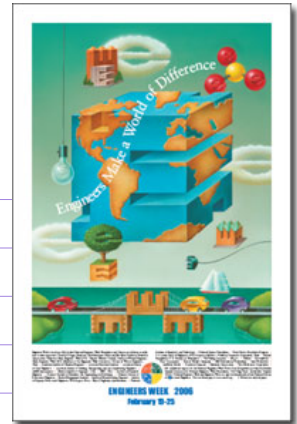




ASHRAE Celebrates National Engineers Week!



ASHRAE's New Face of Engineering

Roger (Jui-Chen) Chang, Mechanical Engineer

Roger Chang has played a key role in a variety of projects, including several art museums such as the Wexner Center for the Arts, Cleveland Museum of Art, High Museum of Art, and the Philadelphia Museum of Art. He has synthesized the use of a variety of techniques, including computational fluid dynamics (CFD), two-dimensional heat transfer analysis, and dynamic thermal modeling to develop robust façade and mechanical designs for gallery spaces requiring tight environmental control.

developed dynamic condensation analysis methods for use by Arup globally and serves as a leader in training members of the company's mechanical team to



Chang is a graduate of the Massachusetts Institute of Technology where he undertook research on indoor air quality of ice rinks, performance of double-skin ventilated facades, and mixed-mode buildings. His work has been acknowledged by the Massachusetts Audubon Society and the Chesapeake Bay Foundation.

Chang presented a talk on museum design at the 2005 ASHRAE Meeting as part of a seminar on Indoor Environmental Modeling of Museums, Art Galleries and Performing Arts Theaters. He has

perform load calculations, energy analysis, and CFD analysis. Roger is a LEED accredited professional and is currently leading the mechanical design of a LEED Platinum building, the Syracuse Center of Excellence.

Roger earned a BS in Mechanical Engineering from Massachusetts Institute of Technology in 2000, and an MS in Mechanical Engineering from Massachusetts Institute of Technology in 2002. He currently works for Ove Arup and Partners in New York City.

You can contact Roger Chang at Roger.chang@arup.com.

Special points of interest:

- ☆ EWeek 2007 is February 17-23 so don't forget to mark your calendar!
- ☆ Roger Chang, ASHRAE's New Face of Engineering, was a student member of ASHRAE!
- ☆ De La Salle University is the first ASHRAE Student Branch outside of North America to participate in EWeek!

EWeek Panel at the University of Delaware

George Sesatek, of the ASHRAE Delaware Chapter, served on a panel discussion that was set up by the College of Engineering at the University of Delaware as part of Engineers Week. The purpose of the panel was to provide input to students on such topics as

obtaining employment, what are the expectations of an employer, alternate careers such as law and medicine, etc. and the importance of continuing education available through engineering societies such as ASHRAE. The program was attended by students

from the University of Delaware College of Engineering, University of Delaware Engineering Technology, and Delaware Technical & Community College.

Submitted by George Sesatek, Chapter Student Activities Chairman

- ☆ Participation in EWeek was at an all time high this year for ASHRAE Chapters and Student Branches!

Black Hills Chapter Rube Goldberg Contest!

Once again the Black Hills ASHRAE Chapter sponsored the Rube Goldberg Contest at South Dakota School of Mines & Technology. We had a turnout of six different machines, each with the goal of shredding five pieces of 8 1/2 " x 11" paper in twenty steps or more. The judging criteria ranged from the least amount of electrical devices to simply completing the run without human intervention.



honorably mentioned for such a great medieval theme, but unfortunately when it came to crunch time they did not complete their run.

The contest really brings out one of the realities of design engineering..... unexpected failures!!!! We all despise them, but it is part of the process!

Hats off to all that participated in this year's contest and thanks to the Joel Porch, P.E., Michael Heinrich, P.E., and S. Allen Freeland, P.E. for being the volunteer judges for the Black Hills ASHRAE chapter.



themes came forward to be tested against one another.

Each team had two chances for their concoctions to shred themselves to glory. The first attempt had a two-minute time limit with a nine-minute "machine reset", and finally a second two-minute run. When it was all said and done, ASHRAE handed out cash prizes for 1st, 2nd & 3rd (\$50, \$30, \$20 respectively) based on the Rube Goldberg judging criteria. First place went to the Omega Actives, with second being awarded to Hill City Physics Class, and third was handed to the Theta Tau Pledges. The Custer High School machine was given an



Submitted by Michael Heinrich, P.E., Member ASHRAE Black Hills Chapter

It was interesting to see all of the different, zany, and unorthodox methods the designers used to achieve their paper shredding goal. Unique applications of physics and artistic

Celebration at DLSU-ASHRAE Student Branch

The De La Salle University-ASHRAE Student Branch of the Philippines Chapter organized a week-long activity dubbed "Honoring



Women in Engineering" on January 23-27, 2006 as part of the annual University Week celebration and in anticipation of the National Engineers Week. The activity included a photo exhibit of female graduates and women faculty of the Mechanical Engineering Department and women administrators of the College of Engineering of De La Salle University. Everyone wore "Introduce a Girl to M.E." buttons during the entire week to promote mechanical engineering (the last choice of women among engineering programs in DLSU) as a promising career to women. Both the female and male officers and members of the Student Branch

worked together to make the activity a success. The activity was coordinated by the officers and members of the student branch Samantha Hilado, Richelle Hua, Raymond Gavino, Junichi Kato, and Stevenson Go.

