



**U.S. Department of Energy  
Energy Efficiency  
and Renewable Energy**

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

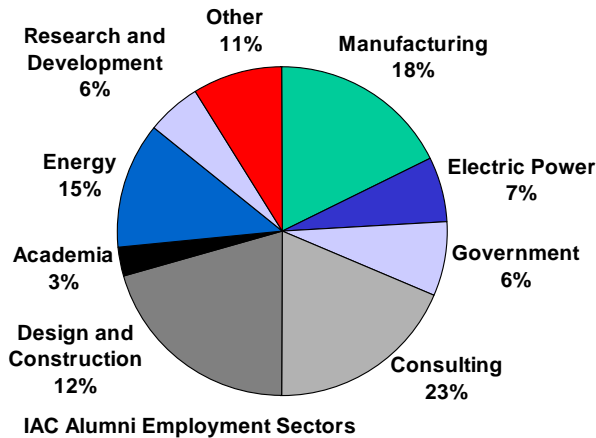
# Industrial Technologies Program Industrial Assessment Centers Alumni

## The Nation's Premier Talent in Energy Efficiency

The U.S. Department of Energy's Industrial Assessment Center program is the nation's premier, successful launching pad for a new generation of engineers that are capable of tackling the energy challenges faced by this country in the 21<sup>st</sup> century. Each year over 200 engineering students receive hands-on training in energy efficiency under the leadership of seasoned professional engineers in the conduct of energy assessments at U.S. manufacturing plants. This effective training approach creates highly proficient energy professionals, with over 60% of graduates making careers in the energy field.



Since its inception in 1977, over 2500 engineering students have participated in the Industrial Assessment Center program. Funded by the Department of Energy's Industrial Technologies Program, teams of engineering students and faculty at 26 universities across the United States conduct energy assessments at industrial manufacturing plants within their region. The recommendations identified by the IACs help plant managers reduce energy consumption and operating costs, saving U.S. manufacturers over \$100 million in energy costs in the last five years alone.



IAC graduates bring their unique skills to work across all major engineering employment sectors, with the majority working in Design/Construction, Manufacturing and Consulting. IAC graduates are well known for their expertise in energy efficiency and are in high demand in the current job market. Recruiters actively post job opportunities and identify candidates through the IAC Forum website ([www.iacforum.org](http://www.iacforum.org)) and many recruiters regularly attend the annual meeting of Lead Students. IAC graduates and their employers are also actively involved in the Save Energy Now assessment effort. The IAC program maintains communications with its network of active alumni through an alumni list serve, the annual IAC Student and Alumni newsletter and the IAC Forum website.

## Success in Developing Energy Professionals

The vitality and success of the program can be seen in the statistics on the IAC student participants.

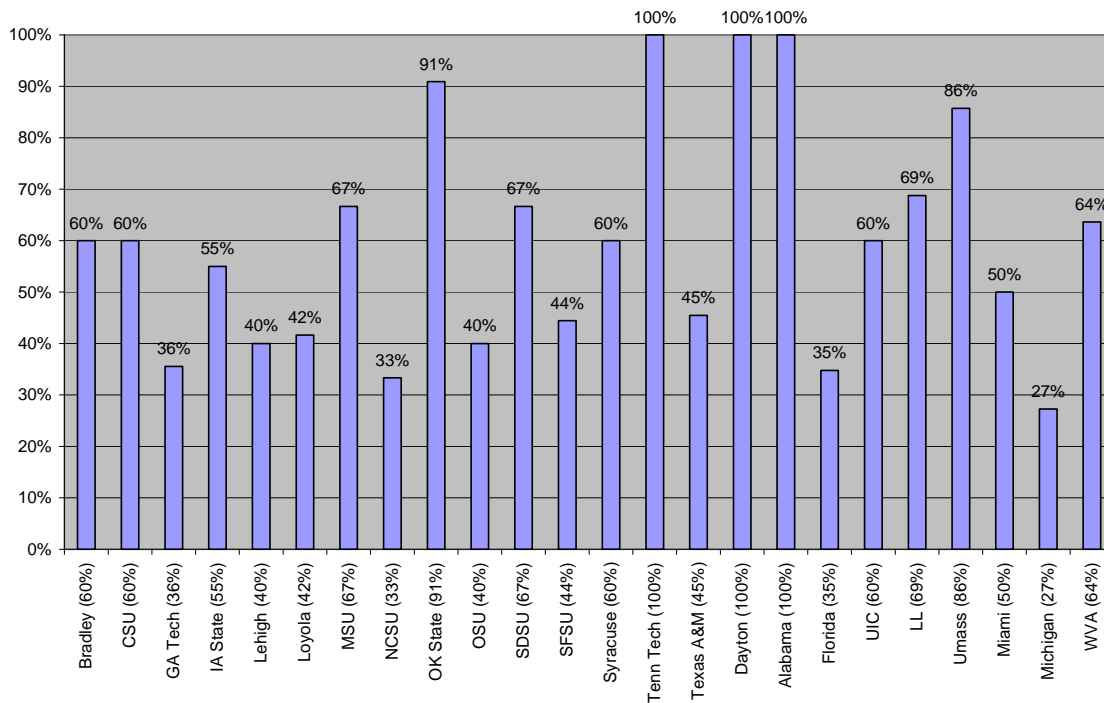
Numbers of IAC students entering the program, active in the program, and departing the program (entering the job market) are shown in the following table. *The lower numbers in 2006 and 2007 reflect reduced funding levels for those years and the same downward trend is expected for 2008.*

