9-08-11

Contacts:
Robert C. Brown, Iowa State University, 515-294-7934, rcbrown@iastate.edu
Jordan Cohen, University of Iowa, 319-335-2132, jordan-cohen@uiowa.edu
Gloria J. Gibson, University of Northern Iowa, 319-273-2517, gloria.gibson@uni.edu
Sharron Quisenberry, Iowa State University, 515-294-1785, sharronq@iastate.edu
Mike Krapfl, News Service, 515-294-4917, mkrapfl@iastate.edu

NSF invests $20 million in Iowa's renewable energy and energy efficiency research

AMES, Iowa – The National Science Foundation has awarded a $20 million, five-year grant to build Iowa's research capacity in renewable energy and energy efficiency.

The Iowa Power Fund, a state program supporting energy innovation and independence, has also granted the project $2 million to pay for research equipment.

The core of the research project will be conducted at Iowa's three public universities – Iowa State University, the University of Iowa and the University of Northern Iowa. The program also includes partnerships with the state's community colleges, private colleges, school districts, government agencies and industries. Iowa State's Robert C. Brown – an Anson Marston Distinguished Professor in Engineering, the Gary and Donna Hoover Chair in Mechanical Engineering, and the Iowa Farm Bureau Director of Iowa State's Bioeconomy Institute – will lead the program. Co-leaders are P. Barry Butler, executive vice president and provost at the University of Iowa; Kevin Nordmeyer, the director of the Iowa Energy Center in Ames; and Chitra Rajan, associate vice president for research at Iowa State.

"This $20 million grant is the latest example of Iowa's public universities working to build an exciting future for the entire state," said Craig Lang, president of the Iowa Board of Regents. "By developing Iowa's capacity to harness alternative renewable energy sources, our universities are promoting economic development for Iowa and enhancing the quality of life for its citizens."

The research program's vision is to establish Iowa as a leader in the worldwide transition from fossil fuels to renewable energy sources. The program will be built on four major platforms:

The ***bioenergy platform*** will investigate the challenges of sustainably producing large quantities of biomass (such as corn stalks) and using thermochemical processes to quickly heat the biomass to produce liquid or gas products suitable for generating electric power or upgrading to transportation fuels. Brown will also lead this platform.

The ***wind energy platform*** will use advanced engineering principles – including fluid dynamics, machine design and control theory – to improve the reliability of wind turbines. Research initiatives include establishing an outdoor laboratory to collect wind speed and turbulence data, studying the reliability of turbine blades and improving the designs of turbine drivetrains. Butler will lead this platform.

The ***energy utilization platform*** will study building energy science and how human behavior influences energy conservation decisions. The platform recognizes the role that the social sciences will play in understanding how people change their energy habits so renewable energy sources can replace fossil fuels. Nordmeyer will lead this platform.

The ***energy policy platform*** will explore ways for engineers and economists to collaborate and advise lawmakers on renewable energy and energy efficiency issues. The platform will establish an Energy, Economics, and Engineering (E^3) program to train engineering and economics faculty to work together on energy issues. Bruce Babcock, professor of economics and director of the Center for Agriculture and Rural Development at Iowa State University, will lead this platform.

The project will also create a statewide Future Leaders in Advancing Renewable Energy (FLARE) Institute designed to develop the careers of junior faculty in renewable energy fields and broaden the participation of women, under-represented minorities and first-generation college students in science, technology, engineering and math (STEM) fields. The goal is to help the state create a workforce that can meet the needs of Iowa's emerging green economy. Rajan will lead the institute.

And, the grant supports:

- Hiring five new faculty members to improve energy research at Regent universities
- Improving Iowa's information technologies for energy studies

- engaging Iowans in energy issues
- transferring campus energy inventions to private companies.

“This project is a unique opportunity for collaboration among all three Regent universities, Iowa’s community and private colleges, K-12 schools, state agencies and regional businesses,” said Iowa State’s Brown, the research program’s leader. “I look forward to working with colleagues across the state who are interested in helping build research capacity in renewable energy and energy efficiency in Iowa.”

The $20 million grant is part of the National Science Foundation’s (NSF) Experimental Program to Stimulate Competitive Research. The program – known as EPSCoR – is targeted at states and regions that have not won as much research and development funding as other areas. The grants are designed to improve the research capacity of eligible states or regions, making them nationally competitive for future grants.

Campus research leaders are excited about the opportunities the program will create for Iowa:

Jordan Cohen, vice president for research and economic development and chair of the Iowa EPSCoR Statewide Governing Committee, University of Iowa
“Winning the NSF EPSCoR grant for the state of Iowa provides a unique opportunity to advance our science, technology and research infrastructure. This uniquely collaborative project links the research and educational assets of the Board of Regents universities with all other components of the educational sector, business and industry and state government and will help us build the human and physical capital we need to stimulate innovation, enhance our competitiveness, attract, grow and retain business and develop a talented and diverse workforce for the 21st century economy.”

Gloria Gibson, executive vice president and provost, University of Northern Iowa
“The University of Northern Iowa is excited about Iowa winning the prestigious EPSCoR grant and about our partnership with the other Regent universities and state institutions to improve and expand the scope of STEM in our state. This project will allow us to advance crucial strategic goals related to innovative research, faculty collaboration, and the integration of education and research.”

Sharron Quisenberry, vice president for research and economic development, Iowa State University

“This investment in Iowa by the National Science Foundation will position our state as a research and technology leader in renewable energy and energy efficiency. The project’s vision of a transition from fossil fuels to sustainable energy systems matches the state’s aspirations to use science, technology and human creativity to meet the challenges of the 21st century and to build an innovative Iowa economy.”

– 30 –