The DLSU-ASHRAE Student Branch also worked with the Grade School Administration of St. Joseph's Academy, a Catholic school in Las Pinas City in the southern part of Manila, to hold "Engineering Principles @ Work," an orientation to engineering principles activity designed for Grade V students.



The one-and-a-half-hour orientation was both informative and fun-filled as the "kuyas" (Filipino

word for older brothers) headed by DLSU-ASHRAE President and Vice-President Junichi Kato and Marvic Acabado, respectively, led the



activities such as the "human suspension bridge", "egg dropping contest", and demonstration of a simple robotics principle using Lego Mind Storms set. The other "kuyas" were Ryan Caroro, Francis Montenegro, Johanns Chan and Kristian Arellano. The activities were supervised by Ms. Juanita Alvarez, the Grade School Principal, and Dr. Manuel Belino, the Chairman for Student Activities of ASHRAE Philippines Chapter.

Submitted by Manuel Belino, Student Branch Advisor and Chapter Student Activities Chairman

Karl Counts from the ASHRAE Greenville Chapter participated with his company, Day & Zimmermann International, in partnership with the South Carolina Society of Professional Engineers in NEW activities. Five different teams of engineers from Day and Zimmermann presented programs to different middle school classes at Northwood Middle School on Thursday, Feb. 23rd. He and a colleague presented a program on engineering in general to an 8th grade Algebra class. As part of their description of the duties of engineers and "engineering problem solving" skills, they led the class in a hands on engineering exercise to design and build a 8.5" long bridge from a half sheet of copy paper. They divided the class in to 5 groups and held a competition to see which design could support the most weight (in pennies). The winning team's design supported 117 pennies.

Submitted by Karl Counts, Chapter Student Activities Chairman



In honor of EWeek, the ASHRAE Johnstown Chapter awarded two \$500.00 scholarships to Triangle Tech students Jim Lowry and Anthony Lupchinsky.

Massasoit Community College hosted a special breakfast with the ASHRAE Boston Chapter Student Activities Chairman, James Shiminski, in honor of EWeek. The student branch shared their recent activities with James, and he presented information on the ASHRAE Boston Scholarship Program for Future Engineers and discussed career paths and opportunities in the HVACR industry.

-Submitted by John Fitzgerald, Student Branch Advisor

Ron Johnson (Society Student Activities Vice Chair), and Ajit George attended the EWeek celebrations in Portland to represent the local ASHRAE Oregon Chapter. They managed an ASHRAE booth for students to drop by and learn about the HVACR Industry and the engineering skills required to be successful. It was a great opportunity for the Oregon Chapter to work with teenagers and promote Society.

Submitted by Ajit George, Chapter Student Activities Chairman

Engineering Open House @ University of Kentucky...



day for all people involved, including prospective engineering students, young children interested in science and math, and parents and exhibitors alike. ASHRAE participated by hosting a booth along with Thermal Equipment Sales, Inc. and Trane who also had booths in what we called the "HVAC Corner."

many for a long time to come. Many thanks go out to UK and all of the exhibitors that participated in making this another successful year. We look forward to seeing

On Saturday, February 25, UK hosted an Engineering Open House (E-day), part of the celebration of National Engineers Week. The open house showed students what engineers do, where they work, and how they make things to improve life for everyone. There were demonstrations, contests, and lots of fascinating displays. It was a fun

Our goal for the open house was to enrich the curiosity of students, expose all ages to the technology and innovation in the engineering sciences and to show that possibilities are unlimited when it comes to science and technology.

Everyone fully enjoyed themselves and the day will be remembered by



everyone again next year.

Submitted by Brian Hafendorfer, Student Activities Co-Chairman

Baltimore Chapter 12th Annual Student HVAC Challenge

The Baltimore chapter of ASHRAE hosted its 12th Annual Student



HVAC Challenge for local high school students during Engineers

Week. More than 20 students participated in this year's event, which was created to expose students to the industry and potential career opportunities. Students learned how to calculate basic HVAC loads, heard about a typical day in the life of Mechanical Consulting Engineer, ran experiments with a classroom unit ventilator, and then took a comprehensive test on what they learned.

