# EOH 2009



# HIGHLIGHTS

## MIDDLE SCHOOL COMPETITION

The Middle School Design Contest offers 5th through 8th graders an opportunity to unlock their engineering potentials through a prepared design challenge. This year, our very own MSDC is a ping-pong ball launcher design contest! It is held in the **morning of Saturday, March 14th in room 1320 Digital Computer Laboratories**. There are over 40 teams coming to EOH this year, and you should come see this exciting event! By using everyday objects, contestants have to apply engineering mechanisms and their creativity to design a launcher. This competition provides hands-on experience, promotes students to design their own work, and fosters their creativity.

## RUBE GOLDBERG HIGH SCHOOL DESIGN CONTEST

Teams of high school students have put their heads together to design exciting contraptions with the goal of replacing an incandescent lightbulb with a more energy efficient light emitting design. Inspired by the famous cartoons of Rueben Lucius Goldberg, students find complex ways of accomplishing a simple task using ordinary (and sometimes not-so-ordinary) materials. Science and engineering principles are combined with creativity and ingenuity to create these awesome inventions. Stop by **Campus Recreation Center East on Friday between 10:00am and 1:00pm** to see these amazing machines in action and vote for your favorite one!

## ILLINI ENGINEERING CHALLENGE

Here's a chance for EVERYONE to work on an actual engineering project! The Illini Engineering Challenge is an on-site design challenge open to the general public, so everyone who attends EOH 2009 is welcome to participate! There are two striking challenges for you at the Transportation Building this year. Build an aluminum boat and see how many pennies your boat can support, or build a tower out of provided materials! Remember to think about the shape and stability of the structure, and try to build the tallest tower! The projects have varying parameters depending on the age of the contestants, as the challenges are designed for all ages. Don't miss out on our on-site challenges, and build your unique model!

## AMD W.J. "JERRY" SANDERS CREATIVE DESIGN COMPETITION

AMD W.J. "Jerry" Sanders Creative Design Competition is an annual robotics contest which allows teams of the best engineering students in the country to test their engineering skills and ingenuity. This year, robots will be playing a game of Tic-Tac-Toe. This is one of the largest and most exciting events at EOH, and is sponsored by Advanced Micro Devices. Come join us to encourage creativity and excellence in engineering!

## Kids Construction Zone - Hands on!

Transportation Building - EOH Hours

## Micro and Nanotechnology Laboratory Tours

Every 20 minutes, limit 10 per tour

## Concrete Crushing

Talbot Laboratory basement - 10:00am, 11:30am, 1:00pm, 2:30pm

## Tesla Coil and Continuum Fingerboard Musical Performances

- 151 Everitt Laboratory - Saturday, March 14, 10:00am, 11:00am, 12:00pm, 1:00pm, 2:00pm, and 3:00pm.

# HIGHLIGHTS

**"Dispelling the Myths of Nuclear Power"** - Dr. David N. Ruzic, Department of Nuclear, Plasma, and Radiological Engineering - Friday, March 13,10:00 a.m. - 151 Everitt Laboratory

**EOH presents Grant Imahara** - Friday, March 13, 7:30 pm - Foellinger Auditorium - Free tickets available on Friday at specially marked areas (limited number available)

## TRAFFIC AND SAFETY

Engineering Open House works hard to ensure the safety of our visitors. We ask that you not enter the rooms and buildings not marked for EOH use as indicated in the Visitor's Guide. Additionally, please follow standard safety precautions with special consideration for campus construction sites. For the safety of yourself and others, please cross at the designated crossings when walking on the campus. Thank you!

## SHUTTLE AND PARKING

In order to make your visit to EOH more relaxing, parking at EOH is free. **Please park your vehicles at the E-14 parking lot along Kirby Ave.** The EOH Shuttle-- Operated by Peoria Charter Coach Company-- will run every 15-20 minutes during EOH hours.

- **Sixth and Peabody**
- **Transit Plaza**
- **Green and Wright**
- **Kenney Gym (Springfield Ave.)**
- **Goodwin Ave. and Green St.**
- **Gregory Dr. and Goodwin Ave.**
- **Stock Pavilion (Pennsylvania Ave.)**

A tour guide will introduce the University campus to the visitors during rides, and EOH visitor's guides will be provided in the EOH shuttle. **School buses can drop off visitors on Wright Street, between Talbot Lab (just north of Green St) and Stoughton St. All buses must park in the E-14 parking lot.**

## FOOD AND ENTERTAINMENT

Engineering Open House is proud to present Area 51, food and entertainment central! Area 51 is conveniently located between Engineering Hall and Everitt Lab, right across the street from the Illini Union. Here, you will be able to grab a bite to eat and enjoy entertainment by U of I's own student groups. So take a moment to stop by, relax, and recharge!

Operating Hours:

**Food, beverage, and entertainment: 11:00 a.m. to 2:00 p.m.**

Friday, March 13:
11:00 - 11:35 a.m. Mark Smart
11:45 - 12:20 p.m. Connor Simmons
12:30 - 1:05 p.m. She and He
1:15 - 1:50 p.m. Chai Town

Saturday, March 14:
11:00 - 11:35 a.m. Illini Contraband
11:45 - 12:20 p.m. Illini Contraband
12:30 - 1:05 p.m. Girls Next Door
1:15 - 1:50 p.m. DeBono

# EOH 2009

**Friday, March 13:**
**9 a.m. to 4 p.m.**

**Saturday, March 14:**
**9 a.m. to 3 p.m.**

## Engineering Open House Visitor Booths

The EOH Visitor Booths can be found in the following locations:

•Digital Computer Lab: Atrium

•Engineering Hall: Main Hallway

•Engineering Quad: North side, next to Grainger Library

Be sure to pick up your Engineering Open House merchandise, including this year's t-shirt, at the Visitor Booth located outside.

Please Direct questions to the volunteers at the booths or one of the Central Committee Members walking around with name tags.

Welcome to the 89th Engineering Open House. This event has been a part of the Engineering at Illinois tradition since 1907 and has been an annual event since 1952. Each year, thousands of visitors converge on the Illinois campus to see and learn about all aspects of engineering and how it affects every facet of our lives. EOH can be described as a giant science fair, run entirely by students in the College of Engineering. The exhibits reflect the interests, creativity and passion of students across all engineering disciplines.

Every visitor will have the opportunity to learn about the engineering behind everyday items, see new technologies and experience the wonders of engineering. We encourage you to ask questions and participate in all EOH has to offer.

Engineering Open House is organized by a central committee under Engineering Council, a student organization that works to enrich the engineering experience through a distinctive array of programs of services. Information about EC programs can be found at ec.illinois.edu. For more information about the College of Engineering please visit www.engineering.illinois.edu.

