

Creating new products, knowledge

Faculty in national research universities like ISU are constantly creating new knowledge in their disciplines. Take ISU chemistry professors René Rodriguez and Joshua Pak, for example. They were recently honored for creating one of the top 100 most technologically significant products to be introduced into the marketplace in the past year.

The list of top 100 new products is compiled annually by R & D Magazine, which is widely respected in the industry. Even U.S. Energy Secretary Steven Chu took notice and congratulated professors Rodriguez, Pak and the other scientists who made the list.

Rodriguez and Pak worked with Idaho National Laboratory researcher Robert Fox on developing precision nanoparticles, which are very small units of matter.

The revolutionary technology these researchers invented efficiently produces nanoparticles in uniform and precise sizes.

Scientists hope to use this new and affordable technology to build more efficient solar panels, a technology that is becoming increasingly more important as world demand for energy continues to rise.

Uniform nanoparticles also have potential applications in fighting cancer, destroying bacteria, and meeting a variety of other needs.

The technology has been licensed to a company in Seattle, Precision



Nanoparticles.

At a recent press conference announcing the awards, Fox commented that good things happen when INL researchers and university researchers collaborate on projects. As you can see, he's right.

Another important collaboration is the Center for Advanced Energy

Studies, a public/private partnership comprised of INL, private industry, and the three Idaho public universities. In fact, the center provided the seed money for Pak and Rodriguez's project through a grant.

The collaborative nature of projects such as Rodriguez and Pak's is beneficial in a number of ways. For one, collaboration brings research projects from entities like Idaho State University and INL into the marketplace where they have great practical, technological, and economic impact.

Collaborative projects like this one also have a positive impact on higher education. What better way to teach ISU students to become future leaders in the scientific world than to offer them training laboratories where cutting-edge research is taking place?

Yet another noteworthy collaboration is ISU's Energy Systems Technology and Education Center, which is operated by the College of Technology.

Funded by highly competitive grants from the Department of Labor and the National Science Foundation, this unique and exciting new center

is a partnership between ISU, INL and Partners for Prosperity, a community-based organization dedicated to poverty reduction through focused community services.

ESTEC focuses on applied industrial research and on cutting-edge training for technicians and managers in a wide range of energy industries. In collaboration with local, regional and national energy industry companies and organizations, ESTEC integrates high-quality educational opportunities with the ongoing work and evolving research at INL, electrical utilities, and energy systems-related product vendors.

Students and faculty in the center work with industry to demonstrate, test and create components of energy systems as well as to develop and test new products in a controlled and well-instrumented environment, and they develop testing protocols to measure the performance and functional capacity of these components.

This is a first-rate learning activity for students as well as instructors, and it offers significant economic benefits to the energy industry through a direct connection to highly qualified employees trained in leading-edge and emerging technologies.

As you can see, through collaboration and cooperation, Idaho State University students and faculty are taking research to the next level while training the next generation of scientific leaders and inventors.

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