

Amendment 0001
Solicitation Number: ONRBAA12-016
"Minerva Research Initiative"

The purpose of this Amendment 0001 is to make some clarifying changes to the topic descriptions, and to extend the response date for full proposals under Solicitation No. ONRBAA12-016 to December 31, 2012 in lieu of December 12, 2012.

Accordingly, the BAA is changed as indicated in the attached document titled "Amendment 0001".

**ONR BAA Announcement # 12-016
Amendment 0001**



BROAD AGENCY ANNOUNCEMENT (BAA)

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in the Department of Defense Grants and Agreements regulations (DoDGARS) 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.

I. GENERAL INFORMATION

1. Agency Name -

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

2. Research Opportunity Title -

Minerva Research Initiative

3. Program Name -

Department of Defense Minerva Research Initiative

4. Research Opportunity Number -

12-016

5. Response Date -

White Papers: 30 September 2012

Full Proposals: 04 January 2013

6. Research Opportunity Description -

The Office of Naval Research (ONR) is interested in receiving proposals for the Minerva Research Initiative (<http://minerva.dtic.mil>), a DoD-sponsored, university-based social science research program initiated by the Secretary of Defense. This program is a multi-service effort. Ultimately, however, funding decisions will be made by OSD personnel, with technical inputs from the Services. The program focuses on areas of strategic importance to U.S. national security policy. It seeks to increase the Department's intellectual capital in the social sciences and improve its ability to address future challenges and build bridges between the Department and the social science community. Minerva brings together universities, research institutions, and individual scholars and supports multidisciplinary and cross-institutional projects addressing specific topic areas determined by the Department of Defense. The MRI aims to promote research in specific areas of social science and to promote a candid and constructive relationship between DoD and the social science academic community.

The Minerva Research Initiative competition is for research related to the three (3) topics and eleven (11) subtopics listed below. Detailed descriptions of the topics can be found in Section VIII, "Specific Minerva Research Initiative Topics." The detailed descriptions are intended to provide the proposer a frame of reference and are not meant to be restrictive. Innovative proposals related to these research topics are highly encouraged. White papers and full proposals are solicited which address the following topics (described in detail below in Section VIII of this solicitation):

- (1) Belief Formation and Movements for Change**
 - (1-A) Belief formation and influence
 - (1-B) Group identities and cultural norms
 - (1-C) Movements for change
 - (1-D) Collaboration and competition between violent groups
- (2) Models of Societal Resilience and Change**
 - (2-A) Economic factors
 - (2-B) Energy, environment, and resource factors
 - (2-C) Other factors impacting societal stability and change
- (3) Theories of Power and Deterrence**
 - (3-A) The role of the state in a globalized world

- (3-B) Norms and governance
- (3-C) Beyond conventional deterrence
- (3-D) Emerging topics in power and deterrence

Proposals will be considered both for single-investigator awards as well as larger teams. A team of university investigators may be warranted because the necessary expertise in addressing the multiple facets of the topics may reside in different universities, or in different departments of the same university. The research questions addressed should extend across a fairly broad range of linked issues, where there is clear potential synergy among the contributions of the distinct disciplines represented on the team. Team proposals must name one Principal Investigator as the responsible technical point of contact. Similarly, one institution will be the primary recipient for the purpose of award execution. The relationship among participating institutions and their respective roles, as well as the apportionment of funds including sub-awards, if any, must be described in both the proposal text and the budget.

7. Point(s) of Contact -

Questions of a technical nature shall be directed to the cognizant Technical Points of Contact:

Science and Technology Co-Point of Contact:

Dr. Harold Hawkins
Office of Naval Research
Email Address: Harold.Hawkins@navy.mil

Science and Technology Co-Point of Contact:

Dr. Erin Fitzgerald
Basic Research Office, ASD (Research & Engineering)
Email Address: Erin.Fitzgerald@osd.mil

Questions of a business nature shall be directed to the cognizant Contract Specialist:

Business Point of Contact:

Mr. Patrick Sisk
Contract Specialist
Contracts and Grants Division
ONR Code: 254
875 North Randolph Street, Arlington, VA 22203
Email Address: patrick.sisk@navy.mil
Telephone: 703-696-6804

Note that many questions may be included in the Frequently Asked Questions section of <http://minerva.dtic.mil>. **Questions submitted within 2 weeks prior to a deadline may not be answered, and the due date for submission of the white paper and/or full proposal will not be extended.**

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

- Grants.gov Webpage – <http://www.grants.gov/>
- ONR Broad Agency Announcement (BAA) Webpage – <http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx>

8. Instrument Type(s) -

Awards will take the form of grants only.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers

12.300

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

DOD Basic and Applied Scientific Research

11. Other Information

All Research and Development efforts to be funded under this BAA will consist of basic research and the funds available to support awards are Budget Activity 1. Accordingly, as stated in the section below, the DoD will place no other restrictions on the conduct or reporting of unclassified fundamental research, except as otherwise required by applicable federal statutes, regulations, or executive orders.

Work funded under a BAA may include basic research, applied research and some advanced research. 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 24 May 2010.

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

Pursuant to DoD policy, research performed under grants and contracts that are a) funded by Budget Activity 6.2 (Applied Research) and NOT performed on-campus at a university or b) funded by Budget Activity 6.3 (Advanced Research) does not meet the definition of “contracted fundamental research.” In conformance with the USD(AT&L) guidance and National Security Decision Direction 189, ONR will place no restriction on the conduct or reporting of unclassified “contracted fundamental research,” except as otherwise required by statute, regulation or Executive Order. For certain research projects, it may be possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting “contracted fundamental research.” In those cases, it is the *prime contractor’s responsibility* in the proposal to identify and describe the subcontracted unclassified research and include a statement confirming that the work has been scoped, negotiated, and determined to be fundamental research according to the prime contractor and research performer.