Thank you for visiting Engineering Open House.

Sincerely,
Yang Zhao
Director, Engineering Open House 2009

# Open House Central Committee

| | |
|---|---|
| Engineering Open House Director | Yang Zhao |
| Exhibits Director | Gavin Rehkemper |
| Corporate Co-Directors | Mark Persaud |
| | Brian Chae |
| Creative Design Director | Isaac Chan |
| Equipment Director | Daniel Evertz |
| Facilities Director | Kushal Sanghrajka |
| High School Design Contest Director | Palak Doshi |
| Grade School Design Contest Director | Maurice Ng |
| Jerry Sanders Director | Chris Reeg |
| Judging and Awards Director | Matt Johnson |
| Visitor's Information Director | Stephanie Graves |
| External Publicity Director | Ann Pan |
| Internal Publicity Director | Emily Carroll |
| Traffic and Safety Director | Jeff Ross |
| Social and Entertainment Director | Michelle Hollander |
| Special Projects | Serena Liou |
| Secretary/Treasurer | Andrew Zwicky |
| EFC Representative | Kelsey Erickson |
| Webmaster | Allen Huang |
| Corporate Committee | Dave Austin |
| | Michael Driscoll |

## SPECIAL THANKS

EOH Cen-Comm would like to thank:

Awards Ltd.
Mark Briggs
Campus Sportswear
Angie Dimit
Kristin Duitsman
Ketty Duvall
Dean Michael Hirschi
Rich Holm
Chris Holt
Grant Imahara and Wolfman Productions
Michael Jacobson
Kay Kappes
Rick Kubetz
Greg Larson
Dan Mast
Donna Nichols
Donna Offenbecher
Tracy Osby
Alan Otto
Tim Prunkard
Dana Tempel
EOH Volunteers

# 22nd Annual AMD W.J. "Jerry" Sanders Creative Design Competition

College students from around the world come to participate in the 22nd Annual AMD W.J. "Jerry" Sanders Creative Design Competition, a two-day contest of robotic design and engineering. This year, teams will need to move a weighted, air-filled balloon to play a large game of tic-tac-toe. Instead of Xs and Os, teams will play with colored balloons. Each team will be assigned a colored balloon to score with. To get their balloons, a team will first have to 'unlock' their balloons from a cage. Once released onto the field, teams can score by placing it into a box. Once scored in, the box will remain under the team's control until another team takes control by scoring in that box.

Scoring:
Points will be awarded for releasing balloons and scoring in a box. Additional points will be awarded if a team gains control over an entire 'line' in the tic-tac-toe grid. Points will be taken away for popping the balloons.

"Jerry" Sanders III graduated from the University of Illinois at Urbana-Champaign in 1958 with a Bachelors of Science in Electrical Engineering. Since then, he's gone on to start one of the most successful companies of our time.

W.J. "Jerry" Sanders III co-founded Advanced Micro Devices (AMD) in 1969. Under his leadership, AMD grew from being a "second-sourcer" of other companies' products to its current position as the fourth largest semi-conductor manufacturer in the United States.

Sanders also co-founded several prominent industry groups, including the Semiconductor Industry Association, the Santa Clara Manufacturing Group, the Semiconductor Research Corporation, and the Microelectronics and Computer Technology Corporation.

The Wall Street Transcript named Sanders the Best Chief Executive Officer in the semiconductor industry for the years 1983, 1984, and 1985, and runner-up in 1991. Mr. Sanders received the Robert N. Noyce Award from the Semi-conductor Industry Association (SIA) in 1998. In 2001, he received the Medal of Achievement for the AeA, the nation's largest high-tech
industry association.

Sanders' continued support for the University of Illinois, and in particular this design contest, is a testament to his support for education and competition, both of which he thinks breeds success, creativity, and excellence.

W.J. Sanders III
Founder and Chairman Emeritus of Advanced Micro Devices, Inc.

**Location and Time:**
March 13 and 14, 2009
Kenney Gym Annex
University of Illinois at Urbana-Champaign

**Schedule:**
Competition will take place from 9 am to 4 pm on both days with final rounds starting around 1 pm on Saturday, March 14th.

There will be rounds running at all times with bonus rounds and even crowd participation events spaced throughout the day. Towards the end of the competition on Saturday there will also be a demolition round where teams fight to have the last functional robot standing!

**W.J. "Jerry" Sanders Creative Design Competition Committee**
Director: Chris Reeg
Rules Chair: Jim Lange
Field Chair: Jon Hansen
Publicity Chair: Dan McKenna
Faculty Advisor: Dan Mast
Treasurer: Renee Massey
Teams Coordinator: Jack Pritz
Programmer: Nishit Sharma

