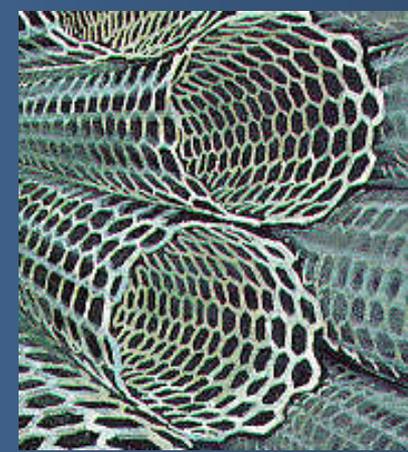




U.S. Department of Energy

Energy Efficiency and Renewable Energy

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



DOE's Industrial Assessment Centers (IAC) Program

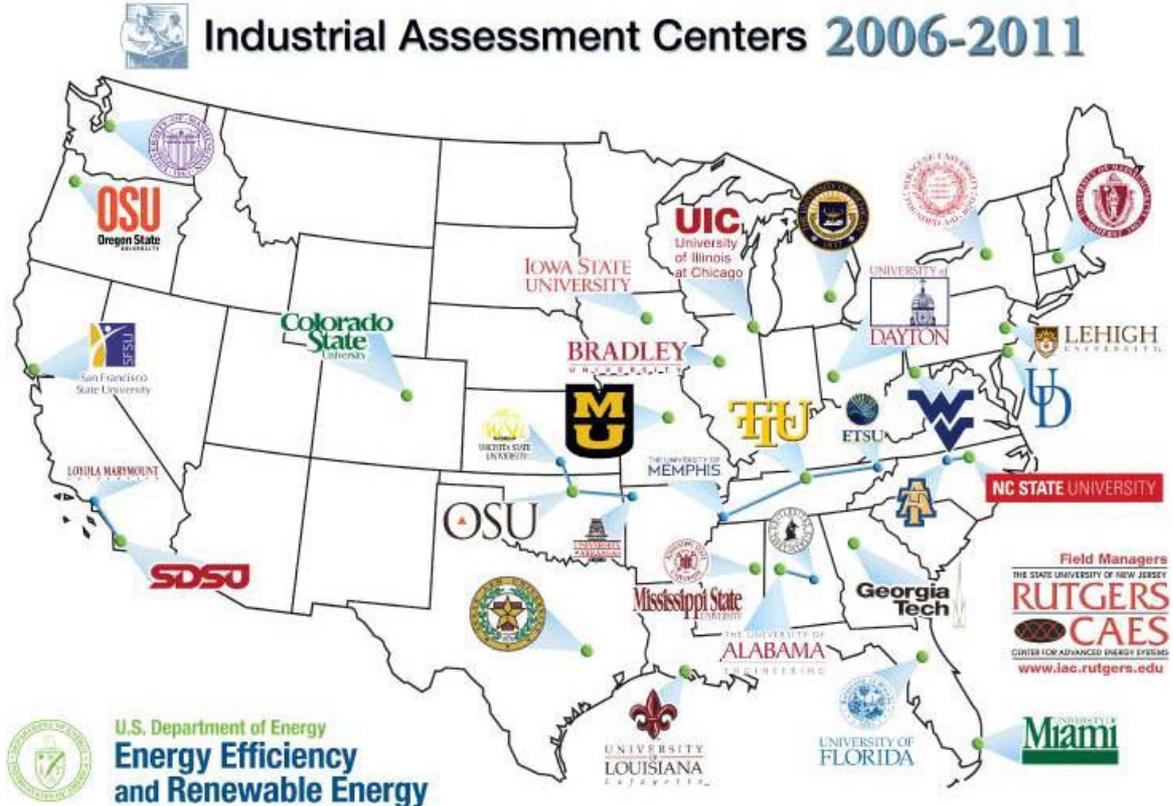
2011 Student Meeting

February 3, 2010

Thomas Wenning
Oak Ridge National Laboratory

Overview

- IAC Metrics & Student Info
- Other Activities
- Student Certificates
- IAC Forum website
- Student Registry
- Program Highlights
- Upcoming Events
- Help!



IAC Program and Workforce Development

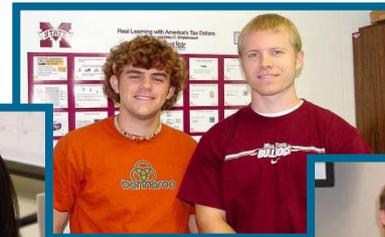
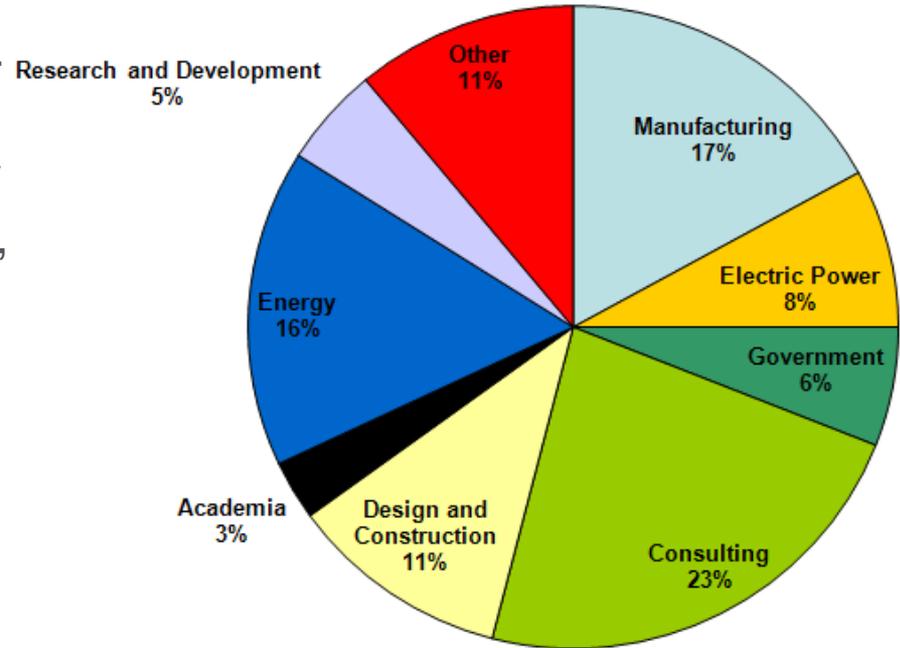
Student Participation Overview

