

FCRP Research Announcement

Solicitation 2009- S200902, Due 5/29/09

Point of Contact:

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PROGRAM OBJECTIVES AND DESCRIPTION:

The Microelectronics Advanced Research Corporation (MARCO) is soliciting Focus Center proposals for multi-university teams in selected areas of research expertise at United States Institutions of Higher Education. The Focus Centers will concentrate research attention and resources on ground-breaking research to provide radical innovation in semiconductor technology that provides solutions to barriers in the path of sustaining the historical productivity growth and performance enhancement of semiconductor integrated circuits. The overall goal of this collaborative effort between the Department of Defense and industry is to sustain the unprecedented multi-decade record of uninterrupted performance improvement in information processing power and storage. This steady advance in capability resulted from research and development efforts on the part of both military and industrial sectors. It has provided the Department of Defense with an unmatched technological edge in advanced weaponry and provided the U.S. economy with the productivity enhancements critical to U.S. economic growth.

MARCO, a subsidiary of the Semiconductor Research Corporation (SRC), is a not-for-profit organization that administers the Focus Center Research Program (FCRP) for its participants and other contributors. The Defense Advanced Research Projects Agency (DARPA) is participating in this program. Cost sharing from universities or other sources is strongly encouraged. The Program participants will evaluate all proposals submitted in accordance with the guidelines set forth in this Research Announcement and the associated Proposer Information Pamphlet. (http://fcrp.src.org/funding/pamphlet_09.pdf)

The Focus Center Research Program will address major challenges in semiconductor and systems technology on long-range innovative research. Only U.S. Institutions of Higher Education or research institutions associated with those institutions will be considered for funding. Proposals may include other organizations, but those other organizations must be funded by some other means; they cannot receive funding for activities through the proposed Focus Center. Research funded under the FCRP is generally very high risk, high-payback, long-term and targeted to high performance, cost-effective integrated circuit (IC) technology and multi-scale systems research.

MARCO seeks proposals in the following six focus areas:

1. **Nanoelectronic Materials and Processes:** To discover, explore, and identify development pathways for revolutionary nanomaterial design, synthesis, and assembly technologies that enable information processing and storage systems with enhanced functionality and performance.
2. **Structures and Devices:** To discover structures and devices that extend CMOS scaling, enhance circuit functionality, and extend options for functional diversification and performance enhancements through heterogeneous device integration.
3. **Connectivity:** To discover new interconnect, heat management, and system integration technologies including emerging heterogeneous devices.
4. **Circuits & Modules:** To demonstrate the circuit-level topologies and design methodologies that yield functional designs for extremely-scaled CMOS that comprehend the inclusion of novel device and interconnect technologies.

5. **Information Systems Platform Design:** To manage system design complexity, improve designer productivity, and develop disruptive design technologies for heterogeneous information processing technologies.
6. **Multi-Scale Systems:** To discover and enable optimal application architectures for complex systems operating in many temporal and spatial dimensions.

Each of these areas is of equal technical importance for proposal purposes. Offerors may propose innovative research in one or more areas. Additional information on these technology areas is provided in the Areas of Interest section of the RA 2009-S200902 Proposer Information Pamphlet referenced above.

PROGRAM SCOPE:

Up to six full Center awards could be made in the six focus areas identified above. Following proposal selection, the research agreements will be made as appropriate, for base periods of up to three years and with the research expected to start in November 2009. Overall program funding may reach a level of \$50M per annum, depending on research progress and availability of funds. The funds may not be equally divided among all the Centers. The option for three-year renewals exists, dependent on the overall success of the program, the technical progress of the Centers, and the availability of funds. The technical POC for this effort is Betsy Weitzman (MARCO)..

GENERAL INFORMATION:

Proposers should review the document entitled "RA 2009-S200902, Focus Center Research Program, Proposer Information Pamphlet", which provides further information on areas of interest, the submission, evaluations, funding processes, proposal formats, and other general information. This pamphlet may be obtained from http://fcrp.src.org/funding/pamphlet_09.pdf or by electronic mail (fcrp-2009-solicitation@src.org) or U.S. mail request to the administrative contact address given below. Proposals not meeting the format described in the pamphlet may not be reviewed. Proposers must submit an original, six (6) copies and an electronic file in Word or pdf (CD or USB drive) of the proposal to:

Ms. Betsy Weitzman
Microelectronics Advanced Research Corporation, SRC
1101 Slater Road, Suite 120,
Durham, NC 27703

Proposals must be received by Friday, May 29, 2009, in order to be considered.

This notice, in conjunction with the RA 2009-S200902 Proposer Information Pamphlet, constitutes the total Research Announcement. No additional information is available, nor will a formal Request for Proposals (RFP) or other solicitation regarding this announcement be issued. Requests for the same will be disregarded. MARCO reserves the right to select for award all, some, or none of the proposals received. All responsible sources capable of satisfying the FCRP needs may submit a proposal, which shall be considered by MARCO. Historically Black Colleges and Universities (HBCU) and Minority Institutions (MI) are encouraged to submit proposals and join others in submitting proposals ; however, no portion of this RA will be set aside for HBCU and MI participation due to the impracticality of reserving discrete or severable areas of research in the FCRP.

Any objections to the terms of this Research Announcement or the RA 2009-S200902 Proposer Information Pamphlet must be presented in writing within fifteen (15) calendar days of the online publication of this RA. Any objections to the conduct of receipt, evaluation or award of contract from MARCO must be presented in writing within the (10) calendar days of the date the objector knows or should have known the basis for its objection. Objections must be provided in letter format, clearly stating that it is an objection or protest to this RA or to the conduct of evaluation or award of a contract, and providing a clearly detailed factual statement of the basis for objection. Objections must be received at the address stated above for delivery of proposals within the times indicated in order to be considered. Other administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal to this RA, should be directed to: fcrp-2009-solicitation@src.org.

EVALUATION CRITERIA:

Evaluation of proposals will be accomplished through a technical review of each proposal using the following criteria, which are listed in descending order of relative importance:

1. Overall scientific and technical merit
2. Ingenuity, novelty, and impact of overall center and new frontier projects
3. Impact of proposed research (potential contributions to the missions of the FCRP sponsors)
4. Capabilities of proposed investigators
5. Cost effectiveness, realism

Cost realism will only be significant for proposals that have seriously over- or under-estimated the cost to complete. The proposal evaluation and selection process will be carried out by MARCO with the assistance of FCRP sponsors from DARPA and industry.