# EXHIBIT INDEX

| EXHIBIT | SOCIETY | BUILDING | PAGE |
|---|---|---|---|
| !Multiplicity | !BANG | Siebel Center | 27 |
| The 2009 Materials Show | Undergraduate Materials Organization | Materials Science and Engineering Building | 20 |
| 3D Remote Reality | CSL | Coordinated Science Laboratory | 9 |
| A Promising New Energy Source | Department Of Ag And Bio Engineering | Agricultural Engineering Sciences Building | 8 |
| ABE 100 Project Posters | Department Of Ag And Bio Engineering | Agricultural Engineering Sciences Building | 8 |
| Advanced Ceramics | Undergraduate Materials Organization | Materials Science and Engineering Building | 20 |
| AgTracker Robot | Department Of Ag And Bio Engineering | Digital Computer Laboratory | 10 |
| AIAA Booth | AIAA | Talbot Laboratory | 33 |
| Air Cannons For Use In Agriculture And Forestry | Department Of Ag And Bio Engineering | Agricultural Engineering Sciences Building | 8 |
| The Amazing Underground World of TARP | IAHR & IWRA | Hydrosystems Laboratory | 16 |
| American Concrete Institute | ASCE | Newmark Laboratory | 25 |
| American Society Of Ag. And Bio. Engineering Student Branch | ASABE | Digital Computer Laboratory | 10 |
| Asphalt Pavements are a Lot of Fun! | Independent | Newmark Laboratory | 25 |
| Auto-Centering Platform | Independent | Everitt Laboratory | 12 |
| Automated Othello | ECE 395 ADSL | Everitt Laboratory | 12 |
| Automatic Slide Whistle | ADSL Lab | Everitt Laboratory | 12 |
| Balsa Wood Bridge Competition | ASCE | Newmark Laboratory | 25 |
| Bioenvironmental And Structural Systems Laboratory | Department Of Ag And Bio Engineering | Agricultural Engineering Sciences Building | 8 |
| Biomass Feedstock Production | Department Of Ag And Bio Engineering | Agricultural Engineering Sciences Building | 8 |
| Biomaterials - Drug Delivery | Undergraduate Materials Organization | Materials Science and Engineering Building | 20 |
| Biomaterials - Hydrogels | Undergraduate Materials Organization | Materials Science and Engineering Building | 20 |
| Bioshock Interactive Laser Tag System | WECE | Everitt Laboratory | 12 |
| Blacks In Chemistry & Chemical Engineering | NOBCChE | Loomis Laboratory | 17 |
| Bluewater Ampworks | Independent | Everitt Laboratory | 12 |
| Bookworm | SIGSoft | Siebel Center | 27 |
| Breakfast With SWE | Society of Women Engineers | Mechanical Engineering Lab | 23 |
| Brewing At Its Best | AIChE | Loomis Laboratory | 17 |
| Bubble Room | Physics Society | Loomis Laboratory | 17 |
| Burning Plasma And Etching Pen | IEEE | Everitt Laboratory | 12 |
| Campus Middle School Robotics Club | Campus Middle School | Digital Computer Laboratory | 11 |
| Candy | AIChE | Loomis Laboratory | 17 |
| Career Opportunities In Agricultural And Biological Engineering | Department Of Ag And Bio Engineering | Digital Computer Laboratory | 11 |
| Cars Driven By Computers And Networks | CSL | Coordinated Science Laboratory | 9 |
| Century Of Flight | AIAA | Talbot Laboratory | 33 |
| Chromatactix | Gamebuilders | Siebel Center | 27 |
| CNC Machining | Society of Women Engineers | Mechanical Engineering Laboratory | 23 |
| Colloids | AIChE | Loomis Laboratory | 17 |
| Communications/Protocol Framework | SIGOps | Siebel Center | 27 |
| Composites And Sports Equipment | Undergraduate Materials Organization | Materials Science and Engineering Building | 21 |
| Concrete Canoe | Concrete Canoe | Newmark Laboratory | 26 |
| Concrete Crushing | Society For Experimental Mechanics | Talbot Laboratory | 33 |
| Conducting Polymers | Undergraduate Materials Organization | Materials Science and Engineering Building | 21 |
| Crazy Springs | Society For Experimental Mechanics | Talbot Laboratory | 33 |
| Crescendo | SIGSoft | Siebel Center | 27 |
| CubeSat | Independent | Talbot Laboratory | 33 |
| Decaf vs. Regular | AIChE | Loomis Laboratory | 18 |
| Design of a Canoe Chute and Fish Passage for the Chicago River | IAHR & IWRA | Hydrosystems Laboratory | 16 |
| Design, Build, Fly: Design And Construction Of R/C Airplanes | Design, Build, Fly | Talbot Laboratory | 33 |
| Diet Coke + Mentos | AIChE | Loomis Laboratory | 18 |
| Distracted Driving | ASME (American Society Of Mechanical Engineers) | Mechanical Engineering Laboratory | 23 |
| Dreaming Of Dirigible | Physics Society | Loomis Laboratory | 18 |
| Drinking Water Treatment | WaterCAMPWS | Materials Science and Engineering Building | 21 |
| Electricity And Magnetism | Physics Society | Loomis Laboratory | 18 |
| Engineering In The US Army | Department Of Military Science, Univ. Of Illinois | Newmark Laboratory | 26 |
| Enzymes In Food Processing And BioSensing | Department Of Ag And Bio Engineering | Agricultural Engineering Sciences Building | 9 |
| Ever Seen the Bottom of the Ocean? | IAHR & IWRA | Hydrosystems Laboratory | 16 |
| Eyetracking Whack-A-Mole | SIGBio | Siebel Center | 29 |
| Face Recognition Technology | CSL | Coordinated Science Laboratory | 9 |
| Flight Simulator | AIAA | Talbot Laboratory | 33 |
| Flippin' Flubber | AIChE | Loomis Laboratory | 18 |
| Float Your Boat | National Organization For Business And Engineering | Everitt Laboratory | 14 |
| Formula SAE And Baja SAE | Society Of Automotive Engineers (SAE) | Mechanical Engineering Laboratory | 23 |
| Frozen Marshmallows! | Illinois Space Society | Everitt Laboratory | 14 |
| The Frontiers Of Bioengineering: Applications And Design | Biomedical Engineering Society | Digital Computer Laboratory | 11 |
| Fruity Fragrances | AIChE | Loomis Laboratory | 18 |
| Fun with Fluids | Society For Experimental Mechanics | Talbot Laboratory | 33 |
| Fun With Vacuums And Plasmas | American Vacuum Society | Materials Science and Engineering Building | 21 |
| Fusion Technology | American Nuclear Society | Loomis Laboratory | 18 |
| Graffiti | Independent | Siebel Center | 29 |
| Graffiti Robot | ADSL | Everitt Laboratory | 14 |
| Gravitational Potential | Physics Society | Loomis Laboratory | 18 |
| Gravity And Mechanics | Physics Society | Loomis Laboratory | 18 |
| Greening the Desktop | SIGSAC and SIGNet | Siebel Center | 29 |
| Hands-On Hydrologic Model | IAHR & IWRA | Hydrosystems Laboratory | 16 |
| The Hazards of Low-Head Dams | IAHR & IWRA | Hydrosystems Laboratory | 16 |
| Heat Transfer | AIChE | Loomis Laboratory | 18 |
| High Powered LED Mood Lamp | IEEE | Everitt Laboratory | 14 |
| History Of Arab Engineering And Inventions | Arab American Association Of Engineers And Architects | Newmark Laboratory | 26 |
| Homemade Keyboard | Independent | Engineering Hall | 12 |
| Hovercraft | SIGDave | Siebel Center | 29 |
| Hydrogels | Undergraduate Materials Organization | Materials Science and Engineering Building | 22 |
| Hydrogen Fuel Cell | AIChE | Loomis Laboratory | 18 |
| Hydrogen Fuel Cells Use in Residential Comb Heat and Power Sys | Department Of Ag And Bio Engineering | Digital Computer Laboratory | 11 |
| Hydrophobic And Hydrophilic Materials | Undergraduate Materials Organization | Materials Science and Engineering Building | 22 |
| IClicker Expansion | Tech Team - Women In Computer Science | Siebel Center | 29 |
| IIE Exhibit | Institute Of Industrial Engineers | Transportation Building | 34 |
| Illini Entrepreneurship Network: Student Startups | Illini Entrepreneurship Network | Siebel Center | 29 |
| Illini Prosthetics Team | Illini Prosthetics Team | Mechanical Engineering Laboratory | 23 |
| Illini Pullers | Illini Pullers | Digital Computer Laboratory | 11 |
| Illini Space Jet | Illini Space Jet (AIAA) | Loomis Laboratory | 18 |
| Illinois Laboratory For Agricultural Remote Sensing (ILARS) | Department Of Ag And Bio Engineering | Agricultural Engineering Sciences Building | 9 |

# EXHIBIT INDEX

# Agricultural Engineering Science Building

## ABE 100 Project Posters

*Agricultural and Biological Engineering Department*

How energy efficient is your house? What is a living machine? Explore these questions and more by seeing the hands-on projects completed by our first-year Agricultural and Biological Engineering students.