Normally, fundamental research is awarded under grants with universities and under contracts with industry. Non-fundamental research is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of such research results due to subject matter sensitivity. As regards to the present BAA, the Research and Development efforts to be funded will consist of basic research. The funds available to support awards are Budget Activity 1.

FAR Part 35 restricts the use of Broad Agency Announcements (BAAs), such as this, to the acquisition of basic and applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts and grants and other assistance agreements made under BAAs are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

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

II. AWARD INFORMATION

1. Amount and Period of Performance-

- Total Amount of Funding Available: \$24.0M over 3 years. Future funding for an additional two years of effort may become available
- Anticipated Number of Awards: 15
- Anticipated Range of Individual Award Amounts: \$0.30M/year to \$1.50M/year
- Previous Years’ Average Individual Award Amounts: \$0.60M/year
- Anticipated Period of Performance: 3-5 years

III. ELIGIBILITY INFORMATION

All responsible sources from academia, including DoD institutions of higher education and foreign universities, may submit proposals under this BAA. Non-profit institutions and commercial entities may also be included on a university-led team, performing research as subawardees and receiving funding for their efforts. 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.

University Affiliated Research Centers (UARC) are eligible to submit proposals under this BAA unless precluded from doing so by their Department of Defense UARC contracts.

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 may 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 § 120.1 et seq.

For Grant applications:

The Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by Section 6202 of Public Law 110-252, requires that all agencies establish requirements for recipients reporting information on subawards and executive total compensation as codified in 2 CFR 33.110. Any company, non-profit agency or university that applies for financial assistance (either grants, cooperative agreements or other transaction agreements) as either a prime or sub-recipient under this BAA must provide information in its proposal that describes the necessary processes and systems in place to comply with the reporting requirements identified in 2 CFR 33.220. An entity is **exempt** from this requirement **UNLESS** in the preceding fiscal year it received: a) 80 percent or more of its annual gross revenue in Federal contracts (and subcontracts), loans, grants (and subgrants), and cooperative agreements; b) \$25

million or more in annual gross revenue from Federal contracts (and subcontracts), loans, grants (and subgrants), and cooperative agreements; and c) the public does not have access to information about the compensation of the senior executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 or section 6104 of the Internal Revenue Code of 1986.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

General Information:

The white papers and full proposals submitted under this BAA must address unclassified basic research. White papers and full proposal submissions will be protected from unauthorized disclosure in accordance with applicable laws and DoD regulations. Proposers are expected to appropriately mark each page of their submission that contains proprietary information. Grants awarded under this announcement shall be unclassified.

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 submission process has two stages.

Stage 1 - Prospective offerors are expected to submit white papers to minimize the labor and cost associated with the production of detailed proposals that have little chance of being selected for funding. Further, offerors are strongly encouraged to contact the appropriate Research Topic Chief (see Section VIII of this BAA) for discussion of their ideas to enhance the chances that white papers will receive positive feedback. Based on an assessment of the white papers, the responsible Research Topic Chiefs will provide email feedback to the prospective recipients to encourage or discourage submission of full proposals. The reviewers will advise the recipients whether their white papers outlined proposals that appear to be of particular value to the Department of Defense (DoD). A party is allowed to submit a full proposal even if its white paper was not evaluated as being of particular value to the DoD. But the white paper feedback is likely to be a good indicator of how a full proposal based upon the white paper will be evaluated. White papers arriving after the deadline may not receive feedback. Therefore, it is strongly encouraged that all white papers are submitted by the deadline to ensure feedback from the appropriate Research Topic Chiefs.

Stage 2 – Subsequent to white paper feedback, interested offerors are required to submit full proposals. All proposals submitted under the terms and conditions cited in this BAA will be evaluated in accordance with the evaluation criteria stated herein. Offerors can submit a proposal without submitting a white paper. However, interested parties are strongly encouraged to submit white papers within the deadline provided in this BAA so feedback can be obtained.

Submission dates and times may be found in paragraph 3 of this section.

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

The Proposals submitted under this BAA must be unclassified.

a. WHITE PAPERS

White papers shall be submitted electronically to minerva@osd.mil. The email subject line should contain the following: FY13 Minerva Topic (x) white paper

Due Date: The due date for receipt of white papers is no later than 30 September 2012, 3:00 PM Eastern Time. White papers received after the deadline will not be reviewed.

White papers shall comply with the following format.

- Paper size when printed - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single
- Font – No smaller than Times New Roman, 10 point
- Number of pages - no more than four (4) single-sided pages (excluding cover letter, cover, and curriculum vitae).

White papers not complying with formatting instructions will not be evaluated.

White paper content should be as follows:

- A one page cover letter (optional)
- A cover page, labeled "PROPOSAL WHITE PAPER," that includes the BAA number, proposed title, and offeror's technical point of contact, with telephone number, facsimile number, e-mail address, topic number, and topic title.
- Identification of the research and issues
- Proposed methods
- Potential implications for national defense
- Potential team and management plan
- Summary of estimated costs
- Curriculum vitae of key investigators (not included in page count)

The white paper should provide sufficient information on the research being proposed (e.g., hypothesis, theories, concepts, methods, approaches, data collection, measurement and analyses) to allow for an assessment by a subject matter expert. It is not necessary for white papers to carry official institutional signatures.

Acknowledgement of receipt of a white paper under this BAA will be sent via email to the addressee approximately one week after receipt.

b. FULL PROPOSALS

Full proposals shall be submitted electronically through www.grants.gov. Full proposals sent by fax or email will not be considered.

Registration Requirements for Grants.gov: Proposals must be submitted electronically through Grants.gov. There are several one-time actions your institution must complete in order to submit applications 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; register with Grants.gov; and obtain approval for an Authorized Organization Representative (AOR) to submit applications on behalf of the organization). Go to http://www.grants.gov/applicants/get_registered.jsp for further information. Use the Grants.Gov Organization Registration Checklist, which may be accessed at http://www.grants.gov/applicants/register_your_organization.jsp to guide you through the 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.

