

**The Institute for Air, Nutrient, Soil, Water, Ecosystem, and Remote Sensing
Southern University Agricultural Research and Extension Center**

Fiscal Year (FY) 2020 Request for Research Project Applications (RFA)

APPLICATION DEADLINE: August 15, 2019

PART I. PRIORITY AREAS AND FUNDING OPPORTUNITY INFORMATION

Background: The Institute for Air, Nutrient, Soil, Water, Ecosystem, and Remote Sensing (The ANSWERS Institute) is one of the four research institute at the Southern University Agricultural Research and Extension Center, Baton Rouge, LA. The ANSWERS Institute's mission/goal is to promote natural and biological resources conservation through research, education, and service to communities both in urban and rural settings. The specific objectives are:

1. Conduct cutting edge research focusing on natural and biological resources such as water, air, soil, wetlands, forests, land, bioenergy, and ecosystems,
2. Provide hands-on research training and experiential learning to next generation of leaders in natural resources,
3. Utilize research results and analytical laboratories to provide technical services to the communities, and
4. Promote scientific collaboration and partnership building at state, regional, national, and international levels.

Funding Opportunity: The ANSWERS Institute anticipates that approximately \$300,000 external funds will be available to support the research priority areas for project durations of up to 3 years (FY 2020 – FY 2022). This RFA is being released prior to any funding commitment from any external entities. Therefore, there is no commitment by The ANSWERS nor SU Agcenter to fund any particular application or to make a specific number of project awards.

Letter of Intent (LOI): The Applicants must first submit a letter of intent by 5:00 p.m. Central Time on July 15, 2019. See content requirement for the LOI before composing and submitting the LOI.

Proposal Due Date: Proposal must be received by 5:00 p.m. Central Time on August 15, 2019.

Priority Area Description: Applications are solicited under the following Priority Areas:

1. Air Quality and Bioenergy,
2. Nutrient, Soil, and Land Management,
3. Water and Ecosystem, and
4. Remote Sensing and GIS.

Research Objectives: Project application must address the key research challenges at local, regional and national levels, and must adhere to at least one of the current research objectives of The ANSWERS Institute, including

1. Monitor air quality and its impacts on the environment, health, communities, and economy; apply innovative models and measurement techniques to understand the sources, transport, fate, and impact of air contaminants; as well as develop mitigation strategies and improve human and environmental health.
2. Develop and market bio-products and bioenergy to reduce loss and waste throughout the supply chain; develop biomass feedstocks and energy technologies by using woody biomass, energy crops, agricultural wastes, municipal solid waste.
3. Observe wetland dynamics and increase efficiency of wetland ecosystem; create unique structural soil for constructed wetland, and market artificial peat wetland structural soil (JAG Soil).
4. Investigate agricultural and forestry practices affecting soil carbon and nutrient cycle, develop soil remediation and conservation techniques and reduce soil erosion, nutrient loss and soil degradation, and increase nutrient use efficiency in agriculture and forestry ecosystems.

5. Improve water quality and quantity/production and optimize water use efficiency; conduct bioremediation, toxicological, environmental impact study; evaluate extreme climatic events and their effects on water and other natural resources; develop strategies for flood prevention, storm water runoff mitigation, and climate change mitigation & adaptation; and assist & train communities on disaster management.
6. Assess forest ecosystems both in urban, rural, and interface setting, monitor natural resource ecosystem services and health, reduce both natural and man-made hazards and deforestation, and develop best management practices & resilient ecosystems.
7. Apply remote sensing and GIS technology and temporal & spatial data for optimal and sustainable management of natural resources and for environmental protection.
8. Deploy GPS, satellite navigation, automated sensor, and high precision drones for precision agriculture and forestry.

Education and Outreach Requirements

The application must also incorporate how the project will achieve the following education, outreach, and service requirement.

1. Provide hands-on research training and experiential learning for the next generation of leaders in natural resources conservation,
2. Enhance the quality and efficiency of water, forests, soil, wetlands, and air quality testing laboratories,
3. Utilize research results and analytical laboratories to provide technical services to the communities, and
4. Promote scientific collaboration and partnership building at state, regional, national, and international levels.

STAKEHOLDER INPUT: Stakeholder input is required for the proposal. The application must explain what and how the stakeholders' inputs are incorporated during the project design and develop process, and what and how the project will fulfil the stakeholders' needs.

PART II—ELIGIBILITY INFORMATION

Eligible Applicants: Applications may only be submitted by eligible applicants. Persons with full-time tenure track faculty appointment at the Southern University College of Agriculture, Family and Consumer Sciences, or with fulltime tenure track research faculty appointment at SU Agcenter, or with a full-time tenure track faculty joint appointment both at the College and the Agcenter may apply. Since this is a RFA for research proposal, persons with fulltime extension faculty appointment at SU Agcenter may apply as a research team member, but not as a project principal investigator or project director. Persons with full-time faculty appointment in other colleges may apply only as a research team member, but not as a project principal investigator or project director.

PART III—PROPOSAL/APPLICATION SUBMISSION INFORMATION

Letter of Intent: Letter of Intent (LOI) is required and it is a prerequisite for submission of a project application. Detailed components/requirements for the LOI are the same as the USDA NIFA's LOI components/requirements.

LOI Submission Deadline: 5pm July 5, 2019. After LOI review, the PI/PD of the selected LOIs will be notified to develop a full proposal. The LOI should be submitted to: Dr. Zhu Ning, Director, SU ANASWERS Institute, SU Agcenter, at zhu_ning@subr.edu or 225 771 6292; and Dr. Andra Johnson, Vice Chancellor for Research and Technology Development, SU Agcenter, at andra_johnson@suagcenter.com

Proposal/Application: Detailed components/requirements for a proposal are the same as the USDA NIFA's proposal components/requirements.

Proposal Submission: Proposal should be submitted to: Dr. Zhu Ning, Director, SU ANSWERS Institute, SU Agcenter, at zhu_ning@subr.edu or 225 771 6292; and

Dr. Andra Johnson, Vice Chancellor for Research and Technology Development, SU Agcenter, at andra_johnson@suagcenter.com

Proposal Submission Deadline: 5pm August 15, 2019.

PART IV—PROPOSAL REVIEW, SELECTION AND PROJECT MANAGEMENT INFORMATION

Review Criteria: Proposal Review Criteria are the same as the USDA NIFA's review criteria.

Project Management: Selected proposals will be submitted to USDA NIFA for funding consideration. Funded project will be management under the SU ANSWERS Institute at the SU Agcenter.

Contact Information: For more information, questions, and scientific and technical directions, please contact Dr. Zhu Ning, Director, SU ANASWERS Institute, SU Agcenter, at zhu_ning@subr.edu or 225 771 6292.