This exhibit is suitable for: High School, College, General Public.

## Air Cannons for Use in Agriculture and Forestry

*Agricultural and Biological Engineering Department*

Air cannons are used for various purposes in agriculture, such as a “puncher-planter”, and for general safety testing. The air cannon contains a unique piston mechanism that enables reproducible acceleration of a test object. The working of the air cannon will be explained along with a demonstration.

This exhibit is suitable for: All

## Bioenvironmental and Structural Systems Laboratory

*Agricultural and Biological Engineering Department*

The Bioenvironmental and Structural System (BESS) Laboratory is a research, product-testing, and educational laboratory. The lab provides unbiased engineering data to aid in the design of agricultural buildings, and conducts performance tests on agricultural ventilation fans and poultry light traps.

This exhibit is suitable for: High School, College, General Public.

## Biomass Feedstock Production

*Agricultural and Biological Engineering Department*

Biomass feedstock production (BFP) provides materials to the conversion of biomass into fuel, power, and value-added materials. BFP includes the agronomic production of energy crops and the physical handling/delivery of biomass. The objective of this program is to develop effective and efficient engineering solutions and machinery for biomass feedstock production.

This exhibit is suitable for: High School, College, General Public.

## Enzymes in Food Processing and BioSensing

*Agricultural and Biological Engineering Department*

Enzymes are proteins that are efficient catalysts for biochemical reactions. They are widely used commercially in the detergent, food, and brewing industries. Stop by and explore how enzymes work in food processing and producing biosensors.

This exhibit is suitable for: High School, College, General Public.

## Illinois Laboratory for Agricultural Remote Sensing (ILARS)

*Agricultural and Biological Engineering Department*

ILARS conducts research and works with industry and government agencies to develop "real world" precision and site-specific tools for agriculture and natural resources management. ILARS is staffed with experts in crop science, agriculture engineering, geographic information systems, and remote sensing.

This exhibit is suitable for: High School, College, General Public.

## Mechanical Weed Control

*Agricultural and Biological Engineering Department*

To address the trend of weeds becoming resistant to herbicides, we developed a mechanical weed control system for corn. The machine detects where the corn plants are located in the row, and then uses mechanical arms that perform the mechanical weeding using harrows that avoid the corn stalks.

This exhibit is suitable for: High School, College, General Public.

## Mechatronics and its Applications to Off-Road Vehicles

*Agricultural and Biological Engineering Department*

Mechatronics is the study of machinery with a 'brain'. Such machinery is integrated with mechanical parts, electrical components, and microprocessors. Come explore the differences between conventional machinery with electronic components and mechatronic machinery!

This exhibit is suitable for: High School, College, General Public.

## A Promising New Energy Source

*Agricultural and Biological Engineering Department*

Thermochemical conversion processes (TCC) can be used to convert biomass into a crude oil product. Using a feedstock that is normally considered a waste product, such as swine manure, improves the economic and environmental considerations of the TCC process and also the pork production process.

This exhibit is suitable for: High School, College, General Public.

## Soil and Water Resources Laboratory

*Agricultural and Biological Engineering Department*

The Soil and Water Resources Laboratory focuses on understanding the role of natural ecosystems in agriculture. The lab designs systems to control soil erosion and flooding, develops irrigation systems, consults on crop nutrition management, and designs ways to handle stormwater and control sediment.

This exhibit is suitable for: High School, College, General Public

# Coordinated Science Laboratory

## 3D Remote Reality

Here, you will find a remote-reality framework able to capture, reconstruct, stream, and render reality. We are working on building a system that allows users to control the 3D viewing experience by combining images from multiple cameras.

Location: B18

This exhibit is suitable for: All

## Cars Driven by Computers and Networks

An automated road traffic system may be possible in the future! See the demonstration of model cars in the IT Convergence Lab of Professor P.R. Kumar, and learn how research in control, wireless communication and software can help make it happen.

Location: IT Convergence Lab

This exhibit is suitable for: All

## Face Recognition Technology

Come see our state-of-the-art face recognition system! By capturing many images of your face illuminated from many angles by an array of projectors, our computer system is able to recognize

you under completely new lighting. This exhibit will be of special interest to students who are taking linear algebra, or who have an interest in digital cameras and projectors. Warning: exhibit may not be safe for photosensitive individuals.
This exhibit is suitable for: All

## Lemelson-Illinois Student Prize Finalist Displays

The $30,000 Lemelson-Illinois Student Prize is awarded on an annual basis to an undergraduate or graduate student who has created or improved a product or process, applied a technology in a new way, redesigned a system, or demonstrated remarkable inventiveness in other ways. Several finalists and the winner of the 2009 prize will demonstrate and display their innovations.
Location: Lower level lobby
This exhibit is suitable for: All

## Next-Generation Air Transportation System

Nobody likes to be stuck in an airport waiting for their plane to arrive. Unfortunately, flight delays are a growing problem in the U.S. air transportation system. However, our researchers are working to ensure safe and reliable travel for fliers through new computer technology and flight models. Learn more about air transportation in this exhibit, which features model airplanes.
This exhibit is suitable for: All

## Online Ouija Board

The Online Ouija Board will not allow you to speak with ghosts (sorry!). But it does borrow its concept from the Ouija game, which uses a board printed with the alphabet to help communicate with ghosts. The project's aim is to explore how people and machines, with access to partial information and limited control, communicate and coordinate to achieve a common goal.
This exhibit is suitable for: All

## Trustworthy Cyber Infrastructure for the Power Grid

*Information Trust Institute*
TCIP's research is focused on securing the low-level devices, communications, and data systems that make up the power grid, to ensure trustworthy operation during normal conditions, cyber-attacks, or power emergencies. Visitors can play with interactive applets which show how power distribution works in the U.S. The basics of computer security will be explained. TCIP researchers will make appearances at the exhibit to answer questions.
Location: 448 (TCIP Laboratory)
This exhibit is suitable for: Middle School, High School, College, General Public