Questions: 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.

VERY IMPORTANT – Download PureEdge Viewer: In order to view, complete, and submit an application package, you will need to download the appropriate software packages. Go to http://www.grants.gov/applicants/apply_for_grants.jsp for further information.

Submitting the Application

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select “Apply for Grants,” and then select “Download Application Package.” Enter the CFDA number, 12.630, Basic, Applied, and Advanced Research in Science and Engineering.

Application Forms – The forms are contained in the Application Package available through the Grants.gov application process. Offerors must complete the mandatory forms and any optional forms that are applicable (e.g., SF-LLL Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. The required fields should be completed in accordance with the “pop-up” instructions on the forms. To activate the instructions, turn on the “Help Mode” (icon with the pointer and question mark at the top of the form). Files that are attached to the forms must be in Adobe Portable Document Form (PDF) unless otherwise specified in this announcement.

Form: SF 424 (R&R) (Mandatory)

Complete this form first to populate data in other forms.

Authorized Organization Representative (AOR) usernames and passwords serve as “electronic signatures” when your organization submits applications through Grants.gov. By using the SF 424 (R&R), proposers are providing the certification required by 32 CFR Part 28 regarding lobbying.

Form: Research & Related Other Project Information

Complete questions 1 through 5 and attach files. The files must comply with the following instructions:

Project Summary/Abstract (Field 7 on the form)

The project summary should be a single page that identifies the research problem, proposed methods, anticipated outcome of the research, if successful, and impact on DoD capabilities or broader implications for national defense. It should identify the Principal Investigator, the university/research institution (and other universities involved in the Minerva Research Initiative (MRI) team, if applicable), the proposal title, the MRI topic number, and the total funds requested from DoD for the 3-year base period (and, in the case of 5-year proposals, the additional 2-year option period and the potential 5-year total period). The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font no smaller than Times New Roman, 10 point. To attach a Project Summary/Abstract, click “Add Attachment.”

Project Narrative (Field 8 on the form)

The following formatting rules apply for Field 8

- Paper size when printed - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single
- Font – No smaller than Times New Roman, 10 point
- Number of pages - no more than twenty-five (25) single-sided pages.
The cover, table of contents, list of references, letters of support, and curriculum vitae are excluded from the page limitations. Full proposals exceeding the page limit may not be evaluated.

Include the following in Field 8

The narrative’s first page **must** include the following information:

- Principal Investigator name
- Phone number, fax number, and e-mail address
- Institution, Department, Division
- Institution address
- Other institutions involved in the MRI team, if applicable
- Past or current DoD Contractor or Grantee? If yes, provide Agency, point of contact;

- number
- Proposal title
- Institution proposal number
- Topic number and topic title
- Table of Contents: List project narrative sections and corresponding page numbers.
- Technical Approach: Describe in detail the basic science research to be undertaken. State the objective and approach, including how data will be analyzed and interpreted. Discuss the relationship of the proposed research to the state-of-the-art knowledge in the field and to related efforts in programs elsewhere, and discuss potential scientific breakthroughs. Include appropriate literature citations/references. Discuss the nature of expected results. Discuss potential applications to defense missions and requirements. Describe plans for the research training of students. Include the number of full time equivalent graduate students and undergraduates, if any, to be supported each year. Discuss the involvement of other students, if any.
- Project Schedule, Milestones, and Deliverables: A summary of the schedule of events, milestones, and a detailed description of the results and products to be delivered.
- Management Approach: A discussion of the overall approach to the management of this effort, including brief discussions of: required facilities; relationships with any subawardees and with other organizations; availability of personnel; and planning, scheduling, and control procedures.
 - (a) Describe the facilities available for the accomplishment of the proposed research and related education objectives. Describe any capital equipment planned for acquisition under this program and its application to the proposed research. If possible, budget for capital equipment should be allocated to the first budget period of the grant. Include a description of any government furnished equipment/hardware/software/information, by version and/or configuration that are required for the proposed effort.
 - (b) Describe in detail proposed subawards to other eligible universities or relevant collaborations (planned or in place) with government organizations, industry, or other appropriate institutions. Particularly describe how collaborations are expected to facilitate the transition of research results to applications. If subawards to other universities/institutions are proposed, make clear the division of research activities, to be supported by detailed budgets for the proposed subawards.
 - (c) Designate one Principal Investigator for the award to serve as the primary point-of-contact. Briefly summarize the qualifications of the Principal Investigators and other key investigators to conduct the proposed research.
 - (d) Describe plans to manage the interactions among members of the proposed research team, if applicable.
 - (e) Identify other parties to whom the proposal has been, or will be sent, including

agency contact information.

- Curriculum Vitae: Include curriculum vitae of the Principal Investigator and key co-investigators.

All applications should be in a single PDF file. To attach a Project Narrative in Field 8, click “Add Attachment.”

Bibliography and References Cited (Field 9 on the form)

Attach a listing of applicable publications cited in above sections.

Facilities and Other Resources (Field 10 on the form)

This field not required.

Equipment (Field 11 on the form)

This field not required.

Other Attachments (Field 12 on the form)

Attach budget proposal at Field 12. You must provide a detailed cost breakdown of all costs, by cost category, by the funding periods described below, corresponding to the proposed Technical Approach which was provided in Field 8 of the Research and Related Other Project Information Form. Any options must be separately priced. The Research and Related Budget form is not required.

The budgets should adhere to the following guidelines:

Detailed breakdown of all costs, by cost category, by the calendar periods stated below. For budget purposes, use an award start date of 01 June 2013.

