SC EPSCoR

Scientific Advocate Network (SAN) Program Solicitation

SC EPSCoR Solicitation Number 8-2019

Scientific Advocate Network (SAN) Program Information

The Scientific Advocate Network (SAN) program aims to increase diversity in materials research and education with a goal of increasing diversity of the pipeline of Under Represented Minority (URM), women, and persons with disabilities pursuing and completing STEM degrees. The vision of the NSF EPSCoR Research Infrastructure Improvement award titled, *Materials Assembly and Design Excellence in South Carolina* (*MADE in SC)* is to discover and establish new and sustainable approaches for the design and assembly of hierarchical materials at multiple relevant length scales that serve South Carolina's STEM research, education, and workforce needs and invigorate economic development.

MADE in SC Diversity Priorities

The strategic activities and initiatives of MADE in SC that are aimed at increasing diversity in SC materials research and education and in STEM fields statewide are (1) attracting faculty from URM groups and other underserved populations to participate both in research and project leadership; (2) increase diversity of the graduate and UG student populations engaged in materials science research, and (3) provide focused training for HS teachers interacting with highly diverse and underserved populations in their home institutions.

MADE in SC Research Priorities

- **Modeling and Computation Core (MCC).** The goal of the MCC is to develop multiscale models and computational tools synthesizing theories, methods, and infrastructure to provide optimized solutions for the materials system.
- **Research Thrust 1 – Hierarchical Structures with Controlled Optical, Electrochemical, and Magnetic Properties.** The goal of Thrust 1 is to explore the inorganic crystal structure and mesoscale assembly of hybrid inorganic and organic materials to control and tailor their optical, electrochemical, and magnetic properties.
- **Research Thrust 2 – Stimuli-Responsive Polymeric Materials**. The goal of Thrust 2 is to design and develop synthesis strategies for polymers able to respond to external cues leading to, e.g., materials for efficient water treatment and self-repairing materials for harsh environments.
- **Research Thrust 3 – Rational Design of Interactive Biomaterials.** The goal of Thrust 3 is to develop fundamental understanding of the effect of physical and chemical signals on cellular behavior across a range of length scales, leading to the development of interactive biomaterials, e.g., for use in regenerative medicine.

SAN Program Award Types:

Funding priority will be given to proposals that show significant promise to positively impact the diversity of the pipeline of URM (as defined by NSF), women, and persons with disabilities in the research areas listed above. To achieve this, the SAN program provides four primary funding types:

- Support for URM undergraduate students in research related to *MADE in SC*
- Support for increasing the recruitment of a diverse group of graduate students
- Support for hosting scientific conferences, symposia, and meetings in South Carolina that aim to increase diversity of the STEM student pipeline
- Support for other specific approaches to Broadening Participation in STEM

TYPE I: Engaging URM Undergraduate Students in MADE in SC Research

MADE in SC aims to increase research participation by underrepresented students including race/ethnicity and gender in STEM during the academic year and/or the summer. Research experiences must be aligned with *MADE in SC* research priorities as listed above. Research experiences can take place either at the students' home institutions or another institution in South Carolina. Student researchers are required to complete Responsible Conduct of Research (RCR) training, and appropriate documentation must be submitted to SC EPSCoR Program State Office. Students receiving support will be considered *MADE in SC Research Fellows* and will be required to participate in the *MADE in SC Research Fellows* annual conference. Funding for this Program Type supports student stipends, travel (e.g., to research sites, conferences), and materials and supplies for research. Funding cannot support faculty or staff salaries and the proposal must impact a group of at least three students.

Proposals should include an implementation and management plan with action items that address the following:

- Description of the student research project (e.g., significance of research, relationship to *MADE in SC*, research plan). It is preferred for proposals to integrate Multiscale Modeling and Computation Core (MCC) with other MADE in SC Research clusters (e.g., Thrust 1, Thrust 2, Thrust 3), start and end dates of the research experience, research location, and student responsibilities in the research project.
- Identity qualifications of research mentor(s) including previous experience with underrepresented student research mentoring and the student mentoring plan including assessment.
- Opportunities for students to disseminate results (e.g., presentations, publications, senior thesis, etc.).