## Walking Robots and Multi-robot Networks

Come see the latest in robotics research at the Coordinated Science Laboratory! Using advancements in information technology, researchers are working to create robots that walk in a more lifelike way. We are also investigating telemanipulation and coordination in multi-robot networks, which would allow robots to complete such tasks as remote construction, search and rescue, salvage operations, and telesurgery.
This exhibit is suitable for: All

# Digital Computer Laboratory

## AgTracker Robot

*Agricultural and Biological Engineering Department*
Robotics in crop production shows great potential in acquiring data from the field and for low energy operations. This robot can be used for mechanical weed control. This will become more important in the future, since an increasing number of weeds are becoming resistant to glyphosate.
Location: West Atrium
This exhibit is suitable for: All

## American Society of Ag. and Bio. Engineering Student Branch

*ASABE*
The American Society of Agricultural and Biological Engineers is an educational and scientific organization dedicated to the advancement of engineering applicable to agricultural, food, and biological systems. ASABE comprises 9,000 members in more than 100 countries.
Location: West Atrium
This exhibit is suitable for: High School, College, General Public

## Campus Middle School Robotics Club

*Campus Middle School*

The Robotics Club is an after-school program at Campus Middle School for Girls that uses the Lego Mindstorms Robotics kit to promote math, science, and engineering in a fun and interactive way. The girls, ages 11-14, use Lego bricks to build their own robots, which are designed to complete series of tasks.

Location: East Atrium

This exhibit is suitable for: High School, College, General Public

## Career Opportunities in Agricultural and Biological Engineering

*Agricultural and Biological Engineering Department*

Agricultural and Biological Engineers solve engineering problems related to living organisms and systems. Careers are available in bioprocessing, renewable energy, water and air quality, food production systems, and other areas. Employment is available in industry, government, and academics.

Location: West Atrium

This exhibit is suitable for: High School, College

## The Frontiers of Bioengineering: Applications and Design

*Biomedical Engineering Society*

Technologies such as the Eye Mouse, MoCap Returns Motion Capture, and Wii Therapeutic will be examined. BMES will present an assortment of posters that summarize some of the hot areas of the field, addressing the science and application of each method. Various technologies will be demonstrated.

Location: East Atrium

This exhibit is suitable for: All

## Hydrogen Fuel Cells: Use in Residential Combined Heat and Power Systems

*Agricultural and Biological Engineering Department*

This exhibit presents the benefits of using a hydrogen fuel cell in a home as a combined heat and power system, meaning that it provides both electricity and heat for consumption by the residents. The byproducts of a hydrogen fuel cell include electricity, heat, and water, thus making it environmentally friendly.

Location: West Atrium

This exhibit is suitable for: General Public

## Illini Pullers

*Illini Pullers*

Illini Pullers will be displaying two of their newest tractors along with a slideshow of events from the past year.

Location: West Atrium

This exhibit is suitable for: High School, College, General Public

## Illinois Student Branch of ASABE

*Agricultural and Biological Engineering Department*

Visitors will be given the opportunity to talk with members about club experiences, opportunities through the club and ASABE, and about being a member of the Agricultural and Biological Engineering department. Booth also features photos of club events as well as general and contact information.

Location: West Atrium

This exhibit is suitable for: Middle School, High School, College, General Public

## Indoor Localization (I-GPS)

*Department of Agricultural and Biological Engineering*

This exhibit has a robot that knows its location using a spinning laser beam that hits three sensors in a board. Come see how it works!

Location: West Atrium

This exhibit is suitable for: All

## Interactive Carbon Cycle

*Department of Agricultural and Biological Engineering*

In the BioMASS lab, we use models to help analyze how a complex system works. In this interactive game, become part of a carbon cycle model. We'll show how a complex system model works, and why little changes in the way we use fossil fuels can make a big difference to global warming.

Location: West Atrium

This exhibit is suitable for: All

## Observe Cosmic Particles from Space!!

*Department of Agricultural and Biological Engineering*

This exhibit demonstrates a method that makes elementary particles (alpha, beta) visible.

Location: West Atrium

This exhibit is suitable for: All

# Engineering Hall

## Homemade Keyboard

This project is an integrated circuit created by a non-engineering student. It uses a resistors, potentiometers, and a capacitor to output square wave forms and produce multiple octaves of musical notes. Each note is activated by a copper strip and it is all powered by a 9 volt battery, which means the public can press the strips and play a song.
Location: 106B8
This exhibit is suitable for: Middle School, High School, College, General Public

## Marble Sorters

*Danville High School*
Using Robo Pro software and Fishertechnicks pieces, students in Principles of Engineering (a Project Lead the Way class) working in groups have designed and built their own device that will sort different colored marbles into equal groups.
Location: 106B6
This exhibit is suitable for: All

## Rube Goldberg Machine

*Rube Goldberg Society*
A Rube Goldberg machine is a deliberately overengineered apparatus that performs a very simple task in a very complex fashion, usually using a chain reaction. Based off of the drawings of the cartoonist Rube Goldberg, each machine functions very much like the board game Mouse Trap. This year we have built a Clue themed machine that will turn off and change a working light bulb. Come see crazy steps like a growing plant, dancing people, and some mysterious murders.
Location: East Atrium
This exhibit is suitable for: All

## UIUC Biodiesel Initiative

*UIUC Biodiesel Initiative*
The UIUC Biodiesel Initiative is a student-run project focused primarily on lowering the emissions of the University and promoting education of renewable fuel sources. This is done by retrieving used vegetable oil from the campus dining halls and converting it into environmentally-friendly diesel fuel. The team is striving to ensure that the UIUC Biodiesel Initiative becomes a model for university and community biodiesel production. See a small demonstration of the simple process.
Location: 106B1
This exhibit is suitable for: All

# Everitt Laboratory

## Auto-Centering Platform

Using a touchscreen as a platform, read the position of a steel ball. From this position, calculate the difference from the center and adjust the angle of the platform with two servo motors. The calculation and adjustment is done with a Basic STAMP 2 Microcontroller from Parallax, Inc.
Location: 245
This exhibit is suitable for: All

## Automated Othello

*ECE 395 ADSL*
The playing pieces contain rare-earth magnets which are flipped during game play by electromagnets. Depending on a player's move, the computer will automatically flip/move the appropriate pieces and display the new score.
Location: 261
This exhibit is suitable for: All

## Bioshock Interactive Laser Tag System

*WECE*
Our interactive laser gun game differs from the usual one. There are two players involved in the game, each armed with a "powerful" laser gun that will allow them to shoot at their competitor. If one of the players gets "shot", their gun will be frozen and unable to shoot for 5-10 seconds. At the same time, they will receive a mild electric shock from their shock band worn on the wrist. Come try it out!
Location: 143
This exhibit is suitable for: All

## Bluewater Ampworks

A demonstration of vacuum tube guitar amplifiers and a technical discussion on their operation.
Location: 260
This exhibit is suitable for: All

## Burning Plasma and Etching Pen

*IEEE*
The plasma-burning pen operates at high electric voltage and high frequency output to etch and burn fine inscriptions on


**Friday, March 13 • 9 a.m. - 4 p.m.**
**Saturday, March 14 • 9 a.m. - 3 p.m.**

A chance to journey through the molecular world of photosynthesis, look on as atoms are formed into letters, and watch the unrehearsed reactions of friends and family to strange objects are just some of the extraordinary experiences awaiting visitors to the Beckman Institute Open House.

