjects from medical expenses (not otherwise provided or reimbursed) that are the direct result of participation in a research project must be addressed. Documentation describing those procedures may be requested. For additional information on this topic please email 343_contact@onr.navy.mil.] For assistance with submission of animal and human subject research related documentation, contact the ONR Animal/Human Use Administrator at (703) 696-4046.

5. Department of Defense High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and DT & 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 or 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. 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. Questions must be submitted by 3:00 p.m. EST on 22 DECEMBER 2008. Questions after this date and time may not be answered, and the due date for submission of the proposals will not be extended.

**** Important Notices Regarding Questions****

- All Questions shall be submitted in writing by electronic mail.
- Questions and responses will be posted on the **ONR web site at www.onr.navy.mil**.
- ***No direct e-mail response will be provided.***
- Questions presented by telephone call, fax message, or other means will not be responded to.
- There will be no meetings between potential offerors and ONR personnel.