TYPE II: Recruiting a Diverse Group of Graduate Students

MADE in SC aims to increase the number of URM (as defined by NSF) students pursuing graduate degrees in MADE in SC related disciplines. The following are example of projects that fall under this Program Type:

- Proposals to support new URM graduate student to participate in MADE in SC research. These funds must be used to partially support graduate student research assistantships for newly recruited graduate students and must be matched by the institution. The research topic must be approved by the MADE in SC Institutional Director of the university. A letter of support from the MADE in SC Institutional Director of the university and a letter of cost-share (at least 1:1 match) commitment from an Institutional Official (e.g., department chair, dean) are required. Cost-Share documentation will be required to be submitted to SC EPSCoR State Office.
- Proposals to support faculty travel (who has student recruitment responsibilities) to recruit graduate students at SC HBCUs (e.g., to give lectures, hold group meetings with potential graduate students, and other recruitment activities). The proposal must include specific information about activities planned at the HBCU and a letter of support from a host at the HBCU.
- Proposals to support recruiting programs at SC academic institutions aimed at attracting URM students to graduate school. Examples of these programs include hosting URM students for a recruiting program at the SC university. Proposals must explain the recruiting and selection process, the activities that the students will be engaged in, the number of students and demographics, the disciplines involved, and the plan to follow up with the students and whether offers will be made to the participants to attend graduate school. Please discuss your plan to follow up with the participants.

TYPE III: Support of Scientific Conferences, Symposia and Meetings

MADE in SC supports hosting scientific conferences, symposia, and workshops that are relevant to its vision and will facilitate broadening participation in STEM (e.g., engaging individuals from underrepresented groups; diverse institutions including minority serving institutions and predominately undergraduate institutions) in South Carolina. Proposals under this Type are envisioned to reach a large number of URM (as defined by NSF) students. Proposals for this Program Type will be considered for funding if they are aligned with the *MADE in SC* priorities. Conferences and meetings may provide a platform to present research results, scholarly work, update subject matter information, and engage students and junior faculty. Funding for this Program Type should go towards site rental, speaker fees, equipment rental, publication costs, supplies, and travel support. The proposed conferences, symposia and meetings should occur during the award period but not before December 15, 2019. Promotional/marketing materials *are required* to be submitted to the SC EPSCoR State Office for review before publication. The MADE in SC Logo **is required** to be included on promotional, conference materials, and website.

Proposals *should* address the following:

- The purpose and justification including the scientific need, how the activity will address the scientific need, and its benefit to the research community.
- Description of the conference, symposium or meeting plan to include the topic, dates, location, tentative agenda, audience type, projected number of attendees, and exhibits.
- Other sources of funding to support the activity.
- Composition of the conference or meeting planning committee.

- Description of tentative speakers, panel members, and moderators including credentials and previous relevant experience.
- Will student researchers present or co-present conference presentations or poster sessions?
- Will junior faculty be involved with the activity?
- Description of marketing plan to promote the conference or meeting.

TYPE IV: Other Specific Approaches to Broadening Participation in STEM

MADE in SC aims to develop the URM scientific workforce that may be lying dormant or underutilized in South Carolina and increase other types of educational programs (e.g., experiential education, collaborative work, industrial partnerships, co-ops, internships). The following are examples of projects that fall under this Program Type:

- Proposals to support URM Undergraduate Student Travel to STEM Conferences and/or National Laboratories for professional development to strengthen candidacy for graduate school. Funding can be allocated towards conference registration, travel (including lodging and meals based on the SC EPSCoR State Office travel rate policy), and poster printing costs if presenting a poster at a conference. These proposals should address the following:

  o Description of the purpose of student(s) travel, number of students traveling, target conferences or national labs, the student recruiting and selection process, expected outcomes/benefits from the travel, and plans to follow up with the students upon completion of travel.
  o How does the proposed activity increase graduate school readiness?

