

Use-inspired research with purpose and impact

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Website

<http://graduate.asu.edu/igert-sun>

Summary

This Integrative Graduate Education and Research Traineeship (IGERT) award focuses on the energy transition from the current fossil-fuel-based economy to one where solar energy harvested by means of photovoltaics, solar-thermal, and photosynthesis-driven bioenergy approaches will become a keystone in global human energy use. Scalability, efficiency and economy of these three technical solar energy conversion approaches, along with societal components such as sustainability policy and responsible energy use, will all be necessary for success. This program supports the interdisciplinary training of diverse student cohorts in multiple solar energy conversion areas at different scales, integrated with a policy and social understanding, thus educating the next generation of citizen-scientists, innovative thinkers and enlightened policy makers who can guide society toward a sustainable energy future.

In order to further enhance inclusion of students from all backgrounds, the SUN IGERT project will leverage agreements with schools and programs with significant enrollment of underrepresented groups, particularly Hispanics and Native Americans, to lower barriers for underrepresented minorities. Effective mentoring and use-inspired, application-oriented, integrative research projects will enhance retention in the program. This program will also provide the groundwork for a novel Energy Ph.D. program. Successes from our program can be emulated and adapted at other institutions nationally and globally, thus catalyzing the training of a much larger group of students who can shepherd society to a new, sustainable energy future.

IGERT is an NSF-wide program intended to meet the challenges of educating U.S. Ph.D. scientists and engineers with the interdisciplinary background, deep knowledge in a chosen discipline, and the technical, professional, and personal skills needed for the career demands of the future. The program is intended to establish new models for graduate education and training in a fertile environment for collaborative research that transcends traditional disciplinary boundaries, and to engage students in understanding the processes by which research is translated to innovations for societal benefit.

Personnel



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Funding

National Science Foundation Division of Graduate Education

Timeline

July 2012 – June 2017



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