About 100 eighth graders from throughout eastern Idaho visited INL to learn about potential STEM career options. Their experience included the Computer-Assisted Virtual Environment (CAVE) in the Center for Advanced Energy Studies at INL.

Annual event inspires future female scientists

By Sarah Robertson, *INL Communications & Governmental Affairs*

In the latest State of the Union address, President Barack Obama quoted a statistic from the Institute for Women's Policy Research, which stated that women earn 77 cents for every dollar earned by men. Part of this wage disparity is due to the choices made by young women when deciding on a major in college.

While there is an enormous need for new workers in the STEM fields – science, technology, engineering and mathematics – women are more likely to choose majors in humanities or other traditionally female-dominated fields. Idaho National Laboratory's My Amazing Future program aims to change this.

The idea of the program is simple. Eighth-graders from throughout southeast Idaho are transported to Idaho Falls, where they spend time in real labs, with real scientists, for a day of hands-on learning. Most of the day's presenters are female scientists and researchers who look forward to sharing their knowledge and mentoring the students.

Participants visited the Human Systems Simulation Laboratory, a virtual nuclear control room for testing new technologies before implementation in commercial control rooms.

"I think it's really important that young women 'see' that science can be fun and consider it as a career," said Mary Adamic, an INL researcher and My Amazing Future presenter. "There are female scientists working in rewarding areas here at INL. Some of the students have the impression that these careers are somewhere else."

At this year's 7th annual event, 100 students attended from Idaho Falls, Blackfoot, Fort Hall and Pocatello. While students are chosen based on their interest in science and math, organizers of the program also target schools with larger populations of minority and disadvantaged students.

The day kicked off with a demonstration facilitated by INL's director of University Partnerships and Educational Outreach, Marsha Bala. While the students didn't get to tour a reactor, they did learn what happens when uranium atoms undergo nuclear fission. The students and volunteers were instructed to hold a piece of crumpled paper in each hand while standing close together in a group. The chain reaction began when Bala tossed the first piece of paper. When it touched one of the students, the student tossed one of her paper balls and so on. Soon the balls were flying rapidly as the reaction grew.

During the day, the students broke into groups to participate in more interactive sessions. They learned about energy transmission and transmittal, how to improve a nuclear power plant control room and how to create a volcanic eruption. They used chemistry and paper chromatography to solve crimes, tried out the ultimate gaming experience – the Computer-Assisted Virtual Environment, or CAVE – and learned about detecting radiation. In all, 12 sessions were offered this year on a wide variety of topics.

Throughout the day, students participated in 12 interactive sessions on a wide variety of topics.

"Our local scientists and engineers appreciate the opportunity to share their love of learning with such a motivated and enthusiastic group of young women, and they enjoy energetic workshops," said Frances Marshall, an INL employee and My Amazing Future organizer. "It has become a community event, with workshops presented by researchers from INL, Idaho State University, Idaho Department of Environmental Quality, and Portage, Inc."

My Amazing Future is just one example of INL's efforts to engage youth and to educate future scientists and engineers. Lab leaders believe that programs such as these are an investment in its future. As such, INL has contributed nearly $1.7 million over the past four years to enhance science, technology, engineering and math (STEM) education.

"In a report issued by Georgetown University, by 2018, STEM occupations will account for 8.6 million jobs in the U.S. economy, and knowing that roughly 50 percent of the U.S. population is

composed of females, it is important to encourage young women to pursue careers in STEM fields," said Michelle Thiel Bingham, My Amazing Future committee chairperson. "Studies have also proven that women who work in STEM fields earn on average 33 percent more than women in other fields. My Amazing Future is about encouraging STEM for young women. It's exhilarating to see the excitement, curiosity and knowledge these young women express during the one-day event."

This year's sponsors include Idaho National Laboratory, the Center for Advanced Energy Studies, Portage, Inc., the Idaho Department of Environmental Quality, Idaho State University, the Museum of Idaho, the Eastern Idaho Engineering Council, Walsh Engineering, Idaho Women in Nuclear and the Idaho chapters of the American Society of Mechanical Engineers and the American Nuclear Society.

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Feature Archive