

BAA Call N00014-22-S-C006
Special Program Announcement for Office of Naval Research
Research Opportunity:
Communications and Networks Applied Research Program

I. INTRODUCTION

This announcement describes a technology area, entitled *Communications and Networks Applied Research Program*, under the N00014-22-S-B001, Long Range Broad Agency Announcement for Navy and Marine Corps Science and Technology which can be found at <https://www.nre.navy.mil/work-with-us/funding-opportunities/announcements>. The submission of proposals, their evaluation and the placement of research grants and contracts will be carried out as described in the above Long Range Broad Agency Announcement.

The purpose of this announcement is to focus attention of the scientific community on (1) the area to be studied, and (2) the planned timetable for the submission of white papers and full proposals.

II. TOPIC DESCRIPTION

The proposed topic will explore Communications and Networks technologies for naval operations.

Background:

A Design for Maritime Superiority (2018) describes an operational architecture for distributed maritime operations (DMO) that "... will provide accurate, timely, and analyzed information to units, warfighting groups, and fleets." A critical component of this architecture is the Naval Tactical Grid (NTG) to connect distributed units into groups and distributed groups into fleets. Communications and networking technologies that can provide seamless, robust, connectivity are key enablers for the NTG. These technologies will be deployed on a variety of platforms, both manned and unmanned, operating under challenging environmental and operational warfare conditions (lack of infrastructure, mobility, spectrum limitations, interference, multipath, atmospherics, jamming, electronic intercept, size/weight/power constraint, etc.) in different domains (land, maritime [includes both surface and undersea], cyber, and space). Successful Command and Control (C2) and decision making, at all levels of command, for DMO is critically dependent on these communications and networking technologies.

Objective:

The goal of the Communications and Networking Program within the Office of Naval Research (ONR 311) is to support the Navy's Information Warfare vision by developing measurable advances in technology that can directly enable and enhance end-to-end connectivity and quality-of-service for mission-critical information exchange among widely dispersed naval, joint, and

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coalition forces. The vision is to provide high throughput robust communications and networking to ensure all warfighters – from the operational command to the tactical edge – have access to information, knowledge, and decision-making necessary to perform their assigned tasks. The ONR is interested in white papers for potential FY23 Applied Research (Budget category 6.2) projects under the following focus areas:

1. Novel concepts / designs for electrically small antennas and arrays at longer wavelengths, (e.g., High Frequency band);
2. Next-generation high gain low cost active electronic phased-array systems – with algorithmic enhancement for precise pointing, acquisition and tracking in Line of Sight, Beyond Line of Sight and non Line of Sight environments – for ground/surface mobile tactical platforms (with constrained size, weight, and power);
3. Innovative approaches and technologies for low probability of detect/intercept communications against advanced electronic threats;
4. Forward-looking, dual-use (software provisioned) Light detection and ranging (LIDAR) and free space optical (FSO) communications using shared hardware and common aperture with reduced size, weight and power; and
5. Dynamic scheduling, routing and control mechanisms in wireless networks to efficiently and reliably deliver traffic with varying level of service requirements (e.g., latency, loss rate, priority), while resilient to uncertainty in network state awareness and imperfect coordination amongst distributed controllers.

The ONR is receptive to innovative ideas, which are not within the above focus areas, but nonetheless are important to the Navy/Marine Corps communications and networking, as otherwise described in this Topic Description.

IV. WHITE PAPER SUBMISSION

Although not required, white papers are strongly encouraged for all offerors seeking funding. Each white paper will be evaluated by the Government to determine whether the technology advancement proposed appears to be of particular value to the Department of the Navy. Initial Government evaluations and feedback will be issued via e-mail notification from the Technical Point of Contact. The initial white paper appraisal is intended to give entities a sense of whether their concepts are likely to be funded.

Detailed Full Proposal (Technical and Cost volumes) will be subsequently encouraged from those Offerors whose proposed technologies have been identified through the above referenced e-mail as being of “particular value” to the Government. However, any such encouragement does not assure a subsequent award. Full Proposals may also be submitted by any offeror whose white paper was not identified as being of particular value to the Government or any offeror who did not submit a white paper.

For white papers that propose efforts that are considered of particular value to the Navy but either exceed available budgets or contain certain tasks or applications that are not desired by the Navy, ONR may suggest a full proposal with reduced effort to fit within expected available budgets or an effort that refocuses the tasks or application of the technology to maximize the benefit to the Navy.

White papers should not exceed 5 single-sided pages, exclusive of cover page, references, and resume of principal investigator, and should be in 12-point Times New Roman font with margins not less than one inch. White papers shall be in Adobe PDF format (preferred) or in Microsoft Word format compatible with at least Microsoft Word 2016.

The Cover Page can be found at <https://www.nre.navy.mil/work-with-us/how-to-apply/submit-contract-proposal> for contract submissions and at <https://www.nre.navy.mil/work-with-us/how-to-apply/submit-grant-application> for grant submissions.

The 5-page body of the white paper should include the following information:

- Technical Concept: A description of the technology innovation and technical risk areas.
- Future Naval Relevance (where applicable) – A description of potential Naval relevance and contributions of the effort to the agency’s specific mission.
- Operational Naval Concept (where applicable) – A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.
- Operational Utility Assessment Plan (where applicable) – A plan for demonstrating and evaluating the operational effectiveness of the Offeror’s proposed products or processes in field experiments and/or tests in a simulated environment.
- Rough Order of Magnitude (ROM) cost estimate

A resume of the principal investigator, not to exceed 1 page, should also be included after the 5-page body of the white paper.