### Numbers of IAC/EADC Students by Fiscal Year

	Entering IAC	Active in IAC	Departing IAC
2005	163	404	168
2006	150	338	163
2007	132	290	125

- 23% of program participants have attained or are working toward their Professional Engineering (PE) registration, and 30% have attained the first step in registration, which is completion of the Fundamentals of Engineering exam.
- More than half of our IAC/EADC graduates — 56% — move on to pursue careers related to energy or energy efficiency. The chart below shows the proportion of graduates employed in energy-related careers by participating university.

Percent of Employed Graduates in Energy



- More than half of employed IAC graduates receive a starting wage between \$50,000 and \$99,999, which indicates that IAC graduates begin at salaries above the \$50,892 average for salaries across engineering disciplines (according to Fall 2006 Salary Survey, Nat'l Association of Colleges and Employers).



## Profiles of Outstanding IAC Alumni



### **Marcus Wilcox, President, Cascade Energy**

Marcus Wilcox received his master's degree in mechanical engineering from Oregon State University in 1989. He was the first student to work at OSU's IAC, which started in 1986, and was one of the first three students recognized by the U.S. Department of Energy for their contributions to the project. Upon graduation, he joined BRACO Energy Services in Portland, becoming lead engineer after one year. Four years later, he became one of three partners in Cascade Energy Engineering, an energy service firm in Portland and Walla Walla, Washington, that provides utilities and other customers with studies and analyses on energy conservation. Wilcox credits his success in the industrial energy marketplace to his involvement with the IAC at Oregon State, which gave him the valuable experience he calls "learning by doing."



### **Gary Epstein, President, Energy Resource Solutions**

After completing a masters degree in mechanical engineering at the University of Massachusetts in 1986, Epstein took a position at a Massachusetts-based energy consulting firm, where he was able to enhance his engineering skills and learn much about marketing, management, and business development. After several years with this firm, Mr. Epstein went on to found Energy & Resource Solutions (ERS). ERS is a leading engineering firm staffed by experienced energy professionals. The firm's objective is to help utilities, government, and large commercial and industrial end users solve complex energy and resource problems in a cost-effective manner.

Epstein maintains a close relationship with the IAC program and professes that "IAC work experience is truly unlike that found in most other academic programs. Students get the opportunity to mix their education and research work into engineering fundamentals with real-world energy engineering and consulting experience. Rarely does an academic experience facilitate work at customer facilities, interaction with those customers, solicitation of information from vendors and other engineers, and development of technical business reports that describe your analytical and economic findings. That kind of exposure is invaluable, serving as focused experience for those who want to pursue a career in the energy field, or as basic professional work experience for those whose career paths move away from the energy discipline." ERS routinely seeks those graduates whose IAC experiences enable them to readily move ahead of other prospective employees. ERS currently has six engineers that have come through the IAC program: Satyen Moray (Dayton 06), Kathryn LeBlanc (Utah 06), Yogesh Patil (Dayton 02), Chris Schmidt (Dayton 03), Christopher Fisher (Bradley 03), and Kevin Carpenter (Dayton 05).



### **Nasr Alkadi, Energy Conservation Engineer, General Motors**

Upon graduating from West Virginia University in 2003, Mr. Alkadi was hired by Detroit Edison to support energy efficiency and conservation activities at one of the utility's largest customers: General Motors. The value of Alkadi's IAC experience was recognized immediately when he joined the GM conservation team: "Nasr's participation with the IAC afforded him the experience to be considered for the position of Energy Conservation Engineer at a major General Motors manufacturing facility. The IAC program gave him the opportunity to learn in the world of industry and understand how his academic education related to real issues associated with manufacturing. That combination of academics and hands-on experience is absolutely crucial for Nasr's current position. His hands-on field experience was the determining factor that enabled him to ultimately beat out many other candidates who had more years of general engineering experience, but less field experience. He has easily integrated into his new position and has become a critical part of the energy team at his facility," stated Blake Licht, Manager of Energy Conservation Programs and Initiatives for GM.



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**Ben Erpelding, Director of Engineering, Optimum Energy LLC.**

IAC alumnus Ben Erpelding, P.E., C.E.M., graduated from San Diego State University in 2002. He began his career with the San Diego Regional Energy Office (SDREO) as a Senior Energy Engineer conducting assessments and organizing energy education workshops. Through his comprehensive energy assessments at Balboa Park (with more than 25 buildings and 750,000 sq ft of museum and office space), Mr. Erpelding quantified potential energy savings of 3.6 million kWh/yr, 402 kW of demand reduction and 57,000 therms/yr of natural gas as part of the SDREO Technical Assistance Program. In June of this year, Mr. Erpelding accepted the position of Director of Engineering with Optimum Energy, LLC. Optimum Energy develops networked information control applications and products to reduce energy consumption in commercial buildings.



