SC EPSCoR/IDeA

Scientific Advocate Network (SAN) Program Solicitation

SC EPSCoR/IDeA Solicitation Number 8-2018

Revised August 30, 2018

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. The focus of this initiative is to discover and develop new intelligently designed optical and magnetic materials, stimuli-responsive polymeric materials, and interactive biomaterials.

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. Supporting goals are the development of advanced multiscale theoretical foundations, fast algorithms for high throughput computations, high resolution/fidelity imaging and visualization, and big data analytics including uncertainty quantification.
- **Research Thrust 1 – Intelligently designed optical and magnetic materials**. 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 and magnetic properties. These designed materials and assemblies will exhibit multi-functional, correlated, collective properties leading to, e.g., materials for enhanced energy transfer for lasing and harvesting applications.
- **Research Thrust 2 – Stimuli Responsive Polymeric Materials**. The goal of Thrust 2 is 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 – 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 three primary funding types:

- Support for underrepresented 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

TYPE I: Engaging Underrepresented Students in MADE in SC Research

MADE in SC aims to increase research participation by underrepresented students (including race/ethnicity and gender in appropriate fields, e.g., engineering, mathematics, etc.) 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/IDeA 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 stipends, travel (e.g., to research sites, conferences), and materials and supplies for research.

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

- Description of the students' research project (e.g., significance of research, relationship to *MADE in SC*, research plan)
- Start and end dates of the research experience
- Research location
- Description of student recruitment and selection process
- Student responsibilities in the research project
- Identity and qualifications of research mentor(s) including previous experience with underrepresented student research mentoring.
- 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 associated scientific fields in South Carolina. Graduate school program areas can include Mathematics, Polymer Science, Chemical Engineering, Materials Science and Engineering, Textile Engineering, Chemistry, Biomedical Engineering, Biology, Physics, Electrical Engineering, Computational Science, and Computational Modeling. The PI for this

Program Type should have student recruitment responsibilities at his/her institution. The following are example of projects that fall under this Program Type:

- Exhibit booths at conferences (e.g., NOBCChE, ABRCMS) for student recruitment to include exhibiting fees, advertising in the conference program/website, and travel.
- Student travel to conferences including ABRCMS, NOBCChE, etc. and national laboratories supportive of *MADE in SC* research priorities for professional development to strengthen candidacy for graduate school.
- Travel and honoraria for invited speakers experienced in recruitment, mentoring, and retention of historically underserved populations to share effective strategies to diversify the STEM workforce on SC campuses.
- Travel for faculty (who has student recruitment responsibilities) from SC institutions to recruit graduate students at SC HBCUs (e.g., lectures and other recruitment activities).
- Recruiting programs at South Carolina academic institutions that host URM students.

Proposals should include an implementation and management plan. Depending on the specifics of the proposal, relevant items from the following list must be addressed:

- Description of the program(s) being proposed for student recruitment including baseline demographics of historical and current URM enrollment.
- Description of student recruitment and selection process.
- Alignment with the *MADE in SC* research priorities
- For conference exhibits, a description of the conference, projected number of attendees, and how it will potentially increase URM enrollment.
- If proposing opportunities for URM students to strengthen their candidacy for graduate school, a listing of professional development activities (e.g., attending and presenting at conferences, laboratories, other venues).
- If applicable, a description of proposed workshop/seminar focusing on recruitment, mentoring, and retention of URM students, and how it will broaden participation in Materials Science.
- If applicable, a description of proposed invited speaker(s) and credentials in recruitment, mentoring, and retention of URM populations.
- If applicable, a description of the marketing plan to promote the workshop/seminar.

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 1, 2018. Promotional/marketing materials should be submitted to the SC EPSCoR/IDeA State Office for review before publication. MADE in SC Logo must be included on promotional and conference materials.

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.
- How the scientific conference or meeting aligns with *MADE in SC* research priorities.
- 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 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.
- How will the activity broaden participation in STEM?
- 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.

Award Information

Award Type: Grant

Maximum Funding Amount Per Project: $10,000.00

Project Duration: 12 months

Estimate Number of Awards: Number of awards will be based on quality of proposals received and availability of funding.

Who May Apply

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

Deadline

Full Proposal – Monday, September 10, 2018 – 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 work to be undertaken and must address the objectives of the proposed Program Type outlined in the SAN Program Types above. A statement about the merit, the potential impact, and plans for sustainability of the proposed activities should also be included in this section.

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/IDeA 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/IDeA Program funding. If the PI identified on the proposal has received a SC EPSCoR/IDeA Program 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 current proposal is for renewed support, describe the relation of the completed work to the proposed work.

   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. **Budge 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/IDeA Program will reimburse paid expenses **NOT** incurred expenses.
- Awardees should ensure that costs claimed under SC EPSCoR/IDeA Program grants are allowable, allocable, and reasonable.
- Cost-share is encouraged but not required. 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/IDeA 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 based upon the extent to which they meet specific criteria including but not limited to:

- Significance, merit, and potential impact
- Broader impact and the potential to increase diversity
- How well the proposal addresses the specific requirements listed in the SAN Program Types section and its potential for success in achieving these requirements
- Reasonableness of budget request and justification

Award and Reporting Requirements

- Principal Investigators will receive notice of the SAN award/declination via email.
- Each award will be made to the Principal Investigator's Institution.
- All publications (e.g., research publications, press releases, other publications or documents about the research funded by the SC EPSCoR/IDeA Program) and presentations resulting from the SAN must include an acknowledgement of SC EPSCoR/IDeA Program support and a disclaimer. "*Research reported in this [publication, press release, presentation] was supported in part by the NSF and SC EPSCoR/IDeA Program under award number (NSF Award # OIA-1655740 and specific SC EPSCoR/IDeA grant number). The views, perspective, and content do not necessarily represent the official views of the SC EPSCoR/IDeA Program nor those of the NSF.*"

- All conference and meeting materials must acknowledge SC EPSCoR/IDeA Program support and state "*Funding for this conference was made possible (or in part) by SC EPSCoR/IDeA Program under award number (NSF Award # OIA-1655740 and specific SC EPSCoR/IDeA Program number). The views and perspectives expressed in conference materials, publications, speakers, or moderators do not necessarily reflect those of the SC EPSCoR/IDeA Program or infer endorsement by the SC EPSCoR/IDeA Program.*"
- **Program Type I Only**: Students involved in research will be required to present their research findings at the SC EPSCoR/IDeA State Conference therefore, travel expenses for the State Conference can be included in the budget.
- **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/IDeA Program State Office.
- The SC EPSCoR/IDeA 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/IDeA 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:

April Heyward, MRA
Program Manager
SC EPSCoR/IDeA Program
T: 803.733.9068
E: april.heyward@scra.org

*URM, as defined by NSF:
https://www.nsf.gov/od/broadeningparticipation/nsf_frameworkforaction_0808.pdf