Year	Participating Students	Students Completing Training	DOE IAC Certificates Issued
FY 2007	305	118	58
FY 2008	285	95	65
FY 2009	312	115	56
FY 2010	323	107	51
FY 2011*	235	38	31

* Through Q1 of FY 2011 Source: www.iacforum.org

IAC Alumni are the Nation's Premier Talent in Industrial Energy Efficiency: Part of the New Green Work Force

- 2,900 students trained
- On average, 50% - 60% pursue energy-related careers upon graduation
- 100 – 160 students departing each year
- Engineering fields including Mechanical, Industrial, Electrical; some Business school participants, also
- Student status: Undergraduates – 75%, Graduates – 25%
- Average time spent in IAC: 18 months



Alumni Case Studies

- Finished two alumni case studies
 - Matan Marom, Syracuse
 - Vitelio Silva, U. of Florida
- Located on IAC Forum website
- **We Need More!!**

Webcasts

- “Wiki-based Collaborative Energy Efficiency Reference”, Michael Koch, Oregon State IAC

2011 Student & Alumni Newsletter

- Several good student & alumni articles
- Available on IAC Forum website

U.S. DEPARTMENT OF
ENERGY
Energy Efficiency &
Renewable Energy
**Industrial Assessment Centers
Alumni Case Study**

Matan Marom, Syracuse University

IAC Roots
Matan Marom spent 5 years in the Industrial Assessment Center at Syracuse University under the guidance of Director Frederick Carruth. During his IAC tenure, he participated in 36 assessments, and in his final year served the center as Lead Student. While at Syracuse, he earned a Bachelor's Degree in Mechanical Engineering and a Master's Degree in Engineering Management.

One of Mr. Marom's most noteworthy IAC accomplishments was the development of an in-depth report automation program. He and fellow IAC students designed and built the program on a VBA backbone in Excel. This program performs calculations and generates a formatted, editable Microsoft Word document, which includes common assessment recommendations (ARs) and more challenging ARs. After 3 years in development, the Meeting in Washington, D.C.

Matan takes particular pride in the audits and services that activities include studies of The Jonsson School and the projects that relate to energy, judging science competition workshops in engineering. He notes that "These activities fostering the teamwork and professional development of the community."

Matan recalls that in his last year at Syracuse, the IAC is of the university engineering building. Prior to relocation in a basement office measuring only 10 feet wide by 16 workstations, two file cabinets, a storage cabinet, two people worked back to back developed outstanding currently work for a workspace I persona with six other people fondly and I am ama accomplish in such t



Career Highlight
Currently employed
Matan serves as an current duties and responsibilities regarding developing clients to understand and fulfill their energy needs.

The value of Mr. Marom's IAC experience was immediate. "Matan has quickly distinguished himself in a strategic decision in 2008 to add engineering staff to support its program was an excellent training ground for engineers brief period since joining us, Matan has excelled in area development, and we look forward to his continued success pleased both with Matan as an individual and the IAC as



Matan Marom, IAC alumnus from Syracuse University

U.S. DEPARTMENT OF
ENERGY
Energy Efficiency &
Renewable Energy
**Industrial Assessment Centers
Alumni Case Study**

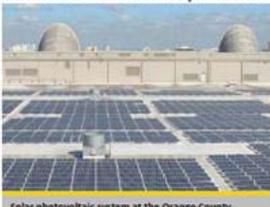
Vitelio Silva, University of Florida

IAC Roots
During his tenure with the University of Florida Industrial Assessment Center (UF-IAC), Vitelio Silva earned two Master of Science degrees—one in Industrial and Systems Engineering and the other in Business Administration with a concentration in management. During Mr. Silva's 2 years in the UF-IAC, he completed 25 assessments.

As Lead Student Engineer at the UF-IAC, he coordinated teams and conducted energy assessments across the states of Florida and south Georgia. He performed engineering and economic analyses for numerous recommendations that resulted in energy efficiency, waste management, and productivity savings opportunities worth more than \$3.5 million. Dr. Diane Schaub, Director UF-IAC, named Vitelio "...one of the best IAC students we've ever had at the Florida IAC." In addition, while serving as Lead Student, he attended and presented on efficient motor estimation at the 2008 IAC Lead Student Conference in Washington, D.C.

