

Request for Information
Air Force Office of Scientific Research (AFOSR)
Future Directions Topics ([Solicitation # FDWRFI 0004](#))
20 November 2014

Legal Context

This is a Request for Information (RFI), as defined in FAR 15.201(e), and is issued solely for information and planning purposes. This RFI shall not be construed as a Request for Proposal (RFP), Request for Quote (RFQ), a formal solicitation, or as an obligation on the part of the Government to acquire any product or services. Submission of any information in response to this RFI is completely voluntary, and costs associated with any submission shall not be reimbursed by the Government. Responses may be used to inform decision making by the Air Force Office of Scientific Research (AFOSR) and Office of the Assistant Secretary of Defense for Research and Engineering, ASD(R&E), regarding rapidly-advancing areas of fundamental research. Since this is a sources sought announcement, no evaluation letters will be issued to the respondents.

Background

The Department of Defense (DOD) is the third largest federal funding agency of basic research at U.S. universities and colleges and the fifth largest funder of overall basic research, as documented in the NSF *Survey of Federal Funds for Research and Development*. The Department funds basic research across a wide variety of disciplines. It is a leading sponsor of basic research in the fields of electrical, aeronautical, mechanical, and chemical engineering; computer science; and mathematics. The DOD has a long history of supporting the physical sciences and, in recent years, has grown its investment in the social sciences.

The majority of the Department's basic research programs are managed by the military Service research organizations, *viz.* the Army Research Office (ARO), the Office of Naval Research (ONR), and AFOSR. Additional basic research is supported through the Defense Advanced Research Projects Agency (DARPA) and the Defense Threat Reduction Agency (DTRA). The Basic Research Office of the Assistant Secretary of Defense for Research and Engineering, ASD(R&E), provides scientific leadership, oversight, and coherence for the DOD's basic research programs, and stimulates the initiation or support of promising areas of research. Additionally, the Basic Research Office fosters connections with the nation's leading scientists and engineers, thereby identifying promising avenues of basic research with the potential to transform future defense capabilities. For example, it has sponsored a series of Future Directions reports, which are available online at www.acq.osd.mil/rd/basic_research/. In support of this role, the Basic Research Office has engaged AFOSR to gather information on topics that are far-sighted, fundamental science or engineering that is of interest to the DOD basic research programs.

The DOD annually supports over \$2 billion in basic research. Fundamental science and engineering underlies the technological advances that have been made over the last century and have transformed our society. The Department adapts the scope and priorities of its research portfolio, in part, in response to research advances in the U.S. and abroad. DOD program managers, scientists, and engineers routinely engage with the research community, including at technical conferences, workshops, reviews, and site visits.

This RFI is intended to provide an additional opportunity for the research community to provide input to the DOD regarding rapidly-advancing areas of fundamental research that may ultimately have an impact on national security. The DOD invites responses from distinguished scientists and engineers in the research community, including those previously unfamiliar with the DOD research enterprise.

Specific Information Requested

The DOD requests that a response highlight an area in basic science or engineering that is experiencing rapid advance, with emphasis on those at the nexus of traditional academic disciplines. There should be substantial interest in the topic from the research community.

The response should include the following:

1. Identification of the research area (i.e., topic) and broad research objectives.
2. Identification of subtopics and the technical and historical context of the rapid advance in each.
3. Discussion of the ways in which the topics and subtopics are likely to experience the greatest advance through the next decade.
4. Identification of other experts within the field (fewer than 20, please):
 - i. Title
 - ii. Affiliation, including location (and country) and sector (university, industry, etc.)
 - iii. Technical specialization and relation to the subtopics

Please do not submit proprietary information.

Interested sources are requested to submit a written response to this announcement (PDF files preferred) via e-mail to Ellen Montgomery at afosrfd@us.af.mil. Please address any questions and responses regarding this RFI to this e-mail address; telephone calls and postal mail are not welcome and will not be returned.

Responses are requested by 15 January 2015; those received later may not be considered.