- Proposals to support Research Experiences for South Carolina High School Students and Teachers may request funds for materials and supplies, housing and meals (e.g., High School Students), and location and/or equipment rental. Proposals should address the following:

  o Description of the research experience, start and end dates, location, estimated number of participants, recruitment and selection process, marketing plan, opportunities to disseminate results, other sources of funding to support the activity, and plans to follow up with participants upon conclusion of research experience.
  o Describe how proposed research experience is appropriate for the audience.
  o Describe the activities that will be carried out, person(s) responsible and their experience with the proposed activity, and the expected impact and outcomes.
  o Proposals retaining evaluator services in the project should describe the expertise of the evaluator and experience evaluating the proposed activity. Project evaluations should be submitted with final report.
  o Describe any partnerships or collaborations for the proposed activity and if it contributes to its sustainability.
  o Proposals for research experiences for high school students should describe how the proposed activity will increase college and career readiness.
  o Proposals for research experiences for teachers should address how the proposed activity will improve instructional practices and increase student learning.

- o *NOTE*: Institutional approval (e.g., Pre-College Program Office) is required for research experiences for high school students. Written institutional approval is required to be submitted to the SC EPSCoR State Office prior to award start date.

- Proposals to support STEM Camps for South Carolina High School Students may request funds for materials and supplies, housing and meals, evaluator services, location and/or equipment rental, and portion of insurance coverage for minors. Proposals should address the following:

  - o Description of STEM camp plan to include STEM topic area, start and end dates, location, expected number of participants, marketing plan, student recruitment and selection process, opportunities to disseminate results, other sources of funding to support the camp, and plans to follow up with participants upon conclusion of the camp.
  - o How does the proposed activity address the challenges in STEM education in K-12 including diversity?
  - o Describe the activities that will be carried out, person(s) responsible, experience with proposed activity, and projected impact and outcomes.
  - o Proposals retaining evaluator services in the project should describe the expertise of the evaluator and experience evaluating the proposed activity. Project evaluations should be submitted with final report.
  - o Describe any partnerships or collaborations for the proposed activity and if it contributes to the sustainability of the proposed project.
  - o *NOTE*: Institutional approval (e.g., Pre-College Program Office) is required for STEM camps for high school students as they are minors. Institutions must ensure background checks of all persons working with students including paid, volunteer, new, and reoccurring persons; securing driving records for persons transporting minors; and procedures for handling student medications at camp. Written institutional approval must be submitted to the SC EPSCoR State Office prior to award start date.

Award Information

Award Type: Grant

Maximum Funding Amount Per Award: $10,000.00

Award Duration: 12 months

Number of Awards: Depends on quality of proposals and availability of funds.

Who May Apply?

Proposals may be submitted by investigators from any South Carolina college or university. *Current SAN Awardees are eligible to apply for funding for a Program Type different from the one for which they are currently funded.*

Deadline

Full Proposal – Monday, October 7, 2019 – 5:00 PM EST

Full Proposal Content

The sections below represent the body of the proposal. Failure to submit the required sections will result in the proposal not being accepted or being returned without review. *Note: The number of pages for each section below (shown in parentheses) must not be exceeded.*

1. **Cover Page (2 Pages)**

   Use the Cover Page form in Appendix A.

2. **Project Description (5 Pages) ***

   The Project Description should provide a clear statement of the work to be undertaken and must address the objectives and the requirements of the specific proposed Program Type outlined in the SAN Program Type above. Proposals must articulate relevance to MADE in SC priorities, the potential to increase the STEM pipeline and to broaden participation in STEM, the target demographics of student and/or teacher participants, potential outcome and impact, and the method of recruitment and selection. A statement about the merit, the potential impact, and plans for sustainability of the proposed activities should also be included in this section. Failure to address the requirements listed under the Program Type above will result in administratively declining the proposal.

   * For proposals of Type II - Graduate Student Assistantship only. In addition to the maximum of 5 pages, please add 1) a Cost-Share Letter of Commitment from an Institutional Official (e.g., department chair, dean) committing the matching funds for the graduate assistantship, and 2) a Letter of Support from the MADE in SC Institutional Director supporting and approving the proposed research topic. The total number of pages for Project Description for Type II – Graduate Assistantship proposals must not exceed 7 pages.