One of Mr. Silva's most memorable IAC experiences came when he was speaker and co-author of the research paper "A New Approach to Motors Efficiency Estimation in an Industrial Energy Management System" delivered at the 2007 World Energy Engineering Congress in Atlanta, Georgia. With very short notice and little time for preparation, Vitelio was tapped to stand in for IAC Technical Manager, Dr. Cristian Cardenas, to present "Renewable Energy Sources: Biogas- and Tire-Based Fuels for Industrial Use," in addition to his own paper. He delivered both presentations without missing a beat.

Career Highlights
Mr. Silva is now a Senior Performance Assurance Engineer at Johnson Controls, Inc. In less than two years there, he has coordinated, verified, and reported more than \$9.5 million in project savings and cost avoidance. He has also conducted performance measurement and verification (M&V) services including \$73 million in performance contract guarantees and \$3.3 million in service agreements. These services include high-efficiency energy retrofits, water meter projects, and renewable energy projects provided for federal installations, higher education facilities, and city and local governments. His is currently responsible for analyzing, verifying, and reporting on the performance of a solar photovoltaic system at the Orange County Convention Center in Orlando, Florida. This 200,000 square foot solar array generates 1 Megawatt of power making it the largest rooftop installation in the southeast United States.



Solar photovoltaic system at the Orange County Convention Center



Vitelio Silva, IAC alumnus from the University of Florida

- On-line requests are processed through the certificates link on www.iacforum.org
- Deadlines for requests occur 3 times per year:
 - October 1, March 1, and July 1
- Qualification criteria for students and alumni
 - Minimum of two semesters or summers completed
 - Minimum of 6 assessments conducted
 - Demonstrates 7 of 9 core IAC skills (AR identification, report writing, savings calcs, teamwork, client interaction, utility data analysis, conceptual AR designs, leadership, others)
- Student initiates request online, Director/AD receives email notification with link and he/she completes the request online and submits request for final processing
- **Students and alumni must be in the IAC registry to receive certificates**
- Certificates are mailed to the Directors within 30 days of the request deadline for distribution



IACForum vs. IAC.Rutgers

IACForum.org

FY	Participating Students	Departing Students	DOE-IAC Certificates Issued
2010 (to date)	243	100	39

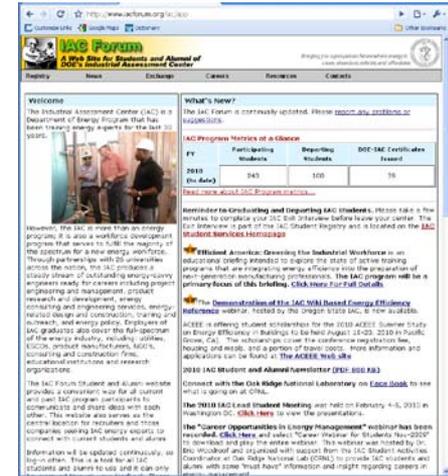
- Registry – Student Records Database
- Job & Resume Postings
- Newsletters, Presentations, and Current Announcements

IAC.Rutgers.edu

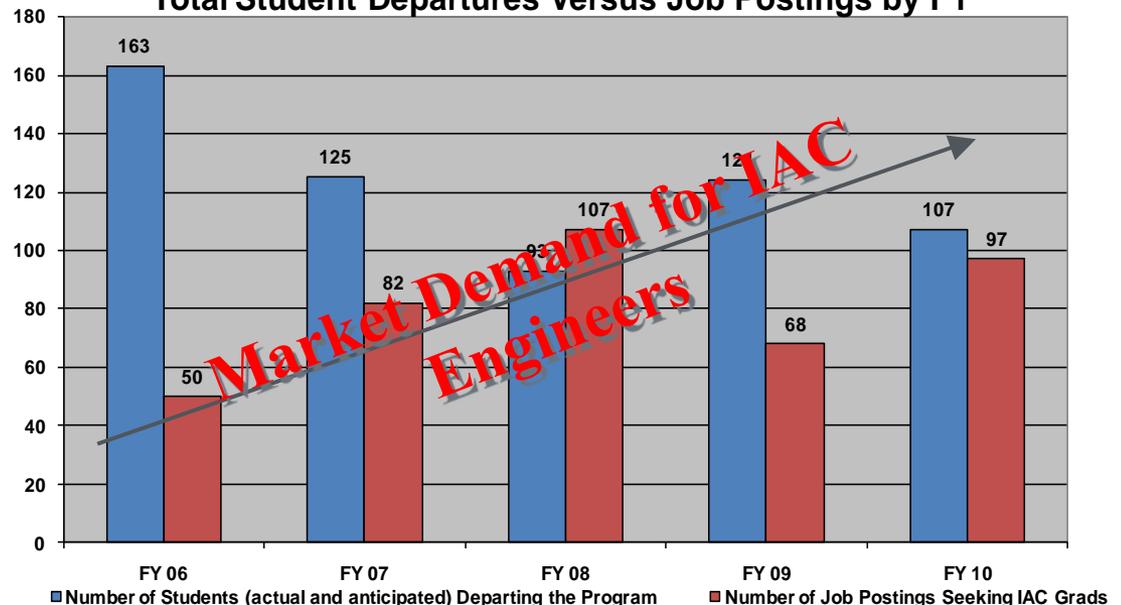
FY	Participating Students	Departing Students	DOE-IAC Certificates Issued
2010 (to date)	243	100	39

