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/Mixed-Signal Circuits, Systems, and Devices (AMS-

[SUBMIT WHITE PAPER](#)

Research

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Research Corp. (SRC) Analog/Mixed-Signal Circuits, Systems, and Devices (AMS-CSD) member based to solicit white papers for possible funding in 2022.

Open to all domestic and foreign universities and may be addressed by an individual investigator or a department. The selection process is divided into two stages. Interested parties are requested to submit a 1-page white paper which should identify what can be done in a three-year period beginning January 1, 2023. A successfully completed white paper will result in an invitation to submit a full proposal. These proposals will be further down selected into research contracts.

Contracts will address existing and emerging challenges in information and communication technologies (ICT) and related technologies, as outlined in the [Decadal Plan for Semiconductors](#), and accelerating innovation in

Contracts of the members for selected projects to be reviewed and renewed annually, but we anticipate that the total funding over a lifetime of 3 years which should help support a mix of research scholars. SRC projects typically support research scholars doing a variety of doctoral dissertations, graduate research, undergraduate research, and post-doctoral work.

SRC will support each project up to \$90K (USD) per year. The number and size of the contracts awarded will depend on the availability of funds, the support of the research needs, and by the number of high-quality proposals offering funding leverage (other funding resources related and beneficial to the proposed project). The budget and details should be described (ex. Fellowships, student support, fabrication support, etc.).

The research selected will be funded through TxACE, directed by Prof. Ken O at the University of

Researchers may be involved in no more than two white papers as either a principal investigator or co-principal

Needs

Needs are outlined in the [Research Program needs document](#). Researchers should carefully review this

Broadening Participation Pledge

To ensure the next wave of semiconductor innovation and solve the enormous challenges facing our industry, as part of our aggressive agenda from the Decal Plan for Semiconductors, we must be equally committed to these challenges and the fruits of that success – the people and communities we create and nourish (for example women and underserved minorities). Hence, 2030 Broadening Participation Pledge is issued below.

In the next decade, as SRC defines, selects, and manages its research and education programs, we will look to create a diverse base, establish a balanced mix of bachelor's, master's, and Ph.D.-level initiatives, and create a more inclusive community.

Commitment to Sustainability

With the rapid growth of semiconductor chip manufacturing in the coming years, it is imperative that the materials, and processes involved in their manufacturing are as **sustainable as possible**. Therefore, we take into consideration the environmental and human health impacts of new chemistries and focus on the use of more environmentally preferable materials and processes chemistries that are more effective, and safer. In general, chemicals that are known to be persistent, bio-accumulative, or toxic should be replaced with more environmentally benign substitutions. Two specific examples include, high global warming potential gases used for etching and chamber clean and a diverse class of per- and poly-fluoroalkyl substances such as PFAS.

The improvements that Moore's law has afforded to semiconductor hardware and the systems they enable has created a global appetite for ICT is yielding energy consumption levels that are creating a new headwind to the advancement of technology. This may limit the growth of our GDP or semiconductors as we don't invest in the discovery of new technologies with radically improved energy efficiency.

Submission Guidelines

Submissions are limited to 1 page total, using a minimum of 10-point font size, and must be submitted via the application **by Wednesday, June 22, 2022, no later than 11:59 PM EDT**. Submissions not in accordance with all guidelines will be excluded from consideration.

Provide the following identifying information in your White Paper:

Researcher name and university.

Researcher's contact information (telephone number, mailing address, and e-mail address).

Address the following topics in your White Paper:

1. Problem Statement: Emphasize area and problem to be addressed; match most relevant topic addressed in the document. Projects can cover multiple research needs. Please identify each code covered in the document.

2. Research Strategy: Present your strategy for addressing the problem. Describe important findings from your research to date and how your proposed research would advance the state of the art and be useful to SRC member.

3. Results: What you plan to accomplish in a 3-year period. What are the anticipated outputs of a project?

4. Diversity Participation: How your task will enhance diversity in one or more of the following ways.

• Increase the number of SRC's student population

• Increase the number of BS and/or MS students and research/education initiatives

• Increase diversity – getting more women, more under-represented minorities (URM) involved - globally

• Increase the number of US students into graduate research while still advocating for the best students from across the globe

• Increase the number of researchers and **young faculty**.

5. Budget and Participants: Plan for yearly budget should include overhead charges by your institution. If you are a university, please also indicate the number of students supported and their degrees pursued. A detailed budget is not required at this time.

6. Funding: Illustrate any leveraged funding which supports the goals and objectives of the proposed research. Identify any additional collaborative funds identified for the project help expand the scope of the proposed research.

: Identify any background intellectual property that either blocks the exercise of license rights or is required for implementation of any of the expected results of this proposed research.

Researches will be expected to:

(s) to work on the project at the start of the contract and encourage them to join the [SRC Research Network](#).

SRC’s annual student conference, TECHCON, is highly encouraged.

Facilitate student interactions and hiring by Industry participants.

Meet with industry liaisons at least every 4-8 weeks.

Encourage participation in annual project reviews (PI(s) and student(s) are invited).

Track performance Indicator (KPI) Scorecards yearly associated with annual review.

Deliverables for pre-defined deliverables in accordance with due dates set in proposal.

Presentations, posters, thesis, etc. resulting from sponsored research.

Submit publication drafts (conferences, journals, etc.) to SRC at least 60 days prior to anticipated publication.

Identify promising areas of research with disclosures sent to SRC.

Manage budget with timely spending and regular invoicing to SRC.

Host public events and announcements about you and your team to SRC.

If open source software is to be developed, SRC encourages the use of MIT licensing terms when made available at <https://opensource.org/licenses/MIT>.

Participate in TxACE activities, which highlight the importance, the need, and progress of research in the analog domain (the task is placed as part of TxACE).

Criteria

White papers and later proposals will be accomplished through a technical review of each white paper against the following criteria, which are listed in descending order of relative importance:

- Scientific and technical merit
- Novelty, and impact of proposed research
- Participation
- SRC’s Commitment to Sustainability
- Quality of proposed investigators, Cost-effectiveness, realism

Deadlines

	Deadline
Release of Call-for-White-Papers	Wednesday, June 1, 2022
Submit White Papers	Wednesday, June 22, 2022, 11:59 PM EDT
Submit Full Proposals	Tuesday, August 02, 2022
Submit Full Proposals	Monday, August 22, 2022, 11:59 PM EDT

als Notified

Friday, September 16, 2022

Start

January 1, 2023

Technical questions to [Marcus Pan](#), Research Program Director.

Comments and responses should be directed to [LaTanya Holmes](#), Research Program Coordinator.

4819 Emperor Blvd, Suite 300 Durham, NC
27703



Voice: (919) 941-9400 Fax: (919) 941-9450

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