3. **References Cited**

   Reference information is required. Each reference must include the name of all authors (in same sequence in which they appear in the publication), article title, journal title, book title, volume number, page numbers, and year of publication.

4. **Results from Prior SC EPSCoR Support (1 Page per Award)**

   The purpose of this section is to assist reviewers in assessing the quality of prior work conducted with current or prior SC EPSCoR funding. If the PI identified on the proposal has received a SC EPSCoR award as a PI since January 1, 2017, the following information must be provided:

   - Title of the project, start date, date completed, and award amount.
   - Brief summary of the results, including accomplishments.

- Indicate whether publications or other products resulted from the award, and provide a complete list, if any.

If the project was recently awarded and therefore no new results exist, briefly describe the proposed work.

5. **Biographical Sketches (2 Pages)**

   A biographical sketch is required for the PI in NSF format. For more information on NSF format, visit https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp#IIC2f

6. **Budget**

   Use the Budget form in Appendix B.

7. **Budget Justification (2 Pages)**

   The budget justification must be composed of no more than two pages and must address every budget item requested.

Budget Information

- The total budget requested may not exceed $10,000 per proposal. The SAN program is a cost-reimbursement program and SC EPSCoR Program will reimburse paid expenses **NOT** incurred expenses.
- Awardees should ensure that costs claimed under SC EPSCoR Program grants are allowable, allocable, and reasonable.
- Cost-share is required for Program Type II. Any matching contributions from other sources should be listed in the budget and described in the budget explanation.
- **Indirect costs are not allowed** under this solicitation; however, they may be used to show a non-federal cost-share commitment.

Submission Instructions

Proposals must be submitted via the SC EPSCoR Portal at https://scepscoridea.org/Solicitations/portal/index.php. If you are not registered already, please follow the instruction to register then to upload proposal components as PDF files.

Proposal Review Process

Proposals that meet the eligibility requirements and the guidelines of this solicitation will be evaluated by external reviewers (outside South Carolina) based upon the extent to which they meet specific criteria including but not limited to:

- Merit, potential of broader impact, and potential to increase diversity
- Qualifications of the PI and project team (if applicable) to conduct the proposed activity

- How well the proposal addresses the specific requirements of the SAN Program Types and its potential for success, including budget considerations?

Award and Reporting Requirements

- All publications (e.g., research publications, press releases, other publications or documents about the research funded by the SC EPSCoR Program) and presentations resulting from the SAN *are required* to include an acknowledgement of SC EPSCoR Program support and a disclaimer. "*Research reported in this [publication, press release, presentation] was supported in part by the NSF and SC EPSCoR Program under award number (NSF Award # OIA-1655740 and specific SC EPSCoR grant number). The views, perspective, and content do not necessarily represent the official views of the SC EPSCoR Program nor those of the NSF.*"
- All conference and meeting materials *are required* to acknowledge SC EPSCoR Program support and state "*Funding for this conference was made possible (or in part) by SC EPSCoR Program under award number (NSF Award # OIA-1655740 and specific SC EPSCoR Program number). The views and perspectives expressed in conference materials, publications, speakers, or moderators do not necessarily reflect those of the SC EPSCoR Program or infer endorsement by the SC EPSCoR Program.*"
- **Program Type I Only**: Students involved in research will be required to present their research findings at the MADE in SC and SC EPSCoR Meetings.
- **Program Type I Only**: Reassurance of Responsible Conduct of Research (e.g., CITI Certification) are required for student researchers to be submitted to SC EPSCoR Program State Office.
- Principal Investigators will be required to provide email addresses of Undergraduate Students, Graduate Students, and K-12 Teachers supported by the SAN Award to the SC EPSCoR State Office for evaluation purposes.
- The SC EPSCoR Program reserves the right to conduct site visits during the project period for evaluation and reporting purposes. Awardees are expected to provide required information and documentation to the SC EPSCoR Program staff and External Evaluator as needed.
- A final report will be due no later than 60 days after the end of the award.

Contact Information

General inquiries should be made to:

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