- Assessment Metrics Database
- Assessment Uploads

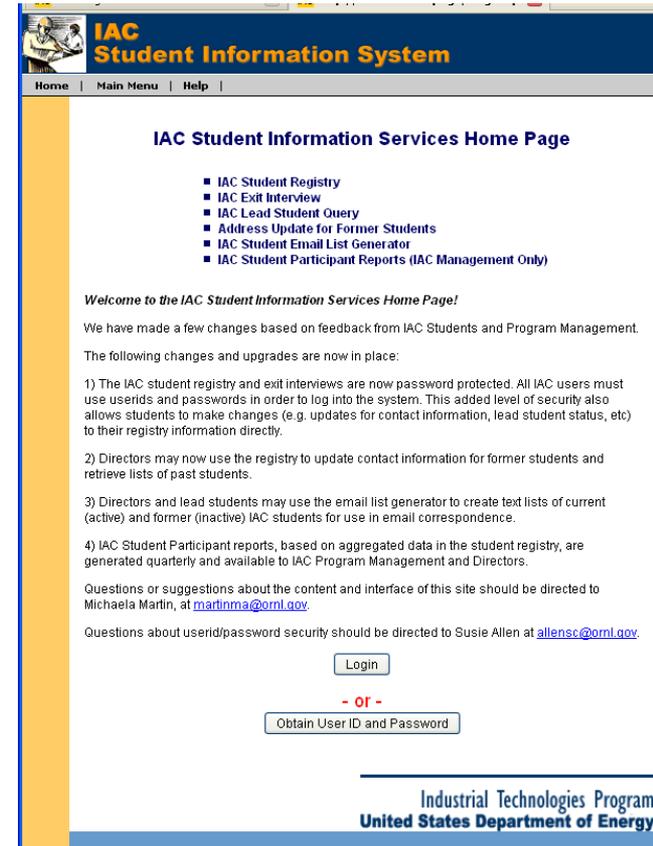
- Offers a window to IAC students and alumni for potential employers, policymakers, media, non-IAC schools
- Important announcements are listed on the home page
- Many students and alumni use the website to share information about their work
- We are always interested in new articles and highlights
- The career section is VERY effective at matching IAC students and alumni with energy-focused employers
 - Post resumes regularly
 - Remember to check the site frequently for new job opportunities!!
- **Hoping to give it a “facelift” soon!!**



Total Student Departures Versus Job Postings by FY



- Located at: <http://www.iacforum.org/>
- **Lead Student Responsibilities**
 - Ensure that all students complete the registry when entering the IAC
 - Ensure that all students complete the exit interview when departing the IAC
 - Ensure that lead/active/inactive status information on students is current
- Lead Student Query should be used to maintain student status information regularly
 - Active/Inactive student status
 - Deactivating students: Lead students should change status of students who departed without an exit interview. Deactivation requires reason for departure and updated contact information.
 - Lead Student(s) appropriately identified
 - Update contact information for alumni



The screenshot shows the IAC Student Information System Home Page. The page has a blue header with the IAC logo and the text "IAC Student Information System". Below the header is a navigation menu with "Home", "Main Menu", and "Help". The main content area is white with a blue border. It features a heading "IAC Student Information Services Home Page" and a list of services: "IAC Student Registry", "IAC Exit Interview", "IAC Lead Student Query", "Address Update for Former Students", "IAC Student Email List Generator", and "IAC Student Participant Reports (IAC Management Only)". Below this is a welcome message and a list of changes and upgrades, including password protection, contact information updates, and email list generation. At the bottom, there are links for "Login" and "Obtain User ID and Password", and the footer text "Industrial Technologies Program United States Department of Energy".

- All Students **MUST** complete an IAC registry record when joining their respective centers
- An exit survey must be completed by each student prior to their departure from the IAC program
- It is important that the IAC Student Registry be accurate and up-to-date