For up to a three-year base grant, the cost should be broken down to reflect funding increment periods of:

- 1) Four months (01 Jun 2013 to 30 Sept 2013)
- 2) Twelve months (01 Oct 2013 to 30 Sept 2014),
- 3) Twelve months (01 Oct 2014 to 30 Sep 2015),
- 4) Eight months (01 Oct 2015 to 30 May 2016)

For a potential two year extension option (large team awards), the additional cost should be broken down to reflect funding increment periods of:

- 5) Four months (01 Jun 2016 to 30 Sep 2016),
- 6) Twelve months (01 Oct 2016 to 30 Sep 2017), and
- 7) Eight months (01 Oct 2017 to 30 May 2018).

Note that the budget for each of the calendar periods (e.g., 1 Jun 2013 to 30 Sep 2013) should include only those costs to be expended during that calendar period.

Annual budgets should be driven by program requirements. Elements of the budget should include:

- Direct Labor – Individual labor category or person, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years. Provide the basis for the salary proposed.
- Administrative and clerical labor – Salaries of administrative and clerical staff are normally indirect costs (and included in an indirect cost rate). Direct charging of these costs may be appropriate when a major project requires an extensive amount of administrative or clerical support significantly greater than normal and routine levels of support. Budgets proposing direct charging of administrative or clerical salaries must be supported with a budget justification which adequately describes the major project and the administrative and/or clerical work to be performed.
- Indirect Costs – Fringe benefits, overhead, G&A, etc. (must show base amount and rate). Provide the most recent rates, dates of negotiations, the period to which the rates apply, and a statement identifying whether the proposed rates are provisional or fixed. If the rates have been negotiated by a Government agency, state when and by which agency. Include a copy of the current indirect rate agreement.
- Travel – Identify any travel requirements associated with the proposed research and define its relationship to the project. List proposed destinations, cost estimate, and basis of cost estimate.
- Subawards – Provide a description of the work to be performed by the subrecipients. For each subaward, a detailed cost proposal is required to be included in the principal investigator's cost proposal. Fee/profit is unallowable.
- Consultant – Provide consultant agreement or other document that verifies the proposed loaded daily/hourly rate. Include a description of the nature of and the need for any consultant's participation. 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. Provide budget justification.
- Materials – 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.). Justify.
- Other Directs Costs – Provide an itemized list of all other proposed other direct costs such as Graduate Assistant tuition, laboratory fees, report and publication costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). 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."

- Fee/Profit – Fee/profit is unallowable.

Funding breakdown corresponding to the proposed Technical Approach which was provided in Field 8 of the Research and Related Other Project Information Form must also be attached.

Research and Related – Senior/Key Person Profile Form

Attach statements of current and pending support for the Principal Investigators and co-investigators listed in the proposal, as applicable. These statements require that each investigator specify all grants and contracts through which he or she is currently receiving or may potentially receive financial support. Describe the research activities and amount of funding. Biographical sketches are required for the Principal Investigator and for other key personnel. Please be sure to include education and years.

Full Proposal Receipt Notices

After a full proposal is submitted through Grants.gov, the Authorized Organization Representative (AOR) will receive a series of three e-mails. It is extremely important that the AOR watch for and save each of the e-mails. Offerors will know that the proposal has been properly received when the AOR receives e-mail Number 3. Retain the Submission Receipt Number (e-mail Number 1) to track a submission. The three e-mails are:

Number 1 – The applicant will receive a confirmation page upon completing the submission to Grants.gov. This confirmation page is a record of the time and date stamp for the submission.

Number 2 – The applicant will receive an e-mail indicating that the proposal has been validated by Grants.gov within a few hours of submission. (This means that all of the required fields have been completed.) This initial email will also include a grants.gov tracking number.

Number 3 – The third notice is an acknowledgment of receipt in e-mail form from grants.gov. The e-mail is sent to the authorized representative for the institution. The e-mail for proposals notes that the proposal has been received and provides the assigned tracking number. The document, Tracking Your Application Package, located at <http://www.grants.gov/assets/TrackingYourApplicationPackage.pdf> explains this process.

The proposal is not considered properly received until the AOR receives email #3.

Late Submission of Full Proposals

Any full proposal submitted through Grants.gov where the time and date for submission (e-mail Number #1) is after the deadline for proposal submission in Section IV, paragraph 4 below will be late and **will not be evaluated** unless the Grants.gov website was not operational on the due date and was unable to receive the proposal submission. If this occurs, the time specified for the receipt of proposals through Grants.gov will be extended to the same time of the day specified in this BAA on the first workday on which the Grants.gov website is operational.

Be advised that Grants.gov applicants have been experiencing system slowness and validation issues which may impact the time required to submit proposals. After proposals are uploaded to grants.gov, the submitter receives an email indicating the proposal has been submitted and that grants.gov will take up to two days to validate the proposal. As it is possible for grants.gov to reject the proposal during this process, it is **STRONGLY** recommended that proposals be uploaded at least two days before the deadline established in the BAA so that it will not be received late and be ineligible for award consideration. It is also recommended to start uploading proposals at least two days before the deadline to plan ahead for any potential technical and/or input problems involving the proposer's own equipment.

3. Significant Dates and Times

Anticipated Schedule of Events		
Event	Date (MM/DD/YEAR)	Time (Local Eastern Time)
Pre-Proposal Conference/Industry Day	N/A	
White Papers Due Date	09/30/2012	3:00 PM
Notification of Initial Evaluations of White Papers*	10/21/2012	
Oral Presentation of White Papers*	N/A	
Notification of Evaluations of Oral Presentations*	N/A	
Full Proposals Due Date	01/04/2013	3:00 PM
Notification of Selection for Award *	03/15/2013	
Contract Awards*	06/01/2013	
Kickoff Meeting*	09/01/2013	

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

V. EVALUATION INFORMATION

1. Evaluation Criteria

White papers will be evaluated by the responsible Research Topic Chief to assess whether the proposed research is likely to meet the objectives of the specific topic and thus whether to encourage the submission of a full proposal. The assessment of the white papers will consider the same criteria as the evaluation of full proposals.