Awards were handed out at the Baltimore Chapter meeting the following week. Teams from Eastern Technical High School of



Baltimore swept the top three spots as well as the coveted Champion's Plague. It was a great competition and a valuable learning experience for the students.

Submitted by Jonathan Olmstead, Student Activities Chairman

Southern California and Tri-County Chapters Team up for EWeek!

We are very proud and honored to announce that we had 250 students attending our Engineers Week events this year. We had two activities that were hosted by our grateful sponsors, Southern California Edison and Southern California Gas Company.

The whole purpose of this event is primarily to expose the high school students to an engineering career in HVAC-R. Several times a year, we hear and see statistics showing a decline in students entering the engineering field, especially in the HVAC-R industry. We feel that this is our duty to organize a special event focused on the students before they even think about their career of choice. Surprisingly, we



had a great participation by the number of female students attending. We were very excited, all being aware that the women engineers are a small percentage in the whole engineering community.

We started both events with some speakers sharing their experience with the students on the career path going into the engineering. They talked about what it is to be an engineer, being and becoming an engineer. And we also projected the new EWeek Video "Who Are Engineers? You?"

The first event took place on Thursday Feb 23rd at the Customer Technology Application Center in Irwindale (CTAC), which is part of Southern California Edison (SCE) Company. The morning event was divided in three groups. The students were able to enjoy a tour of



the HVAC and Industrial equipment and saw the air movement patterns of a high volume fan, with the help of a bubble-making machine.

They also learn about Electric Transportation and were able to see a two wheel electric vehicle, a Segway, which SCE is using for a meter reader pilot project. They enjoyed the Blue Mercedes, which is a Hydrogen Fuel Cell electric vehicle; part of a national hydrogen fuel cell demonstration program.

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Girrl Power! @ Penn State Fayette

The **Penn State Fayette** Campus annually hosts a program for middle school girls called Girrl Power! This year's theme was "Cooking Up a Career in



Engineering" and involved a number of local products that are "cooked." We started with some experiments in our campus chemistry lab, where the girls had an opportunity to "cook" nylon. The second week they participated in the Faraday Lecture downlink



Warming and Climate Change issues. The capstone activity was a bus trip to University Park to tour the Powdered Metal Research Lab to see how metals are "cooked." Some funding for that trip was provided through fund raising efforts by the ASHRAE Student Branch.

Submitted by David Meredith, Student Branch Advisor

from London on "Mission Improbable - Can Technology Save the Planet?" Next they toured a hardwoods kiln where lumber is "cooked" and a tire retread plant where large mining tires (over 10 ft in diameter) are retreaded and vulcanized. During National Engineers Week, Tom Werkema, ASHRAE Distinguished Lecture presented a public program on Global



George Israel, IV, of the ASHRAE Jacksonville Chapter awarded scholarships to two students during EWeek. They hosted a kickoff luncheon at the University of North Florida and invited the recipients.

Submitted by George Israel, IV, Chapter Student Activities Chairman



George Israel, IV, (center) with scholarship recipients Nathaniel Ambler, University of Florida (left), and Parineeta Nayyar, University of North Florida (right).

Dr. David Ting, the student activities chair of ASHRAE Windsor Chapter (and the University of Windsor ASHRAE Student Chapter Faculty Co-Advisor) and four student volunteers made an engineering week promotion at the Belle River District High School. The four students were, Holly Lafontaine, second year Environmental student; Chantal Saade, third year Electrical Engineering student; Richard Mikols, fourth year Mechanical Engineering Student; and, Arindam Singha, PhD student of Mechanical Engineering.

During the visit, Dr. Ting gave a 20-minute PowerPoint presentation on "Engineering as a first university degree and beyond" to approximately 20 students and their teacher. He began with some common engineering applications (where HVAC was emphasized) and introduced some options beyond the first undergraduate engineering degree, e.g. teacher, lawyer, business people, medical doctors, etc. Graduate studies were also briefed with some research topics/projects. The four student volunteers had an active communication with the high school students and answered many questions. After the presentation the group of high school students were divided into five groups and competed for the Egg Crate Design. The winning team managed to protect their egg from a two-meter fall and hence, was awarded with University of Windsor mugs. Copies of ASHRAE Insight and Journal were given out along with magazines of other engineering organizations. Dr. Ting thanked the four volunteers with a good lunch. The team is now ready to do a better visit next year.

Submitted by Dr. David Ting, Student Branch Advisor and Chapter Student Activities Chairman

Ryerson Polytechnic Celebrates EWeek!