IAC Student Information System

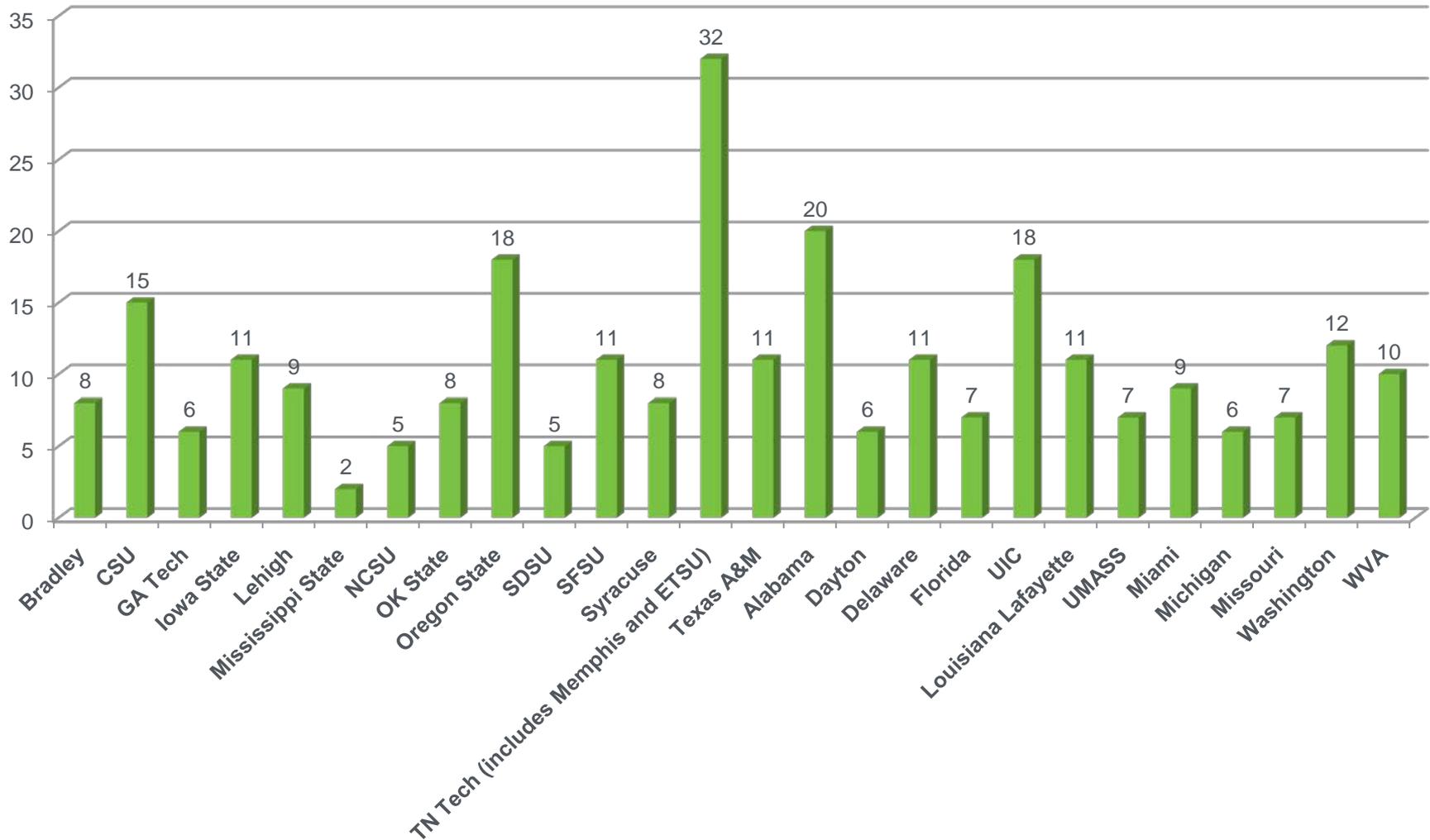
Home | Main Menu | Help

Menu of IAC Student Information Services

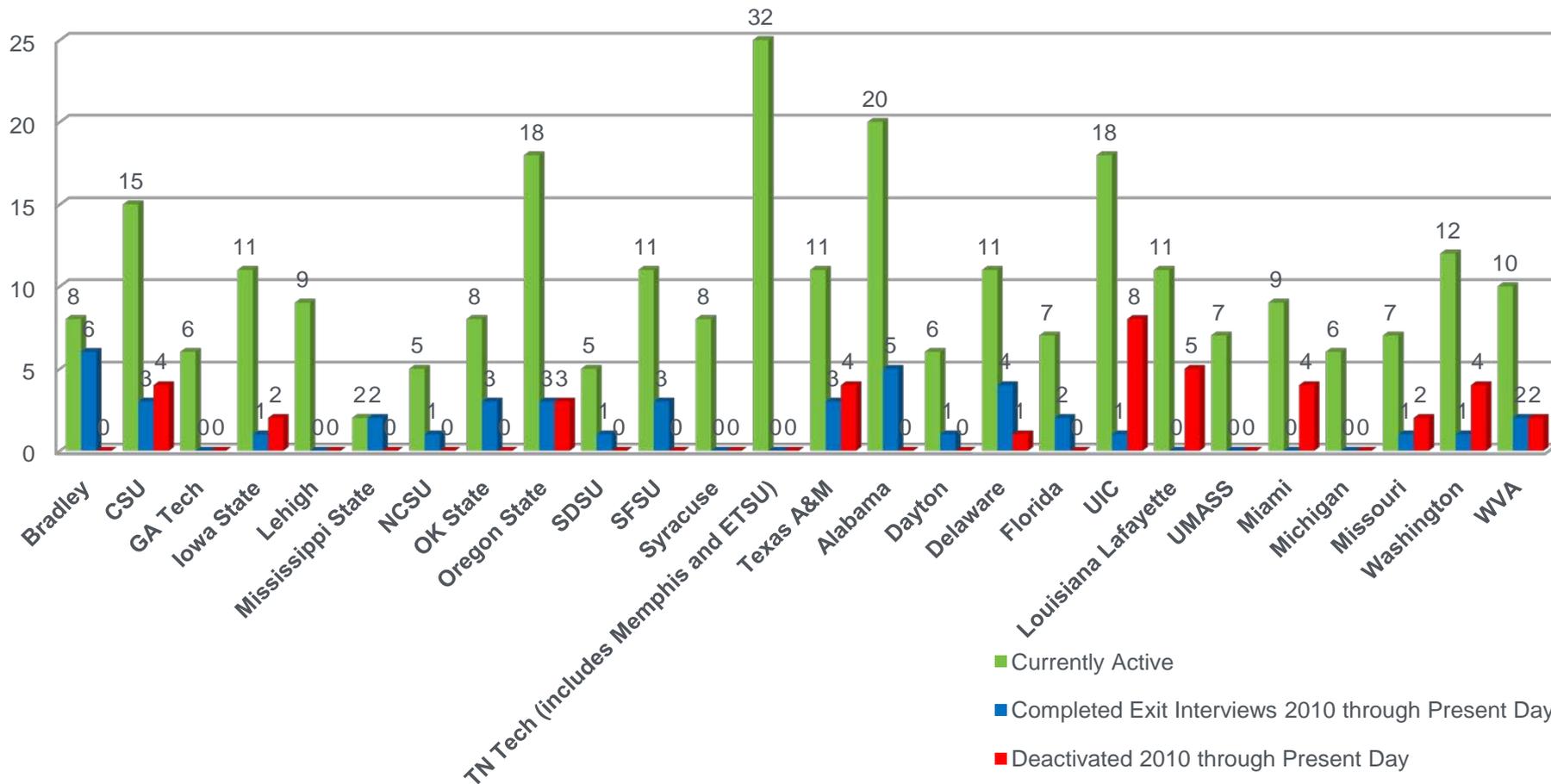
- **[IAC Student Registry \(register for the first time\)](#)**
The Student Registry must be completed as soon as the student begins working for the IAC. Students are responsible for keeping their individual registry information up-to-date, particularly changes in Lead Student status, and email and contact information.
Students must register on-line in order to be eligible for an IAC Certificate of Participation.
- **[IAC Student Exit Interview](#)**
The Student Exit Interview must be completed when the student departs from the IAC and employment is discontinued. Students that complete the exit interview will be automatically identified as "inactive" in the Registry.
- **[IAC Lead Student Query](#)**
The Query allows Lead Students and Directors to verify that their colleagues have completed IAC Registries and Exit Interviews. Lead Students and Directors may also update the active / inactive status and Lead status of their colleagues.
- **[Address Update for Former Students](#)**
The Address Update function allows Directors to update contact information (address, email) for their former students over time. All past addresses are placed in an archival database and only the most recent contact information is viewable in the interface. Directors may wish to use this function to retrieve participant lists for their particular Center.
- **[IAC Student Email List Generator](#)**
The Email Generator allows Lead Students and Directors to generate text-based lists of email addresses for current and former students for their particular Center. The text lists may be cut and pasted into email applications (Outlook, Eudora, etc) for communicating with students.
- **[Change Password](#)**
Allows students, Directors and program management to change their passwords for this site.
- **[IAC Student Participant Reports](#)**
Quarterly reports on student participation in the IAC Program. Available to IAC Program Management and Directors.

