



## **Iowa Alliance for Wind Innovation and Novel Development**

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### **Iowa Alliance for Wind Innovation and Novel Development Provides Grant to Iowa State University**

The Iowa Alliance for Wind Innovation and Novel Development (IAWIND) has awarded a \$99,998 research grant to Iowa State University.

The grant will be used by principal investigator Hui Hu, associate professor of aerospace engineering at Iowa State University, to study interferences of multiple wind turbines over complex terrains, common in Iowa, to achieve optimal turbine site design and durability. Co-principal investigators are Partha Sarkar, professor of aerospace engineering, and Richard Wlezien, professor and chair of aerospace engineering.

While a number of investigations have been conducted in recent years to characterize surface winds and interferences of multiple wind turbines for the optimal site design of wind turbines in a wind farm, most previous studies were conducted with homogenous straight-line winds over a simplified flat surface. However, in reality, most onshore wind turbines are sited in wind farms with complex terrains, including Iowa wind farms, which are neither perfectly flat nor with homogenous straight-line winds. This study will concentrate on Iowa's surface wind energy resources and interferences of multiple wind turbines sited over complex terrains for higher power yield and greater durability.

IAWIND is a virtual partnership among Iowa's Regents universities, community colleges, industry, and the Iowa Department of Economic Development, designed to support the State of Iowa in its efforts to continue to attract and nurture wind energy and related industries. It is designed to serve as a catalyst for the growth of wind energy, and to support and to facilitate the research and training needs of wind energy companies. At present, no similar alliance exists in the U.S. Establishing the alliance supports Iowa's vision to make the state the national leader in renewable energy.

In 2009, IAWIND received a \$3 million, three-year overall grant from the Iowa Power Fund, a part of the Iowa Office of Energy Independence. The \$3 million grant was approved to implement research, training and education needs expressed by numerous wind energy companies. Some elements of the grant have an industry match, while all of the elements will serve to further stimulate wind industry development in Iowa. The Iowa State grant is tied to long-term research funding available to prioritize future research needs, develop a plan to address these needs, and to develop proposals aimed at Federal agencies to secure a broader research base.

For more information on Iowa State University's program, visit [www.windenergy.iastate.edu/](http://www.windenergy.iastate.edu/). For more information on IAWIND, go to [www.iawind.org](http://www.iawind.org).

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