More than 30 exhibits will bring to life the wide range of research taking place at Beckman. Visitors may find themselves viewing molecular worlds, as 3-D computer simulations developed by Beckman researchers provide a glimpse into the essential process of photosynthesis. Or they may explore the world of insects using a rare and extremely powerful microscope.

Coming face-to-face with unexpected and unusual items in an experiment meant to test people's unrehearsed reactions to product design is one exhibit not to be missed, as is a display that uses a microscope to shape atoms into letters and, perhaps, a lucky visitor's name. Many exhibits will demonstrate the birth of new technologies at the Institute, such as an inexpensive dipstick sensor that could revolutionize chemical testing and medical diagnostics.

The Beckman Cafe will also be open, serving entrees, sandwiches, snacks, desserts, and a full selection of coffee, juice, soft drinks, and more.

The Beckman Institute is located on the Illinois campus at 405 N. Mathews Ave., Urbana, at the intersection of Mathews & University Ave. Metered parking is available in the parking deck East of the Institute. Parking is free on Saturday.

Schools, clubs, and other large groups are welcome!

www.beckman.illinois.edu

any organic surface. The device could also be used to light up fluorescent tubes on contact like a magic wand.
Location: 163
This exhibit is suitable for: All

## Frozen Marshmallows!

*Illinois Space Society*
Space is cold! Come see how a marshmallow would taste at -350 Fahrenheit!
Location: 170
This exhibit is suitable for: Grade School, Middle School

## Graffiti Robot

*ADSL*
We have built a robot capable of spraying paint on a wall. Our robot currently takes controls from a controller and translates those inputs to movement and spraying to the user's input. We are now working on a software implementation that will run on anyone's laptop that will translate any image and paint a wall.
Location: 261
This exhibit is suitable for: All

## High Powered LED Mood Lamp

*IEEE*
Lava lamps were all the rage back in the 60's. This is a new and improved incarnation of an old novelty decorative item. A demonstration will be given of the color changing capabilities of the lamp, enabled through a programmed microcontroller that allows the user to control the LED color through outside switches. A complete set of colors is possible. Unlike most mood lights, this lamp is bright enough to be seen even in daylight!
Location: 165
This exhibit is suitable for: All

## Make Your Own Rocket!

*Illinois Space Society*
Combine fuels such as lemon juice and alka seltzer into a film-canister "rocket" to determine which combinations yield the greatest height or just create the loudest bang! Feel free to add a nose-cone and wings.
Location: 170
This exhibit is suitable for: Grade School, Middle School

## Motion Sensor Controlled Robotic Arm

This exhibit has a 5-axis robotic arm that you can control with a Wiimote. The arm can follow trajectories as well as grip objects. It runs on a Position-Integral-Derivative (PID) controller coded in the LabVIEW programming language.
Location: 267
This exhibit is suitable for: All

## Multitouch Computer Screen

*IEEE*
This 24x18 inch computer screen uses infrared light and a camera to detect multiple touch inputs. One can use it with more than one finger, and many users can interact at the same time. Demo applications include games and a fingerpaint program. This is an exciting project on image processing and human-computer interaction from the student chapter of the Institute of Electrical and Electronic Engineers.
Location: 163
This exhibit is suitable for: All

## Music with Tesla Coil and Continuum Fingerboard

A system has been developed for producing musical tones from Tesla coils. The Continuum Fingerboard, invented by U of I professor Lippold Haken, is a musical instrument with real-time continuous control in three directions for every finger placed on the playing surface. The Tesla coil system and Continuum Fingerboard and will be featured in a concert of several short pieces, including one composed by U of I music composition professor Scott Wyatt and musician/Continuum performer Mark Smart for SEAMUS (Society for Electro-Acoustic Music in the United States). The coil and Continuum will be on display from 10am-3pm Saturday only. Musical performances will happen Saturday at: 10:00am, 11:00am, 12:00pm, 1:00pm, 2:00pm, and 3:00pm.
Location: 151
This exhibit is suitable for: All

## NASA Spinoff Game

*Illinois Space Society*
Over the years, technologies from NASA have trickled into mainstream life. Pick out the items that have come from NASA from an assortment of various things. Beware of items that have been mistakenly attributed to NASA.
Location: 170
This exhibit is suitable for: Grade

School, Middle School

## Pinball Machine

*ADSL*

Our made-from-scratch pinball machine is the result of over a year's worth research and design. Unlike any other pinball machine on the market, this college-themed simultaneous multiplayer machine utilizes flipper buttons mounted intuitively above each flipper! With each player focused on one themed side of the playfield (academic and extracurricular activities) a balance needs to be kept so you don't "burn out" from too much studying or "flunk out" from too much recreation!

Location: 261

This exhibit is suitable for: All

## Power and Energy Systems Laboratory

*Power And Energy Systems*

Power and Energy are core disciplines in Electrical Engineering. A series of projects are set up to demonstrate this exciting area including the Magnetic ring cannon, floating frying pan, automated Etch-A-Sketch, and many more.

Location: 50

This exhibit is suitable for: All

## Proximity Controlled Midi Controller

*ECE395*

The Proximity Controlled MIDI Controller is based on the same principles as a Theremin. It uses a single antenna to control the modulation of different parameters on an audio signal via MIDI. Audio effects are controlled by reading the capacitance around an antenna.

Location: 261

This exhibit is suitable for: All

## Rowing Verification World

*ADSL*

A comprehensive monitoring system for rowing.

Location: 261

This exhibit is suitable for: High School, College, General Public

## Solar Decathlon 2009

*UIUC Solar Decathlon Team*

The Solar Decathlon 2009 will be held in Washington D.C. in October. 20 university teams from North America and Europe will design and build a marketable, energy-efficient, comfortable Solar powered home. This exhibit will display models, posters, and systems pertaining to UIUC's house.