Full proposals responding to this BAA in each topic area will be evaluated using the following criteria. The first two evaluation factors are of equal importance:

- (1) scientific merit, soundness, and programmatic strategy of the proposed basic social science research; and

- (2) relevance and potential contributions of the proposed research to the topical research area.

The following three evaluation criteria are each of lesser importance than any of the above two, but are equal to each other:

- (3) potential impact on the offeror's ability, through the proposed research, to perform and train students in defense-relevant social sciences;
- (4) the qualifications and availability of the Principal Investigators and key co-investigators (if applicable);
- (5) the realism and reasonableness of cost (cost sharing is not a factor in the evaluation). However, if an offeror would like, it can propose cost sharing. Cost sharing may support items such as salaries, indirect costs, operating expenses, or new equipment. In each category, show the amount and nature of the planned expenditure share (e.g., equipment, faculty release time for research). A signed statement of commitment regarding the cost sharing or matching funds described above must be obtained from the appropriate institutional and/or private sector officials, and included at time of submission. **The cost sharing or matching plan should be included in the budget justification.**

Decisions for exercising options will be based on accomplishments during the base years and potential research advances during the option years that can impact DoD research priorities and capabilities. This only applies to large team awards.

2. Evaluation Panel

White papers will be reviewed either solely by the responsible Research Topic Chief for the specific topic or by an evaluation panel chaired by the responsible Research Topic Chief. An evaluation panel will consist of subject matter experts who are Government employees. Systems Engineering and Technical Assistance (SETA) contractor employees may provide technical and administrative assistance to the evaluation panel. These individuals will sign a conflict of interest statement prior to receiving proposal information.

Full proposals will undergo a multi-stage evaluation procedure. The respective evaluation panels will review proposals first. Cost proposals will be evaluated by Government business professionals and support contractors. Restrictive notices notwithstanding, one or more support contractors or peers from the university community will be utilized as subject-matter-expert technical consultants. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee and peer from the university community 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 submission. Findings of the various topic evaluation panels will be forwarded to senior DoD officials who will make funding recommendations to the awarding officials.

Due to the nature of the Minerva program, the evaluation panels and reviewing officials may on occasion recommend that less than an entire Minerva proposal be selected for funding. This may be due to several causes such as insufficient funds, research overlap among proposals received,

or potential synergies among proposals under a research topic. In such cases, proposal adjustments will be agreed by the offeror and the government prior to final award.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements –

- Central Contractor Registration: All Offerors submitting proposals or applications must:
 - (a) be registered in the Central Contractor Registration (CCR) prior to submission;
 - (b) maintain an active CCR registration with current information at all times during which it has an active Federal award or an application under consideration by any agency; and
 - (c) provide its DUNS number in each application or proposal it submits to the agency.

- Access to your Grant Award

Hard copies of award/modification documents will no longer be mailed to Offerors. All award/modification documents will be available via the Department of Defense (DoD) Electronic Document Access System (EDA).

EDA

Effective 01 October 2011, EDA is a web-based system that provides secure online access, storage, and retrieval of awards and modifications to DoD employees and vendors.

If you do not currently have access to EDA, you may complete a self-registration request as a “Vendor” via <http://eda.ogden.disa.mil> following the steps below:

Click "New User Registration" (from the left Menu)
Click "Begin VENDOR User Registration Process"
Click "EDA Registration Form" under Username/Password (enter the appropriate data)
Complete & Submit Registration form

Allow five (5) business days for your registration to be processed. EDA will notify you by email when your account is approved.

Registration questions may be directed to the EDA help desk toll free at 1-866-618-5988, Commercial at 801-605-7095, or via email at cscassig@csd.disa.mil (Subject: EDA Assistance)

Grant 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 Block 17). 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 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.

VII. OTHER INFORMATION

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

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 any one specific program. The use of these facilities and resources will be negotiated as the program unfolds. Offerors submitting proposals for grants should address the need for government-furnished facilities in their technical proposal.

2. Security Classification

RESERVED *

* "Reserved" indicates that the above does not apply to this solicitation.

3. 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 assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. For assistance with submission of animal research related documents, contact the ONR Animal Use Administrator at (703) 696-4046.

Similarly, for any proposal for research involving human subjects, the Offeror must submit or indicate an intention to submit prior to award: documentation of approval from an Institutional Review Board (IRB); IRB-approved research protocol; IRB-approved informed consent form; proof of completed human research training (e.g., training certificate or institutional verification of training); and any further documentation as required by the executing Service (note Service of the Topic Chief). In the event that an exemption criterion under 32 CFR.219.101 (b) is claimed, provide documentation of the determination by the Institutional Review Board (IRB) Chair, IRB vice Chair, designated IRB administrator or official of the human research protection program including the category of exemption and short rationale statement. This documentation must be submitted to the executing Service Human Research Protection Official (HRPO), by way of the Topic Chief. For assistance with submission of human subject research related documentation, contact the appropriate Topic Chief.

4. 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/>.

5. Organizational Conflicts of Interest

All Offerors and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any ONR or other military service or DoD technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the offeror supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval, a contractor cannot simultaneously be a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests will be rejected without technical evaluation and withdrawn from further consideration for award. For additional information regarding OCI, contact the appropriate Topic Chief. If a prospective offeror believes that any conflict of interest exists or may exist (whether organizational or otherwise), the offeror should promptly raise the issue with the appropriate Topic Chief by

sending his/her contact information and a summary of the potential conflict by e-mail to the Business Point of Contact in Section I, item 7 above, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Contracting Officer after full consideration of the circumstances, any conflict situation cannot be effectively avoided, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

6. Project Meetings and Reviews

Individual program reviews between the Service 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 the appropriate Service Headquarters 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.

VIII. SPECIFIC MINERVA RESEARCH INITIATIVE TOPICS

The Minerva program topics and corresponding subtopics illustrate social science questions of specific interest to the DoD. These topics are not intended to be mutually exclusive, and proposals may consider issues relating to multiple topics. In many cases proposals may consider issues relating to multiple topics, not intended to be mutually exclusive. Researchers should not feel constrained to limit proposals to the questions, scope or regions listed. DoD encourages innovative submissions that, in addition to the generation of knowledge in critical areas, also build new communities, new frameworks, and new opportunities for dialogue.