For the first time in its history, the ASHRAE Student Branch collaborated with Ryerson Engineering Student Society (RESS) and the local ASHRAE Toronto Chapter for National Engineering Week festivities. The collaboration was an effort that involved all 3 bodies:



24-Hour Volkswagen Bug Push for Charity (Ryerson National Engineering Week)

The Toronto ASHRAE Chapter was a generous financial contributor to National Engineering Week at Ryerson University. Some of the activities that were funded were the 24-hour Volkswagen bug push for charity, speaker presentations, high

school outreach, and an industry speaker series. In exchange for National Engineering Week funding, Ryerson Engineering Student Society (RESS) provided ASHRAE with a booth that was used to share information with students on ASHRAE and to generate interest from potential student members. What was particularly encouraging to students is the leadership and mentorship that was shown by the established members who attended the student event, including current Toronto ASHRAE President (Terry Whitehead), past President and Board Member (David Underwood), and Student Activities Committee Chair (Darryl Yahoda). Eleven interested potential student members signed up during the day that the booth was stationed on campus. Many of the students who signed up attended the March Toronto

ASHRAE chapter meeting and others will attend the April Toronto meeting. Since National Engineering Week at Ryerson, there has been expressed interest from a



ASHRAE booth at National Engineering Week at Ryerson University (Left to Right: Robyn Ellis, Darryl Yahoda, David

group of students who plan on becoming involved in the ASHRAE Student Design Competition that will wrap up in May 2006.

Submitted by Robyn Ellis, Student Branch President

The Utah Chapter of ASHRAE participated in the Utah Engineers Council...



Steve Maughan, winner of Fresh Faces in Engineering award with UEC Chair Paul Oestreich

The Utah Engineers Council Engineers Week Awards Banquet held on February 23, 2006. Awards presented that evening included the Utah Engineer of the Year, Utah Engineering Educator of the Year, the UEC Mesa Teacher of the Year and three Scholarships. The New Faces of Engineering Award was presented to Steven Maughan, an ASHRAE member. The Keynote speaker was Stan Checketts, CEO of S&S Worldwide, Inc. S&S Worldwide is a manufacturer of amusement rides. Exhibits from Utah engineering colleges were also set up for display. The Utah Engineers Council is an organization whose members are the local sections and chapters of 14 engineering societies of which the Utah Chapter of ASHRAE is one.

To learn more about the UEC, go to: <http://www.utahengineerscouncil.org/>

Submitted by David Merrill, Chapter Chair for Student Activities

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University of Illinois at Chicago (UIC) offered several events in honor of EWeek! First, a talk called the Future of Energy, so participants could learn about the field of energy engineering and the many careers available. They also hosted a resume workshop and toured the Chicago Center for Green Technologies; one of Chicago's few green buildings.

Submitted by Steve Spentzas, UIC Student Branch President

In honor of EWeek, four Twin Tiers Chapter members spoke to two classes at a local high school about careers in engineering. Students learned about our exciting industry and the local chapter members enjoyed interacting with the teenagers.

Submitted by Todd Farr, Chapter Student Activities Chairman

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The second event took place on Friday Feb 24th at the Energy Resource Center in Downey (ERC), which is part of Southern California Gas (SCG) Company. This is the first of twelve LEED certified buildings in the world. The morning session included a tour of the center showing the building integrated photovoltaic system, Capstone micro turbine that was providing heat to an absorption chiller, toured the food service area, baking and ventilation lab, as well as sustainable and energy efficient features of the building that included day lighting, recycled materials, cool roof, low-e glazing, efficient light fixtures, ventilation system, and the natural gas vehicle refueling station.

We finished the event with some explosions. We had a combustion demonstration along with showing interesting safety videos. The students witnessed the results of several mix of natural gas with other mixtures.

We are very proud of our student activity program. We almost doubled the attendance of last year E-Week event. We are hoping that by inviting the students to participate to these events, it will encourage them to chose a career in engineering and most of all, maybe chose the HVAC-R field. At least, they will be aware that it is available, HVAC being too often in the shadow.

Submitted by Karine LeBlanc, Student Activities Chair

Puget Sound Chapter Promotes EWeek with Bellingham Tech

This year's Engineering and Technology Fair at the Museum of Flight, organized by Puget Sound Engineering Council, was a great success. Many thanks to John Thorpe and Richard Glidden for representing Puget Sound ASHRAE at the February 18 event.

Rich Glidden, a mechanical designer from Bellevue Mechanical, Inc., brought diffusers, smoke dampers and volume dampers for the ASHRAE display. To capture the interest of younger students in attendance, we also prepared an activity from the PBS program "ZOOM." The hoop gliders built from straws and strips of paper were a big hit.

Submitted by Darren M. Schwend, Chapter Student Activities Chairman



Rich Glidden ready to greet people visiting the ASHRAE booth.