Location: 168

This exhibit is suitable for: All

## Space: Now and a Glimpse at the Future

*Illinois Space Society*

See all of the amazing things the space program is doing presently and its hopes for the future!

Location: 170

This exhibit is suitable for: Grade School, Middle School

## To Rule the Waves

*Engineering Outreach Society*

Local students from Leal Elementary will be designing boats from household recyclables to compete with each other in various competitions.

Location: 269

This exhibit is suitable for: Grade School, Middle School

## Wii Robotic Camera

The purpose of this project is to develop a remote controlled robotic camera with three axes of control for use in the television Industry (utilizing a Wii remote for user interface). The robotic camera will have: three axes of control (using Wii Remote), full control the camera, a base that can drive the camera around, and a control system to maintain a level camera against disturbances in the environment, such as non-level ground.

Location: 163

This exhibit is suitable for: All

## Zeppelin: Spy in the Sky

*ADSL*

Our project is a blimp that will navigate itself to a determined location via a GPS system. Once it reaches its position, it will take surveillance using a video camera and send the video information back to the user using a wireless signal. The blimp will be able to navigate to several way points and will receive a signal that will force it to return back to the user when they want it to return.

Location: 261

This exhibit is suitable for: Middle School, High School, College, General Public

# Hydrosystems Laboratory

## The Amazing Underground World of TARP

*IAHR/IWRA (International Association for Hydraulic Engineering and Research / International Water Resources Association)*

Have you ever seen a 30 foot wide tunnel that is 300 feet underground? Now's your chance! Come discover the complex and intriguing Tunnel and Reservoir Project (TARP) of the greater Chicago Area.

Location: 1504

This exhibit is suitable for: All

## Design of a Canoe Chute and Fish Passage for the Chicago River

*IAHR/IWRA*

The goal of this project is to design a combined canoe chute and fish passage for the North Branch Dam of the Chicago River. The design includes a canoe chute that provides a safe means of passing over the dam while providing a way for the local fish communities to move upstream- helping to improve the biological diversity of the area.

Location: 1504

This exhibit is suitable for: All

## Ever Seen the Bottom of the Ocean?

*IAHR/IWRA*

Come discover for yourself the interesting bed forms which are present beneath the waves.

Location: 1504

This exhibit is suitable for: All

## Hands-On Hydrologic Model

*IAHR/IWRA*

In this hands-on model one can explore how the power of water shapes the topology of our earth. Come design your own landscape and see how water works its magic.

Location: 1504

This exhibit is suitable for: All

## The Hazards of Low-Head Dams

*IAHR/IWRA*

Low-head dams are common throughout Illinois on many rivers and streams. These dams are also dangerous, and sometimes fatal, when fishermen or boaters get too close to downstream end of the spillway and become trapped in a re-circulating current that can often be found at the toe of low-head dams. This exhibit demonstrates the dangers that can be associated with low-head dams.

Location: 1504

This exhibit is suitable for: All

## Magic Fountain

*IAHR/IWRA*

Learn how the flow of water through pipes and special pressure distributions make it possible for the construction of a water fountain that runs virtually on its own, without external forcing or pumps of any kind! Known as the Heron's fountain, it was first invented in ancient Egypt in the first century.

Location: 1504

This exhibit is suitable for: All

## Squiggly River Boat Race Challenge

*IAHR/IWRA*

Meandering rivers transport both water and sediment. The understanding of their physical processes are important for human-nature interaction and preservation. Come learn and then play "Boat Race Challenge", in which participants with be able to build and race their own aluminum foil boats.

Location: 1504

This exhibit is suitable for: All

## Standing Water Waves

*IAHR/IWRA*

Have you ever seen what water waves look like when they fully reflect from a beach? Come visit our giant water wave tank and see first hand the peculiar wave patterns and the resulting sand bedforms!

Location: 1504

This exhibit is suitable for: All

## The Tale of Heavy and Light - The River under the River

*IAHR/IWRA*

Heavy things sink and light things float. Mother Nature is a master on this basic rule of physics. Come and see how density flows generate a river under the Chicago River in Chicago, Illinois.

Location: 1504

This exhibit is suitable for: All

**Thank you for being a part of Engineering Open House 2009!**

# Loomis Laboratory

## Blacks in Chemistry & Chemical Engineering

*NOBCChE*

Learn about African-American contributions to Chemistry & Chemical Engineering.

Location: Lobby

This exhibit is suitable for: All

## Brewing at its Best

*AIChE*

We will be explaining the chemistry behind brewing through posters and out very own home-made brew.

Location: Lobby

This exhibit is suitable for: All

## Bubble Room

*Physics Society*

The bubble room is a hands-on demonstration that allows you to observe how bubbles form in a variety of patterns. Better yet, you'll get a chance to form a bubble around your body!

Location: Lobby

This exhibit is suitable for: Grade School, Middle School

## Candy

*AIChE*

See how to make candy and a demonstration of the thermodynamics mixing processes and mass transfer of food processing.

Location: Lobby

This exhibit is suitable for: All

## Colloids

*AIChE*

When does 1+2=-5? When does a solid plus a liquid display prop-

U.S. News ranked the Agricultural, Civil, and Materials Science Engineering departments #1 in America for 2009.

The University of Illinois' College of Engineering is ranked the #4 Undergraduate Engineering Program in the U.S.

Some famous alumni from the University of Illinois' College of Engineering include YouTube co-founders Javed Karim and Steve Chen, Microsoft's Chief Software Architect Ray Ozzie, co-founder and CTO for Paypal Max Levchin, and co-founder and long time CEO of Advanced Micro Devices Jerry Sanders.