Proposals may leverage existing data or collect new data. Preference may be given to studies by experts capable of analyzing source material in the original languages and studies that exploit materials that have not been previously translated. Collecting viable empirical data relevant to context and situation may require field research.

Disciplinary approaches of interest include but are not limited to anthropology, cognitive science, demography, economics, geography, history, political science, psychology, sociology, and computational sciences. Interdisciplinary approaches are encouraged. Researchers should balance the specificity of their proposed research with the generalizability of the expected results. Researchers need not focus exclusively on the contemporary period, but they must be able to explain the relevance of findings to contemporary political and strategic contexts, describe the specific mechanisms (e.g., cognitive, neurobiological, environmental) that support the current or emerging contexts, and, where appropriate, help anticipate future trends.

FY2013 MINERVA RESEARCH INITIATIVE TOPIC #1

Belief Formation and Movements for Change

Recent developments throughout the Middle East, Africa, and Asia, for example, highlight the need for a better understanding of religious and cultural norms in order to build and sustain peace within those regions. Understanding the various cultural “climates” is important for engaging different cultures and finding resources and new avenues to more effectively promote rule of law, social justice and decreases in political violence and terrorism.

Beliefs and cultural norms are not static. If these are factors in motivating specific behaviors it is important to understand what drives individuals and groups to mobilize and how they influence change in an increasingly connected world, particularly when it comes to tendencies toward political violence and terrorism. It is therefore essential that the United States gain a greater understanding of these cultural dynamics in order to craft communications and operations that successfully convey their intended meanings and fulfill their intended purposes with a sophisticated understanding of the potential unintended consequences.

Primary regions of interest: South Asia, North Africa, Middle East, Latin America

Subtopic 1-A: Belief formation and influence

Research on belief formation and emotional contagion may provide analysts, policy makers, advisors, and training developers the knowledge necessary to develop better tools to understand the impact of operations on the seemingly disparate populations. This research may also contribute to countermeasures to help reduce the likelihood of militant behaviors.

Themes of interest:

- Intracultural variability in belief systems.
- Changes in individual and group identities and social structures due to globalization, if any (e.g., role transitions, identity crises, merging and division of networks).
- Factors that govern the perception of and inferences regarding outgroups. For example:
 - The schemas used by populations to interpret actions by the United States or other local actors.
 - The perceptions and impacts of government communications related to national security on international and domestic audiences, including members of diaspora communities.
- Trends in processes spreading ideologies across culturally diverse populations as well as beyond membership in specific organizations.
- Identification of the factors that make specific individuals influential within a particular cultural context.
- The role of social networks and social media as an influence on collective behavior. Measures of influence: How might the effectiveness of influence mechanisms – e.g. change in attitude distributions across population – be measured and verified? (Research investigating these questions would be expected to include mixed models of 3-4 data types/methods using available data.)

Subtopic 1-B: Group identities and cultural norms

Themes of interest:

- Social, economic, and political vulnerabilities across regions of interest and the role, if any, of religion and culture in modulating these vulnerabilities.
- The relationship, if any, between religious ideologies and the behavior of sub- or trans-state actors bound by ethnic, tribal, and regional identities.
- The role of identity in building or undermining political unity and coalitions.
- Perceptions of credibility, trust, and internal and external security in a society and its constituent groups.
- Methods and strategies for maintaining coalitions and cooperation across disparate communities and religious groups.
- Other drivers for and impacts of group identities and cultural norms.

Subtopic 1-C: Movements for change

The Department of Defense is interested in better understanding what drives individuals or groups to mobilize in order to institute change, especially when this mobilization relates to radical ideologies and violent extremism. For example, models that explain and explore factors that motivate or inhibit individuals and groups to adopt organized violence as a tactic will be especially helpful in understanding where organized violence is likely to erupt, what factors might explain its contagion, and how one might circumvent its spread.

Themes of interest:

- The psychological, economic, and political factors, if any, that foster an individual's transition from passive support of fringe social movements to active political mobilization.
- Micro level studies of psychological, economic, or other factors that differentiate those that join violent organizations from others, or that differentiate roles within violent organizations.
- Mid-level theories of intra-group and intergroup dynamics, and studies on the use of established social, cultural, political and religious institutions and symbols to justify violence or promote resilience to emergent movements.
- Macro level analysis of how community or state level variables that promote or inhibit the popularity of violent ideologies and tactics.
- "Counter-dialogues" within cultures and communities that account for why radicalism and militancy are found more in some places than others.
- The role of both traditional communication mechanisms and new media technologies in influence and political mobilization, including radicalization, de-radicalization, and terrorist recruitment.
- Other approaches exploring mechanisms of influence and political mobilization.

Subtopic 1-D: Collaboration and competition between violent groups

Over the last decade or so, the world has witnessed the expansion and merging of violent extremist organizations (VEOs) and transnational criminal organizations (TCOs). This phenomenon is largely based on economic factors rather than ideology, yet this change may bolster the ideologically oriented VEOs, and additional symbioses may further enhance the growth of and collaboration between these organizations. A fresh evaluation of these phenomena on a global scale will help DoD in its effort to anticipate and blunt this threat convergence.

Themes of Interest:

- The role of profit-motivated violent non-state actors – including both TCOs and similar groups lacking formal structure – in regional stability, migration, corruption, and informal economies.
- The role of informal illicit economies in the formation and continuation of terrorist group operations.
- Drivers and second-order effects of maritime piracy.
- Game theory-based studies of group dynamics.
- Topologies/power structures of blended groups. For example:
 - Characteristics of groups that merge and the conditions under which they merge. When do mergers not work? What insights can game theory-based analyses elicit?
 - Do such mergers contribute to processes leading to "state failure," or is a "failed state" fertile territory for such merging?
 - What ideological, operational, and strategic goals, if any, are most likely to change after the merge/transition?
 - Who are the decision makers and what are consensus mechanisms within these "blended" organizations? What cognitive systems underlie these decision making processes?
- Rare events models and assessment methods to predict relatively rare events relative to the total size of any given population, such as acts of terrorism and social conflict.
- Other approaches exploring mechanisms of influence and political mobilization.