Industrial Technologies Program
United States Department of Energy

Number of Students Currently Active



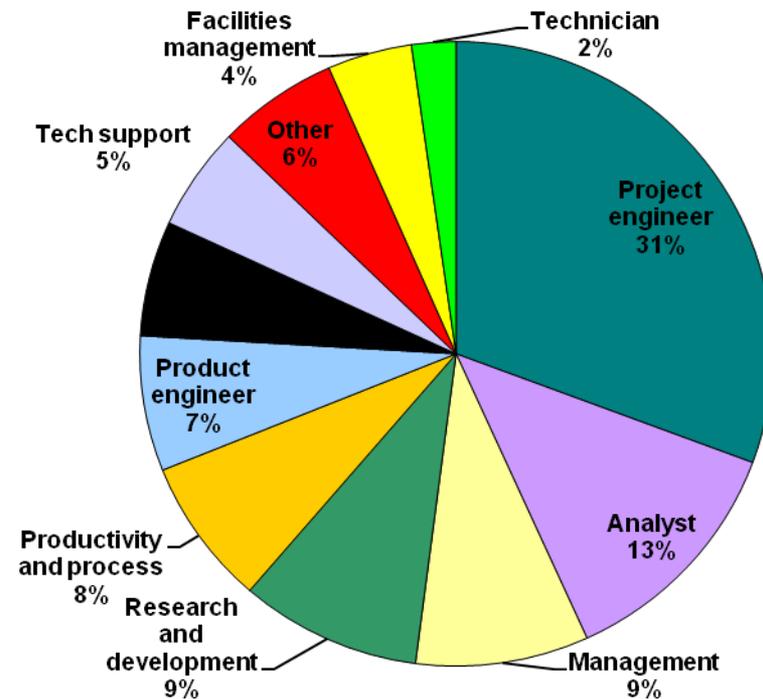
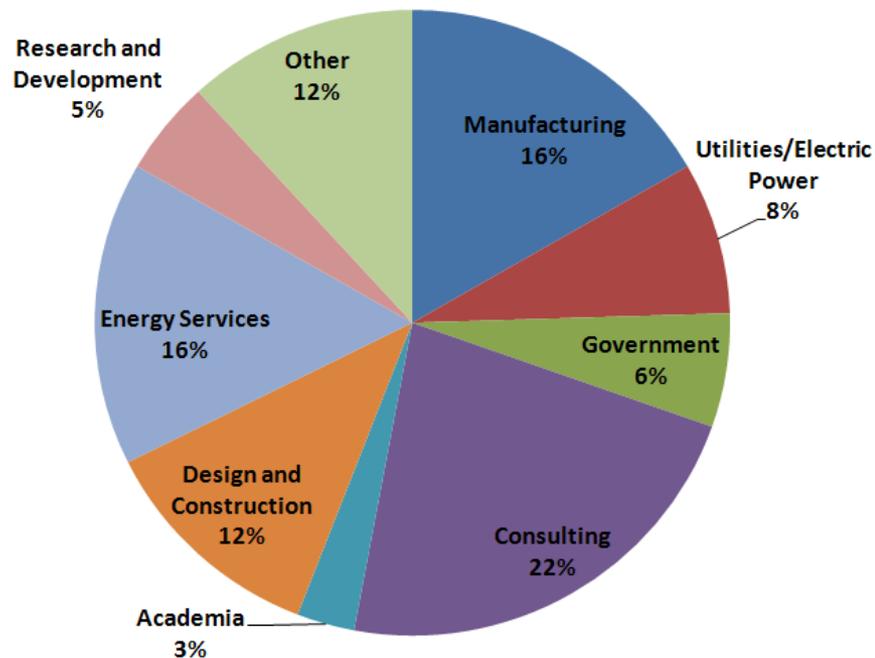
Number of Active Students vs Number Completing Exit Interviews or Being Deactivated in CY 2010



– Please review list of active students for accuracy!