White papers must be submitted through Fedconnect at www.fedconnect.net in accordance with Section D. Application and Submission Information, Section 2. Content and Form of Application Submission, paragraph d. White Paper Requirements, ii. White Paper Submission in N00014-22-S-B001.

To ensure full, timely consideration for funding, white papers should be submitted no later than **29 July 2022**. White papers received after that date will be considered as time and availability of funding permit.

The planned date for completing the review of white papers is **8 August 2022**.

An expanded oral presentation will be requested from those Offerors whose proposed technologies have been identified as being of "particular value" to the Government. However, a positive email response to the oral presentation does not assure a subsequent award. The purpose of the oral presentation is to better acquaint the Government with the Offeror's proposal, especially in its understanding of the technical approach and impact. The oral presentations are tentatively scheduled for **August 31, 2022**.

V. FULL PROPOSAL SUBMISSION AND AWARD INFORMATION

The Government will issue selection notification, via email, on or about **September 16, 2022**, of selection for a full proposal. A full proposal will be requested from those Offerors whose proposed technologies have been identified through the aforementioned email as still being of "particular value" to the Government.

Full proposals should be submitted under N00014-22-S-B001 or subsequent ONR BAA posted in Fiscal year 2023 by **October 7, 2022**. Full Proposals received after that date will be considered as time and availability of funding permit.

ONR anticipates that both grants and contracts will be issued for this effort.

Full proposals for contracts should be submitted in accordance with the Appendix 2 of the N00014-22-S-B001. Full proposals for grants should be submitted via Grants.gov in accordance with Appendix 1 of N00014-22-S-B0001.

ONR plans to fund 5 to 6 individual awards with a value of \$250,000 to \$500,000 per year, using research funds. However, lower and higher cost proposals will be considered.

The period of performance for projects may be from 1, 2, or 3 years.

Although ONR expects the above described program plan to be executed, ONR reserves the right to make changes.

Funding decisions should be made by **October 14, 2022**. Selected projects will have an estimated award date of **March 15, 2023**.

VI. SIGNIFICANT DATES AND TIMES

Event	Date	Time
White Paper Submission Date	July 29, 2022	4 pm EST
Oral Presentations	August 31, 2022	
Notification of selection for full proposal*	September 16, 2022	
Recommended Full Proposal Submission*	October 7, 2022	4 pm EST
Awards *	March 15, 2023	

Note: * These are approximate dates.

VII. Small Business Subcontracting

As indicated in ONR Broad Agency Announcements large businesses and non-profit organizations must submit a subcontracting plan along with their research proposal. While large businesses and non-profits are responsible for making these subcontracting arrangements, ONR will help facilitate prime contractor/small business contracting connections by posting to the ONR external website contact information of small businesses that have indicated their subcontracting interests and technological niche for prime contractor consideration for this program. This is not an endorsement, but an effort by ONR to help bring these parties together to provide superior solutions.

If you are a small business, and your company is interested in subcontracting activities with large businesses and/or non-profits considering your technology for this program, please provide the following information by email, to the ONR Small Business Director at ellen.simonoff.civ@us.navy.mil with the subject line, "BAA CALL N00014-22-S-B006".

Provide this information:

- 1) Company Name and Website
- 2) Individual (POC) name and POC email address
- 3) Business Size and socio-economic category
- 4) Brief Technology Description (no more than 3 sentences)
- 5) Technology Key Words (no more than 10 words)

Note: Do not include ANY proprietary information. This information will be posted on the ONR website under this BAA call and will be available to the public.

VIII. POINTS OF CONTACT

In addition to the points of contact listed in N00014-22-S-B001 the specific points of contact for this announcement are listed below:

Technical Points of Contact:

Name: Dr. Santanu Das

Title: Program Officer, ONR Code 31

Address: One Liberty Center, 875 North Randolph St., Suite 1115, Arlington, VA 22203-1995

Email: santanu.k.das.civ@us.navy.mil

Business Point of Contact/Contracting Officer:

Name: Mr. Stephen Hughes

Title: Contracting Officer, ONR Code 251

Address: One Liberty Center, 875 North Randolph St., Arlington, VA 22203-1995

Email: stephen.t.hughes.civ@us.navy.mil

VIII. SUBMISSION OF QUESTIONS

Any questions regarding this announcement must be provided to the Technical Points of Contact and/or the Business Point of Contact listed above. All questions shall be submitted in writing by electronic mail.

Answers to questions that are deemed material to all parties submitted in response to this BAA Call may be addressed in the form of an Amendment and will be posted to the following web pages:

- Beta.sam.gov Webpage –Contract Opportunities – <https://beta.sam.gov/>
- Grants.gov Webpage – <http://www.grants.gov/>
- ONR BAAs, FOAs and Special Program Announcements Webpage - <https://nre.navy.mil/work-with-us/funding-opportunities/announcements>

Questions regarding **White Papers or Full Proposals** should be submitted NLT two weeks before the dates recommended for receipt of White Papers and/or Full Proposals. Questions after this date may not be answered.