Research Topic Chiefs:

(Subtopics A&B) Dr. Joseph Lyons, 703-696-6207, joseph.lyons@afosr.af.mil

(Subtopics C&D) Dr. Elisa Bienenstock, 703-696-2530, elisa.j.bienenstock.ngo@mail.mil

FY2013 MINERVA RESEARCH INITIATIVE TOPIC #2

Models of Societal Resilience and Change

The objective of this research track is to develop new insights into the social dynamics within states in general and authoritarian states in particular, including new approaches to defining and understanding factors impacting societal resilience and collapse. Research may assess perturbing and stabilizing external pressures related to governance, resources, environmental stressors, economies, geography, demographics, and other factors. Also of interest are any causal factors complicit in societal change which might help explain recent events in North Africa and the Middle East or provide insights for national policy and engagement with states before, during, and after similar transformations.

Anticipating and predicting the emergence of such instabilities requires a basic scientific understanding of the complexity surrounding human and natural systems interactions (e.g., positive and negative feedback mechanisms, domain-specific environmental triggers, emergent properties, tipping points, cognitive systems complicit in both reflective and intuitive inference-making, etc.) that has not yet been achieved. This topic specifically declares a scale, individuals through populations, at which the social science must be applied to a specific domain.

The Department of Defense is interested in innovative frameworks and new data that may assist policymakers in developing improved methods for identifying and anticipating potential hot zones of unrest, instability, and conflict and help in strategic thinking about resource allocation for defense efforts and humanitarian aid. Where the military or other state institutions play a role in assisting transitions in authoritarian states this research will inform strategies and tactics for such contingencies.

Primary regions of interest: Africa, Latin America, South Asia, Middle East, East Asia

Subtopic 2-A: Economic factors

Themes of Interest:

- The relationship between security, military capability, and national and international economic prosperity in the 21st century.
- The impact of changing economic activity, both formal and informal, on group, societal, state, regional, and international stability and security.
- Economic and political science perspectives on economic reform and global market integration in terms of security and societal resilience and instability.
- Region-specific concepts of corruption and tipping points in perceptions that can foster societal outrage and potential social unrest.
- Informal illicit economies in both physical and cyber domains. For example:
 - Underground markets that sell and buy data, tools, access, and other valuable items that enable many nations to acquire their cyber capabilities, resources and talents.
 - Economic models of cyber security, cyber crime, and global economic knowledge transfers.
 - What types of informal economies exist in what environments and what are the primary drivers for the supply and demand of these informal markets?
 - What are the roles of ideologies in underground markets?
 - How do these underground markets interact with legitimate markets?
 - What are the roles of government and of international organizations in monitoring, regulating, and understanding these markets?

Subtopic 2-B: Energy, environment, and resource factors

Themes of Interest:

- The social and political response of populations to resource scarcity or imbalance, including food and water insecurity.
- The relationship between changes in energy technology and the environment, perceptions of risk, and subsequent human behavior.
- Early indicators of increased stress stemming from scarcity and associated cognitive and behavioral changes. The relationship, if any, between extractive mineral wealth, economic and social inequality, and conflict, especially at a sub-national level.
- Defining and modeling the critical variables of state instability due to food security.
- Effect of increased frequency or intensity of natural disasters on civil-military relations in strategically significant countries.
- Other interdisciplinary analyses of relevant human and natural system processes and complex interactions among human and natural systems at diverse scales.

Subtopic 2-C: Other factors impacting societal stability and change

Themes of Interest:

- The impact and strategic implications of demographic changes (youth bulge, urban trends, gender, race, age, mobility, home ownership, employment status, increasing per capita wealth, etc.) on internal and external stability.
- Political, military, and social environments in rising regional powers and their implications for regional stability.
- Dependency network analyses to identify key relationships for conflict mitigation and (in the developing world) selection of development strategies.
- The potential role, activities, and impact of organized crime in creating and/or perpetuating fragility at the state and transnational level.
- Non-governmental alternatives to formal state institutions for the provision of security and goods and their effect on state legitimacy.
- The relationships between government institutions (e.g., military, police) and the population and various subpopulations in areas such as generalized trust, social integration, corruption, etc.
- The links between specific diplomacy, information, military, and economic (DIME) actions and escalation or de-escalation of unfolding crises. Researchers should balance the specificity of their proposed research with the generalizability of the expected results, and ideally look at the combined effect of at least two of the four using observable data. Also of interest include:
 - Defining and identifying tipping points in proposed models and what might cause it to go in one or the other direction of instability.
 - Novel approaches for validation of any proposed causal dynamics between DIME actions and unfolding crises.
 - Variance of DIME action impacts based on different timescales, addressed both theory and data.
- Other approaches to help better understand the sources of societal resilience and instability and the sources of present and future conflict.

Research Topic Chiefs:

(Subtopic 2-C) Dr. Elisa Bienenstock, 703-696-2530, elisa.j.bienenstock.ngo@mail.mil

(Subtopics 2-A,B) Dr. Jeffery Johnson, 919-549-4209, jeffrey.c.johnson4.ngo@mail.mil

FY2013 MINERVA RESEARCH INITIATIVE TOPIC #3

Theories of Power and Deterrence

The fields of political science and international relations have traditionally emphasized the roles of and relationships between formal institutions such as states, inter-governmental organizations, and non-governmental organizations. Today, however, many conventional assumptions regarding power relationships and deterrence theory may no longer hold.

