



**CALL TO ENGAGE AND INTEGRATE SOUTH CAROLINA'S  
UNDERGRADUATE INSTITUTIONS IN SC EPSCOR  
TRACK-1 PROPOSAL:**

*AI-Enabled Advancement in Personalized Biomedical Devices - ADAPT in SC*

**Informational Webinar**

**October 5, 2021**

**3:30 pm to 5:00 pm**

# Agenda

- **Introduction of ADAPT in SC Pre-proposal Team**
- **Overview of NSF EPSCoR RII Track-1 Program**
- **Purpose of this solicitation**
- **Description of proposed program and Institute**
- **Open Discussion/Q&A**

# ADAPT

## AI-Enabled Advancement in Personalized Biomedical Devices

### **Bruce Gao, Ph.D.**

Endowed Chair in Biofabrication Engineering  
Clemson University

### **Qi Wang, Ph.D.**

Department of Mathematics  
University of South Carolina

### **Jihad Obeid, M.D.**

Co-Director, Biomedical Informatics Center  
Medical University of South Carolina

### **Anthony Guiseppi-Elie, Sc.D.**

VP for Industry Relations and Dean of Engineering  
Anderson University

### **Tanju Karanfil, Ph.D.**

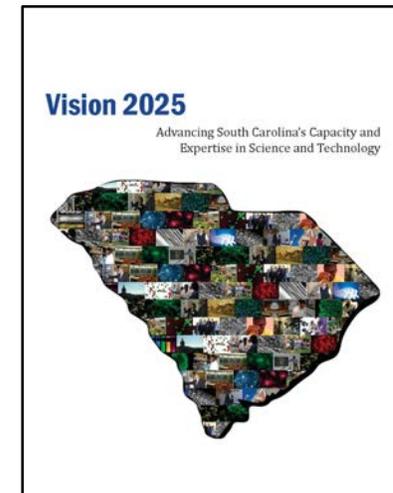
VP for Research, Clemson University

# NSF EPSCoR Research Infrastructure Improvement Track-1 Program

- Designed to effect sustainable improvements in a jurisdiction's research infrastructure, Research and Development (R&D) capacity, and hence, its R&D competitiveness
- A jurisdiction is eligible to participate in NSF EPSCoR if their most recent 5-year level of total NSF funding is equal to or less than 0.75% of the total NSF budget. South Carolina is at 0.61%
- Provides up to \$20 million total over five years to support research-driven improvements to jurisdictions' physical and cyber infrastructure and human capital development
  - 20% cost share required – provided by SC Commission for Higher Education

# NSF EPSCoR Research Infrastructure Improvement Track-1 Program

- Topic is selected by the jurisdiction's EPSCoR steering committee as having the best potential to improve future R&D competitiveness.
- Research and capacity-building activities must align with the specific research priorities identified in the jurisdiction's approved Science and Technology (S&T) Plan.
  - Vision 2025 is SC current Science & Technology Plan
    - Written in 2012
    - SC EPSCoR has begun the process to revise



# NSF EPSCoR Research Infrastructure Improvement Track-1 Program

- Key components of an application include:
  - The Research and Capacity-Building Program is the RII Track-1 central focus. It is the primary element that will be judged during the merit review process, both for its intellectual merit and its broader scientific impacts.
  - Efforts must include specific STEM education and workforce development activities that are integrated with the Research and Capacity-Building Program and contribute to the preparation of a new cadre of competitive researchers, innovators, and educators.

# NSF EPSCoR Research Infrastructure Improvement Track-1 Program

- Key components of an application include:
  - Broadening participation in STEM is integral to building capacity. This includes diversity of all types – individual, institutional, and geographic. Narratives should describe the current landscape of diversity, equity, and inclusion and provide plans for broadening the participation.
  - Partnerships allow leveraging of resources and promote sustainability. Partnerships may seed science, engineering, and education collaborations that promote innovation and STEM workforce development. Proposed activities should demonstrate how the collaborations directly contribute to the attainment of project goals.

# Purpose of this solicitation

- South Carolina EPSCoR is preparing to submit our next NSF EPSCoR RII Track -1 proposal. (Anticipated submission deadline in August 2022)
- AI-Enabled Advancement in Personalized Biomedical Devices was identified as the science topic through a competitive process using a nationally recognized firm with scientific and technical experts familiar with NSF and the EPSCoR Program.
- This solicitation is to identify Historically Black Colleges and Universities (HBCUs) and other Predominantly Undergraduate Institutions (PUIs) in South Carolina who wish to join the proposal team and strengthen the research, academic program, and/or workforce development components of the project.



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**CALL FOR PROPOSALS**

- **All SC four-year, predominantly undergraduate institutions (PUIs) and Historically Black Colleges and Universities (HBCUs) may apply**
- **One application per institution**
- **Application PI must be at the Dean level or higher**
- **Due Date: Friday, November 5, 5:00 pm**
- **Budget maximum of \$250,000/year (5 years) including IDCs**



## *How can my institution participate?*

- **Faculty-student research that contributes to the theme of ADAPT**
- **Implementing novel concepts in ML and AI that increases the capacity and diversity of the STEM workforce**
- **Enhancing faculty productivity and developing new curricula and degree programs supporting ML and AI**
- **Hiring new faculty with teaching and/or research interests in ML and AI**
- **Acquiring shared resources to support ML and AI**
- **Establishing partnerships with other entities (K-12 system, national labs, industry, other SC college campuses) supportive ML and AI**

## **CONTACT INFORMATION:**

### **General inquiries:**

**Jim Doolittle**

**Director, SC EPSCoR Program**

**[Jim.doolittle@scra.org](mailto:Jim.doolittle@scra.org)**

### **Inquiries regarding research alignment with AI, ML, and biomedical devices:**

**Bruce Gao**

**Professor, Department of Bioengineering, Clemson University**

**[zgao@clemson.edu](mailto:zgao@clemson.edu)**

### **Inquiries regarding STEM education and workforce development:**

**John Wheeler**

**Associate Provost for Integrative Science, Furman University**

**[John.wheeler@furman.edu](mailto:John.wheeler@furman.edu)**

ADAPT in SC

Pre-proposal Team Video

# Ways to Engage & Integrate

John Kaup, Furman University

# Questions and Discussion



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