

FCRP Proposers' Conference



Welcome!!

Thank you for your interest!

Objectives of this event:

Learning and Teaming!

- Hearing perspectives from DARPA and Industry regarding expectations of Phase VI FCRP
- Facilitating team building via poster session, mingling, teaming discussions
- Encouraging University participants to direct questions to Panel re: RA S201209

Event Agenda / Logistics



- **Part I:** Presentations by Jeff Rogers and Mike Mayberry to help clarify expectations next phase of FCRP
- **Part II:** Opportunity to view technical posters and identify potential synergies across various teams of researchers
 - Buffet lunch available in hallway adjacent to ballroom. Please fill your plates and return to mingle, learn, team!
- **Part III:** Q&A Panel Discussion, with Jeff and Mike returning to field your questions, along with Ralph Cavin. (Other industry sponsors may respond, as well)

Speakers / Panelists



- [Dr. Jeffrey Rogers](#) joined DARPA as a Program Manager in the Microsystems Technology Office in June 2008. A common thread of his programs is using intrinsic problem complexities to enable new or improved functionality.
- [Dr. Michael C. Mayberry](#) serves as Vice President, Technology and Manufacturing Group; and Director, Components Research at Intel Corporation.
- [Dr. Ralph K. Cavin III](#) first came to SRC in 1983, after 17 years as Texas A&M faculty member. He joined North Carolina State University as Department Head for Electrical and Computer Engineering ('89 to '94) and Dean of Engineering ('94 to '95). He served as SRC VP for Research Ops from 1996 to 2007 and is currently SRC Chief Scientist.

Q & A Panel Session

FCRP Two-Phase Selection Process



- **White Paper Phase**
 - **Proposers' Conference – May 14th**
 - Consortium (DARPA + Industry) reps will answer questions
 - Potential submitters will have teaming opportunities
 - Attendance not required to submit a white paper
 - **White Papers due – June 15th**
 - **Selection by Consortium Technical Committee – July 9th**
- **Proposal Phase**
 - Full Proposers selected in above phase may be given feedback on ways to strengthen their proposal
 - Proposers will collaborate with others to create and propose combined Centers
 - Full proposals due on **September 14th**

New FCRP Phase VI Implementation



- New Centers will be named by October 15th – number of Centers, Duration, and Funding Levels will be
 - As recommended by the Technical Evaluation Committee
 - As approved by the FCRP Governing Council
- New Centers will be launched on January 15th, 2013
 - After contract completion between SRC and Lead Universities (contracts with subs done by lead universities)
- The new program will operate
 - Under the direction of the FCRP Governing Council
 - Administered by SRC MARCO on behalf of the Consortium
 - Administration and Research of each Center will be led by a Center Director

Research Expected in New FCRP



- Revolutionary research that results in the elimination of technology barriers and broadly impacts the entire semiconductor and defense industries
- New technology options for semiconductor and complex systems design technology directions focused on the long-term needs of the semiconductor, defense and applications systems industries
- Major payoffs of these research efforts are expected to be commercially viable 8-12 years from project initiation
- Each Center will be a virtual institution comprised of a lead university with one or more affiliated universities working collaboratively to engage the best research ideas with the best researchers

Critical Attributes of Your Proposal



- A compelling and well-articulated vision for long-term, exploratory research illustrating its importance to U.S. semiconductor and defense industry competitiveness and to U.S. Department of Defense superiority: a vision that is both embraced and enthusiastically deployed; a vision that leads to the conception, demonstration, and evaluation of revolutionary technology options;
- A crisp, motivating and empowering mission that is used by all Center participants as a guiding principle to make decisions;
- An interactive, cross-disciplinary, multi-institutional environment, where the implications of all research plans and results are adequately comprehended by the entire team of Center investigators;

Critical Attributes of Your Proposal (2)



- A dynamic process for Center research evolution, including a methodology for adding, subtracting and modifying research directions within the Center, and involving new researchers and institutions as appropriate to enhance and renew the effectiveness of the Center;
- Acknowledged global leadership in the field based on pioneering contributions;
- An up-to-date understanding of all significant technology barriers within a Center's area of focus, and an understanding of the larger context in which the Center's work is performed;
- A plan and methodology for interacting with other appropriate Centers on collaborative research technology transfer between Centers; and
- A clear, well-defined management plan

Characteristics of Center Director



- The Center Director is an employee of the lead institution in the Center;
- The position of Director cannot be shared or rotated;
- The Director is responsible for administering the award on behalf of all participating institutions within the Center;
- The Director is responsible for initiating the evolution of the Center program, including but not limited to, originating and eliminating tasks and projects within the Center as opportunities and results arise; and
- The Center Director is responsible for handling the administration of the awards on behalf of all participating universities

NEXT – Highly Complex Systems

The mission of the NEXT thrust area is to enable highly complex systems with capabilities well beyond those available today, i.e., to augment beyond the “sum of the parts.”

1. High performance analog for high speed wireless; THz electronics for imaging, sensing, novel power devices
2. Vehicle and Distributed Sensor Networks
3. Computing System Architectures based on CMOS technology
4. Tools and methods for design, verification, and predictive modeling, including physical modeling of thermal and structural impacts on functionality and the physics of failure of proposed components.

Topical Areas of Research (2)



ACCEL - Semiconductor Technologies beyond CMOS

The mission of the ACCEL thrust area is to identify and accelerate progress for new mainstream technologies beyond digital CMOS

1. Nonconventional material systems
2. Quantum engineered devices and new sensors and transducers
3. Integrated circuits and computing architectures

Addressing the Research Needs



- Out-of-the-box research proposals that address these areas in novel ways are encouraged, and proposers are further encouraged to combine topics in order to produce ground-breaking research
- None of the topical area descriptions contained in this solicitation should be considered entirely comprehensive or exhaustive
- Your white paper/proposal should outline your own vision and plan for achieving the vision
- White papers/proposals that show in-depth knowledge of the topic and of the significant problems faced by industry and researchers for that topic will receive the most positive evaluations from the proposal review team