The objective of this research track is to establish new theories, models, and approaches to power and deterrence that incorporate strategic behavior between various international actors across domains in a globalized, cyber-enabled world. This research will assist planners and policy makers to understand the implications of the growing reliance on cyber and space technologies for threat assessments, strategic vulnerability assessment, and crisis stability. For countries such as China, Iran, and other rising military powers, this research will yield deeper understanding of social, cultural, and historical factors defining strategic priorities, driving approaches to international engagement, and shaping state-internal balances of power between political, military, and industrial forces.

Primary areas of interest: Rising military powers, potential alliance partners, cyber domains

Subtopic 3-A: The role of the state in a globalized world

Themes of Interest:

- Governance factors such as reputation, trust, reciprocity, enforcement of compliance, and self-regulation based on explicit norms, and their relationship to effective governance. What roles if any do these factors play in cyber governance and cyber security?
- The balance of power between the state and other traditional institutions.
- The range of visions of the state's future present in its political discourse.
- Proportionality and legitimacy (norms) versus control as instruments of power.
- Perceptions and the evolution of national strategic thinking, including on international role and military needs.
- Trends and developments in military growth and modernization, strategic interests, and technological advances in rising military powers.
- The impact of culture on a society's definition of credibility, and the role of credibility and trust in establishing alliances to counter global issues.
- Perceptions, value structures, and decision-making processes in regions of strategic interest with respect to non-traditional threats.
- Ways in which emerging technologies shape global culture and political dynamics, including information diffusion, social structures, and power relationships.
- Novel theories of society, technological systems development, and economic systems in a globally networked world.
- Drivers and impacts of increasing or decreasing international training exchanges (e.g., international students and military officers to be trained in the West).
- Strategic planning drivers for science and technology (S&T) as they relate both to security policy and strategy and to the broader evolution of society

Subtopic 3-B: Norms and governance

Security, and "cyber security" in particular, tends to be discussed in terms of developing technical solutions – e.g., attribution, protective system architectures, encryption, etc. – but relatively little attention

has been paid to the social and cultural aspects of this issue, whether assessing the region-specific norms of , determining a cyber governance strategy, understanding how and why nefarious actors leverage cyber platforms, or even understanding how cyber security, threats, conflicts, weapons, and war are defined and distinguished amongst various communities.

Themes of Interest:

- Cyber governance strategies in terms of policies, organizational and technological changes, economic institutionalizations and persuasions, and behaviors.
- Conceptions of cyber conflict across different cultures and geographic regions.
- Strategies to influence the actions, reactions, and iterative counteractions of allies, partners, third parties, and non-state centers of decision making.
- Implications and challenges to U.S. foreign policy and national security if the majority of the global Internet were to be brought into national sovereignty. Is the U.S. model of "Internet information freedom" sustainable? What are key benefits and costs to "Internet information freedom" (i.e., current Internet) model?

Subtopic 3-C: Beyond conventional deterrence

Since the end of the Cold War, technology developments (particularly in cyber and space domains) together with shifts in the geostrategic environment have challenged and stretched traditional models of deterrence. Not only do space and cyberspace represent relatively new domains for international actor engagement, but information and communications technologies have empowered individuals and non-state actors to compete with states and potentially threaten state interests across geographic domains as well as cyber and space.

The objective of this research track is to establish new theories, models, and approaches to deterrence that incorporate strategic behavior among international actors across new and traditional geographic domains.

Themes of Interest:

- General frameworks for deterrence across different domains, different actor types, and different issue areas.
- Analyses of systems with multiple actors by external parties across multiple domains, and how such systems affect calibration considerations.
- The impact of an asymmetry of stakes and how those stakes change as a crisis or conflict evolves.
 - How can threats be calibrated across different domains for specific actors? How might proportionality of responses be determined in cross-domain deterrence?
 - How can misperception of threats and signals across all domains be reduced?
 - How do the organizational structures affect an entity's ability to send and process signals across domains?
 - How can escalation and de-escalation be managed in a cross-domain deterrent approach?
 - What makes deterrence systems stable across multiple domains?
- The role of population influence (including social media) in shaping deterrence tactics.
- The effect of unique features of space and cyberspace — related to such factors as information availability, infrastructure vulnerability, or attribution — on existing models of deterrence.
- When the actors have asymmetric value at risk in a given domain, cross-domain deterrence approaches are often necessary. States can choose to exercise leverage where they are strongest and the target weakest. (e.g., a weak space power leveraging its cyber power). For example, a state may attempt to deter cyber attacks by military actions at sea or on the ground, by economic means, through participation or non-participation in international treaties, or other approaches.

Such deterrent actions across domains yield major challenges that may be better understood through targeted study.

- *Lawfare* refers to positive and negative uses of law as an instrument of warfare. Lawfare often advantages those countries that are less law abiding as it allows them to bypass the law to their advantage, knowing more law-abiding cultures are bound to behave within constraints.
 - What is the relationship between lawfare and deterrence?
 - How might cultural differences regarding rule of law impacts or threatens US security?
 - How does the degree of lawlessness in a given society correlate with the use of lawfare?

Subtopic 3-D: Emerging topics in power and deterrence

Just as the Cold War gave rise to new ideas and fields of study such as game theory and Kremlinology, the challenges facing the world today are prompting a much broader conception and application of national power than just military capability. Accordingly, the government and the Department of Defense need to explore new approaches and methods in order to better understand what we have overlooked and what is on the horizon.

Themes of Interest:

- Areas of international affairs, international security, and national security that are newly emerging or have not been properly understood.
- Contributions of other disciplines to help us better understand the sources of present and future conflict.

Research Topic Chiefs:

(Subtopic 3-A)

Dr. Elisa Bienenstock, 703-696-2530, elisa.j.bienenstock.ngo@mail.mil

(Subtopics 3-B,C,D)

Dr. Harold Hawkins, 703-696-4323, harold.hawkins@navy.mil