Agriculture and Food Research Initiative (AFRI) - Foundational Program - Agriculture Systems and Technology: Engineering, Products, and Processes

Opp ID: 149655 | Research | Last edited on 15 Apr 2015

- Full Details

Website
http://www.nifa.usda.gov/funding/rfas/afri.html
Sponsor
United States Department of Agriculture (USDA)
National Institute of Food and Agriculture (NIFA)
Sponsor ID: A1521
Amount
Upper $500,000 USD
Total Program Funds: Approximately $10 million

Standard Grants must not exceed $500,000 total (including indirect costs) for project periods of up to 5 years.

Applicant Type
Commercial
Government
New Faculty/New Investigator
Nonprofit
Ph.D./M.D./Other Professional
Small Business
Citizenship or Residency
United States
Activity location
United States

Abstract
This Program Area Priority focuses on engineering, products, and processes to improve agriculturally relevant plant, animal, forestry, and natural resource systems. Applications must have a significant engineering component. Engineering is defined as the application of scientific and mathematical principles to practical ends such as the design, manufacture, and operation of efficient and economical structures, technologies, machines, processes, and systems. Some broad research emphasis areas include (but are not limited to):
1. Enable engineering, computing, and information systems for forestry and natural resources or for plant and animal production, processing, and distribution
2. Improve the efficiency of energy and water use
3. Minimize and/or utilize waste and byproducts generated in agricultural and food systems
4. Develop and test risk assessment and mitigation measures to reduce hazards to agricultural workers
5. Refine the sustainability of agricultural and forestry systems that balance economic, environmental, and social outcomes
This Program Area emphasizes the interrelationships between agricultural system components to develop the next generation of engineered systems, products, processes, and technologies. It blends biological, physical, and social sciences. This approach will lead to sustainable, competitive, and innovative solutions for U.S. and global agriculture and food production. Some key disciplinary contributors may include: engineering; agricultural economics; chemistry; microbiology; soil science; animal and plant sciences; veterinary medicine; genetics; social sciences; behavioral sciences; food safety; physics; materials science; and toxicology. To the extent possible, applicants are encouraged to incorporate interdisciplinary sciences. By doing so, projects are more likely to incorporate varying dimensions of sustainability (economic, environmental, and social) and have a greater impact on agricultural problems. The broad list of topics encompassed by this area includes, but is not limited to new uses and products from traditional and nontraditional crops, animals, byproducts, and natural resources; robotics, automation, precision and geospatial technologies, energy efficiency, computing, and expert systems; new hazard and risk assessment and mitigation measures; and water quality and management and irrigation.

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Eligibility

Eligible applicants include: 1) State Agricultural Experiment Stations; 2) colleges and universities (including junior colleges offering associate degrees or higher); 3) university research foundations; 4) other... more »

Keywords

- Agriculture and Food Sciences
- Water Resources Management or Planning
- Toxicology
- Forestry and Woodlands
- Agricultural Engineering
- Behavioral or Social Studies
- Natural Resources Management
- Food Safety
- Physics
- Water Quality
- Agricultural Economics
- Energy Efficiency
- Veterinary Medicine
- Chemical Sciences
- Plant Sciences
- Crop Science
- Livestock
- Natural Resources
- Soil Sciences
- Microbiology
- Precision Farming
- Materials Sciences
- Robotics
- Irrigation
- Automation
- Genetics

Upcoming Deadlines
Date
What's Due
Notes
14 Apr 2016
Anticipated
Application
Sponsor deadline - required