Why This Is SO Important

- Registry data defines the number of students in the IAC at any time
- Exit interviews identify the number of students that are departing for careers in energy



IAC Highlights: Pictures, Video Clips, Articles & Stories

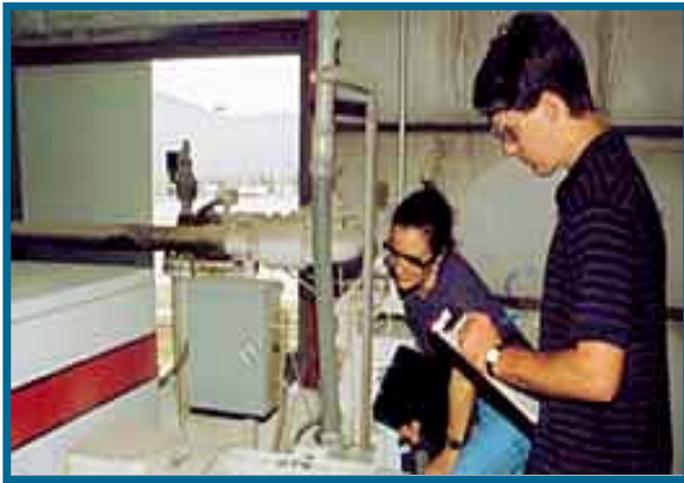
The requested video cannot be displayed in your region

Photo
not
Available

No image
available

The IAC Difference

"We get a real world perspective of a variety of industries. We learn about conservation and things companies need to do to save energy and money." –Andrew Hanegan, Texas A&M IAC



IAC student engineers looking at HVAC equipment at a manufacturing plant



An IAC student engineer uses an infrared gun at a manufacturing plant

Adam Knapp, (MS, PE, MBA, CEM) IAC Syracuse University



- Operations Leadership Associate at United Technologies
- Evaluated opportunities in the UK energy performance contracting market as research for MBA from Oxford University
- Former Project Engineer at Clough Harbour and Associates

Ben Erpelding (M.S., P.E., C.E.M) IAC San Diego



- Director, Optimum Energy LLC.
- Over 11 years of experience in energy efficiency
- Performed over 500 detailed HVAC energy assessments
- Erpelding's efforts over the last 6 years resulted in a 16% decrease in San Diego County's energy consumption

Gary Epstein, IAC University of Massachusetts



- UMass IAC Alumni founded ERS, Inc.
- The primary objective at ERS, Inc. is to assist utilities, government and large commercial and industrial end users solve complex energy and resource problems in a cost effective manner.

- University Briefs created for an Alliance to Save Energy capital hill briefing (June 2010)

Oklahoma State University

Director: William J. Kolarik, Ph.D., P.E.
Assistant Director: Dr. Wayne C. Turner

Director Background: Dr. Kolarik has served as a Malcolm Baldrige National Quality Award Examiner for five years. He has published a number of books, articles, and proceedings papers dealing with his experience in research and professional practice.

Research Focus: Energy, waste and productivity

Achievements and Awards: Over 675 clients served in 20 years. DOE Center of Excellence. Staff involved in founding of the Association of Energy Engineers.

Distinguished Alumnae:

- > Many OSU IAC alumni have developed into leaders in the energy management field.
- > Employers include Johnson Controls and H2O Applied Technologies.



Syracuse University

Director: Frederick J. Carranti, BSME, MSME, P.E.
Assistant Director: John Dannenhofer, D.Sc.

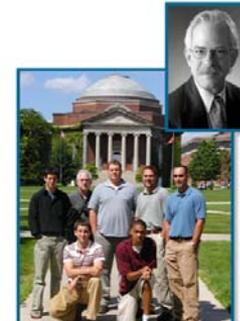
Research Focus: Energy systems, design, engineering education

IAC Related Curricula: Capstone design, Energy Conversion

Achievements and Awards: 2009 Center of Excellence

Distinguished Alumnae:

- > Matan Marom & Wade Willett, Schneider Electric
- > Ross DiLegro is one of n
- > Most Syracuse alumni are in consulting industry, and a complete advanced degr



University of Dayton

Director: Dr. Kelly Kissock, Professor of MAE, P.E.
Assistant Directors: Dr. Andrew Chiasson, Rebecca Blust

Research Focus: Energy Informatics, Industrial Systems Energy Use Modeling, Building Energy Use Simulation



Award for Excellence in Energy, U.S. DOE Casting and Iron Industries, 2003 IAC

panies as McDonough-Braungart, Johnson Sustainable Energy, Siemens, ACEEE, and Eger (Bill Eger) for the City of Alexandria,

Texas A&M University

Director: Warren M. Heffington, Ph.D., P.E.

