



## Undergraduate student takes advantage of research opportunities at Energy Institute



Elizabeth Fedorowicz, a recent graduate of the Energy and Geo-Environmental Engineering undergraduate program, left Penn State this year with more than a diploma—she gained the hands-on research experience that helped position her for a successful career in industry.

"I felt very prepared to enter the environmental consulting industry after graduation," Fedorowicz says. "As I walked into my first day of work, I had the confidence to trust that I could handle any project that was thrown my way."

Fedorowicz says she owes her confidence to her experience at the Penn State Energy Institute, where she began conducting research her junior year as part of her fulfillment in the Department of Energy (DOE) Technical Career Internship Program.

Under the direction of Senior Research Associate Bruce Miller, she focused her research on biomass gasification. At the conclusion of her DOE internship, she stayed with the Energy Institute as a Wage/Payroll employee and shifted her research focus to animal-tissue biomass. This research eventually became the groundwork for her senior/honors thesis, which she completed with Dr. Sharon Miller as her thesis advisor.

An Energy Institute Undergraduate Research Grant funded her thesis, which was titled "Biomass gasification as a means of waste disposal and energy production in the beef rendering and meatpacking industries."

Fedorowicz says her time and effort completely paid off, especially when she learned that her thesis work was going to be published in Energy and Fuels. She also took second place in the engineering division of the Undergraduate Research Exhibition in April 2007 at Penn State University Park campus with her poster under the same title as her thesis.

Today, she is working for Trinity Consultants, a nationwide company that assists industrial facilities with air quality and environmental compliance.

"My research experiences at the Energy Institute took my education at Penn State to a whole new level I didn't even expect," she says. "For me, this experience brought science and engineering to life. Knowing that I was able to contribute to a research project in a meaningful way really inspired me to continue to work hard inside and outside of the classroom throughout my career at Penn State."

Undergraduate opportunities at the Energy Institute, such as internships and thesis work, are coordinated through the Institute's Office of Student Development (OSD). Students can also apply for the Summer Research Opportunities Program (SROP), undergraduate research grants, and other work opportunities. Funding is provided by OSD whenever possible.

All students at the Energy Institute work in laboratory facilities and receive training on equipment relevant to their research. SROP students are paired with a faculty mentor who assists the student through all phases of research. The student experiences the entire research process and, at the end of the eight-week program, students present the results of their findings in a public research symposium.

For more information on how to apply for research opportunities at the Energy Institute, please visit [www.energy.psu.edu/osd/index/html](http://www.energy.psu.edu/osd/index/html) [1].

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