**Jason Knight, Energy Engineer, California Center for Sustainable Energy**

Jason Knight, PE, CEM is a graduate of San Diego State University. Jason has recently founded Energy Facilitation and Management Solutions with his business partner, David Gordon. EFM Solutions specializes in energy auditing, utility program management, grant writing and other energy related services to utilities, businesses and municipalities. Prior to starting EFM Solutions, Jason was an Energy Engineer at the California Center for Sustainable Energy where he provided technical support in the development and implementation of regional energy programs, including energy efficiency projects and self-generation projects.



**Sieglinde Kinne, Energy Engineer II, Siemens Building Technologies**

IAC Alumna Sieglinde Kinne is a graduate of Colorado State University, where she worked in the IAC program in 2001 and 2002 and participated in 29 audits. Because of her experience with auditing industrial facilities, she was hired at the Kentucky Pollution Prevention Control (KPPC) in June of 2004. KPPC at the University of Louisville provides free technical assistance to help Kentucky industrial, commercial, and public sectors with pollution prevention and energy efficiency. "The IAC experience that Sieglinde brought to the center has paid dividends and value-added to our energy efficiency services," says Cam Metcalf, KPPC's Executive Director. "She was able to hit the ground performing E2 audits and has now honed her skills to provide additional technical assistance through pilot demonstrations and deployment of the practices and technologies identified in the audits." In May 2007 Kinne accepted a position with Siemens Building Technologies as an Energy Engineer.



**Hannah Freidman, Associate Director, Portland Energy Conservation, Inc. (PECI)**

Hannah Friedman leads PECI's commissioning projects, training, and research. Her background in the energy efficiency industry includes research in diagnostic tools for HVAC systems, energy auditing, retrocommissioning, and utility program engineering support. As an engineer and technical manager, Ms. Friedman acts as a bridge between technical teams and program managers to ensure that project implementation is highly effective. Hannah is a 1998 IAC alumna from Iowa State University, and her organization actively recruits IAC graduates as new hires.



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### **John Seryak, Principal, Go Sustainable Energy**

In the summer of 2006, Mr. Seryak founded *Go Sustainable Energy* to provide energy efficiency consulting services in the Midwest and to niche national clients. Prior to this, Mr. Seryak served as a project engineer and project manager for an energy efficiency consulting firm in the New England and New York region. Mr. Seryak worked on projects for the DOE Plant Wide Assessments, industrial and commercial energy assessments for Public Service of New Hampshire, technical energy-efficiency assistance for NSTAR Electric and Gas, project quality assurance for the NYSERDA Peak Load Reduction program and program technical support and consultation for the Massachusetts Joint Utilities and Northeast Utilities. In this position Mr. Seryak worked with many aspects of energy efficiency, from identifying opportunities, to commissioning their installation, to inspecting completed projects, to evaluating program results. Each utility has its own approach to promoting successful energy efficiency projects, and working with the different programs provided valuable information on the advantages with each approach.

Mr. Seryak received his bachelor's (2001) and master's (2004) degrees in mechanical engineering from the University of Dayton. Throughout his master's studies, Mr. Seryak worked in the UD Industrial Assessment Center, participating in more than 60 industrial energy assessments. Mr. Seryak actively participates in the advancement of energy efficiency analysis techniques and methods, presenting frequently at energy efficiency conferences and publishing in their proceedings.



### **Bill Eger, City of Cleveland Energy Manager**

Mr. Eger graduated in 2006 from the University of Dayton with a masters of science in engineering with a focus in energy systems, energy efficiency, and renewable energy systems. In the summer of 2007, Mr. Eger accepted a position in Cleveland, Ohio, and currently serves as the Energy Manager for the City of Cleveland. This position has collaborative duties with the Mayor's Office, Commissioners, Economic and Infrastructure Development, the Water Department, Cleveland Public Power, and facility operators throughout the city. Eger's focus is on energy use and carbon reductions for the city's operations and the surrounding region. Some of his primary areas of responsibility include supervision of the city transportation fleet's energy use and reduction, including introduction of a hybrid/flex-fuel fleet, introduction and analysis of biodiesel use for heavy vehicles, and a fleet sharing program. Mr. Eger also oversees the management and reduction of energy use from all buildings and operations, defines and analyzes all new construction energy systems and implements renewable energy systems into the city's energy portfolio and operation. He is also currently working on plans to reduce water and energy use from four large regional water treatment/pumping stations and investigating opportunities for windfarms. According to Bill, "Without the IAC experience, training, and advising from IAC Director Kelly Kissock and IAC alumna Michaela Martin, I wouldn't have been involved in such opportunities."



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