Director Background: Participated or supervised over 500 industrial and commercial/institutional building energy assessments, including activities in three foreign nations. Directed over \$4 million of related



Warren Heffington



James Eggebrecht

West Virginia University

Director: Dr. B. Gopalakrishnan, PE, CEM
Assistant Director: Dr. Wafik Iskander

Research Focus: Industrial Energy Utilization and Waste Reduction, Industrial Productivity Enhancement, Artificial Intelligence and Expert Systems, Concurrent Engineering, Manufacturing Systems Engineering, Facilities Planning and Material Handling, Green Buildings

Achievements and Awards: 2005 IAC Center of Excellence, EERE Save Energy Now Award 2006, US DOE Governors' Award for Excellence in Industrial Energy Efficiency 2009, West Virginia Division of Energy Energy Champion and Saver Awards in 2008 and 2010

Distinguished Alumnae: Nasr Alkadi, Ph.D. 2007, formerly with General Motors, now on staff at ORNL, Deepak Gupta, Ph.D. 2007, Assistant Professor at South East Missouri State University



From Left to Right: Samhita, Kartik, Nishi, Krishna, Anne, Ruben, Dr. Gopalakrishnan (Director), Dr. Iskander (Asst. Director), Senthil, Phani, Seyed, Dayakar



Upcoming Events for Next Year:

Newsletter

- IAC news briefs from all centers
- Ideas for articles from students and alumni are accepted all year

Webinars

- Avenue of collaboration
- Topics of student interest?

2012 Student Meeting

- Location thoughts?
- Looking for new ideas and presentations from (& for) our students

IAC Re-Compete Solicitation

- New crowd next year?

ACEEE Summer Study on Energy Efficiency in Industry

- July 26 - 29, 2011, Niagara Falls, NY



- 1. Pictures**
- 2. Video Clips**
- 3. Stories & Articles**
- 4. Alumni Case Studies Suggestions**
- 5. Presenters for webinars and IAC student meeting**
- 6. Please keep on your Lead Student to maintain the registry**

- Established in year 2008
- Professional networking site for IAC students and alumni
- 240 members and counting
- News items, professional profiles, discussions

The screenshot displays the LinkedIn group page for 'Industrial Assessment Centers (IAC) Students and Alumni'. The page includes a navigation bar with options like Home, Profile, Contacts, Groups, Jobs, and an advanced search bar. A search box on the left allows for finding specific members. The main content area lists 202 members, sorted by relevance, with profiles for Susie Allen, Brian Pepin, Justin Gibides, Vitelio Silva, Daniel Trombley, Kevin Ng, Michaela Martin, and Michael Diep. Each profile shows the member's name, title, location, and follower count.

Industrial Assessment Centers (IAC) Students and Alumni | LinkedIn

Welcome, Susie Allen · [Add Connections](#) · [Settings](#) · [Help](#) · [Sign Out](#)

[Home](#) [Profile](#) [Contacts](#) [Groups](#) [Jobs](#) [Inbox](#) [More...](#) [Advanced](#)

Industrial Assessment Centers (IAC) Students and Alumni

[Overview](#) [Discussions](#) [News](#) [Jobs](#) [Subgroups](#) [Manage](#) [More...](#) [Group Profile](#)

What is Following in LinkedIn groups? Following makes it easy for your connections and others to see your contributions across groups you share. Just click on "Follow" next to any name in your groups.

Search members

Search for names or keywords to find specific members of this group.

[Search](#)

[Advanced Search](#)

New Members: Last 7 Days

- [Alexandre Kisslinger Rodrigues](#), Business Developer at Marifter Renewables Portugal
- [Pablo Rivera](#), Maintenance and Reliability Engineer Uruguay
- [Lana Bonotan Agot](#), Student at San Francisco State University San Francisco Bay Area
- [Ryan Tiraschi](#), Mechanical Engineer Greater Denver Area
- [Jen Schembari](#), Employment Specialist at CHA Albany, New York Area

Members (202)

Sorted by: most relevant Showing 1 - 20 of 202

- [Susie Allen](#) (10) Data and Communications Independent Consultant, Knoxville, Tennessee Area 12 followers | [See activity >](#)
- [Brian Pepin](#) (17) CEO, Energizing Solutions, Greater Seattle Area 104 followers | [Stop following](#) | [See activity >](#)
- [Justin Gibides](#) (17) Energy Engineer, Greater Philadelphia Area 82 followers | [Stop following](#) | [See activity >](#)
- [Vitelio Silva](#) (17) Sr Performance Assurance Engineer at Johnson Controls, United States 76 followers | [Stop following](#) | [See activity >](#)
- [Daniel Trombley](#) (17) Industrial Engineering Associate at American Council for an Energy-Efficient Economy, Washington D.C. Metro Area 36 followers | [Stop following](#) | [See activity >](#)
- [Kevin Ng](#) (17) Energy Engineer at HDR Engineering, Inc., San Francisco Bay Area 100 followers | [Stop following](#) | [See activity >](#)
- [Michaela Martin](#) (17) Senior Staff Member at Oak Ridge National Laboratory, Knoxville, Tennessee Area 30 followers | [Stop following](#) | [See activity >](#)
- [Michael Diep](#) (20) Energy Auditor at Industrial Assessment Center, San Francisco Bay Area 6 followers | [Follow Michael](#) | [See activity >](#)

Thank You!

Thomas Wenning

IAC Student Activities Coordinator

Residential, Commercial, and Industrial Energy Efficiency

Oak Ridge National Laboratory

865-241-8676, wenningtj@ornl.gov