16 alumni and faculty have won the Nobel Prize, in addition to John Bardeen (professor of Physics and Electrical Engineering), who won the Nobel Prize in Physics twice.

erties of neither phase? Come learn about colloids and their magical mysterious chemical properties. This demo-licious presentation includes take-home gak!
Location: Lobby
This exhibit is suitable for: All

## Decaf vs. Regular
*AIChE*
Have you ever wondered if your coffee was actually free of caffeine? See how decaffeination works, with free samples!
Location: Lobby
This exhibit is suitable for: All

## Diet Coke + Mentos
*AIChE*
Thanks to the chemical properties of both Diet Coke and Mentos, an alternative fuel vehicle can be powered through the isolation of the soda burst.
Location: Lobby
This exhibit is suitable for: All

## Dreaming of Dirigible
*Physics Society*
Although in modern times, blimps have been relegated to advertisement, they still have a certain grace and power about them. Come observe our tests of different uses for dirigibles! See how these marvels of technology have modern applications, and have fun with interactive demonstrations for all ages.
Location: 136
This exhibit is suitable for: All

## Electricity and Magnetism
*Physics Society*
Here, you can find Physics Society exhibits of electricity, magnets, metals, and conductors.
Location: 136
This exhibit is suitable for: All

## Flippin' Flubber
*AIChE*
We will be making the following materials: Flubber (a gel-like substance that flows but does not split easily), Potato Plastic (an organic plastic that is decomposed more easily than petroleum-based plastic), and non-Newtonian fluid (fluid that becomes more like solid under impact)
Location: Lobby
This exhibit is suitable for: All

## Fruity Fragrances
*AIChE*
We have made a variety of scents in the lab to show how fragrances can be produced in a laboratory and the chemistry behind it.
Location: Lobby
This exhibit is suitable for: All

## Fusion Technology
*American Nuclear Society*
See the tremendous power behind a magnetic can-crusher. Although commercially-available fusion is not currently achievable, we hope to one day make that a reality. Hear about the fantastic developments in fusion, and witness the future!
Location: 151
This exhibit is suitable for: All

## Gravitational Potential
*Physics Society*
The Gravitational potential series will include a number of classical exhibits in order to show the ability to extract Kinematic Energy from stored Potential. These exhibits include uniform acceleration demonstrations, erosion tables, and water wheels.
Location: 144
This exhibit is suitable for: All

## Gravity and Mechanics
*Physics Society*
Here, you will find various Physics Society exhibits concerning gravity and other mechanics.
Location: 144
This exhibit is suitable for: All

## Heat Transfer
*AIChE*
Demonstration of the basis of heat transfer via examples of conduction, convection, and heat capacity.
Location: Lobby
This exhibit is suitable for: All

## Hydrogen Fuel Cell
*AIChE*
This exhibit will show how the power of hydrogen can be captured in order to make a fuel cell that will power a small vehicle, and someday might power the cars that we depend upon so heavily.
Location: Lobby
This exhibit is suitable for: All

## Induct on This
*American Institute Of Chemical Engineers*
An electromagnet will be constructed and used to induce heat in common metal cookware as a

means to cook food, heat water, etc.
Location: Lobby
This exhibit is suitable for: Middle School, High School, College, General Public

## Induction Heater
*Physics Society*
This device will be used to show the use of changing magnetic fields to heat a conductor. As well as showing the efficiency of this technique, it demonstrates the concepts of skin depth by observing the different heating patterns across different frequencies.
Location: 144
This exhibit is suitable for: Middle School, High School, College

## The Induction Stove
*Physics Society*
We are showcasing an impressive application of alternating magnetic fields and eddy currents. Induction stoves leave counter tops cool, and are extremely efficient modern kitchen technology. Come experience our demonstration!
Location: 136
This exhibit is suitable for: Middle School, High School, College

## Liquid Nitrogen Ice Cream
*AIChE*
We will demonstrate the chemistry behind the making of delicious liquid nitrogen ice cream. Come by and cool off with some yummy goodness.
Location: Lobby
This exhibit is suitable for: All

## Liquid Nitrogen Table
*Physics Society*
The Liquid Nitrogen Table is a a demonstration of what happens when various materials are subjected to extreme cold. The exhibit explores the behavior of the gaseous, liquid, and solid phases of matter, and the transitions between those phases for various objects. The exhibit also introduces the basic scientific concept of experimentation as a way to observe what the outcome of a given interaction will be. Come guess what will happen to bananas, balloons, and flowers when they reach -320 degrees!
Location: Lobby
This exhibit is suitable for: All

## Michelson Interferometer
*Physics Society*
The Michelson interferometer uses the extreme precision of laser technology to measure distances with sub micrometer precision (or less then a thousandth of a millimeter). This incredible technology is applicable in a wide variety of fields, ranging from medicine to engineering to science. Come see how this amazing device works, and play with lasers while you're at it.
Location: Lobby
This exhibit is suitable for: Middle School, High School, College, General Public

## Physics Van Lecture Demos
*Physics Society*
This annual favorite of EOH-goers presents some of the most fundamental concepts of physics in entertaining and educational ways. If you get excited whenever you hear about Einstein, Newton, and Bernoulli, or if you just get a kick out of things blowing up, this is a show you won't want to miss.
Location: 141
This exhibit is suitable for: All

## Pyrotechnics
*AIChE*
This booth shows the chemistry behind fireworks and pyrotechnics. There are demonstrations on the hour.
Location: Lobby
This exhibit is suitable for: All

## Solar Powered Water Pumps
*AIChE*
We will have a water fountain run by one solar powered water pump, and another solar pump that is shooting water back into the water fountain.
Location: Lobby
This exhibit is suitable for: All

## The World of Nuclear Power
*American Nuclear Society*
Check out nuclear technology in the everyday world. Use a Geiger counter to take radiation readings of radioactive dinner plates, smoke detectors, and other items. See next generation nuclear power plants as well as a model of a modern nuclear power plant, complete with working cooling towers.
Location: 151
This exhibit is suitable for: All

# Materials Science Engineering Building

## The 2009 Materials Show

*Undergraduate Materials Organization*

The 2009 Materials Show will demonstrate the different kinds of materials in a fun movie that is loosely based on the Wizard of Oz. This video will be both entertaining and informative, and will last approximately 10-15 minutes. If you want to learn about materials, come enjoy this short movie.

Location: 119

This exhibit is suitable for: All

## Advanced Ceramics

*Undergraduate Materials Organization*

We will introduce advanced ceramics to younger students. They can be complex and interesting!

Location: First Floor

This exhibit is suitable for: All

## Biomaterials - Drug Delivery

*Undergraduate Materials Organization*

We have demonstrations on Transdermal Drug delivery. Demonstrations include a water and dye demo to illustrate diffusion of medicine through a skin membrane. Another demo is a illuminated skeleton which will show the path of the drug in the body. In addition, we will have mini scaffolds on display.

Location: 100

This exhibit is suitable for: All

## Biomaterials - Hydrogels

*Undergraduate Materials Organization*

This project discusses the use of hydrogels for scaffolding as well as for newly designed implants with improved properties. Hydrogels interact with growth factors and encourage the proliferation of bone and tissue cells.

Location: First Floor

This exhibit is suitable for: High School, College, General Public

## Composites and Sports Equipment

*Undergraduate Materials Organization*

We will explore materials used in various sports equipments, how materials in sports equipments changed over time, and how they are enhanced to fit the sports' needs. There will also be a brief description and demonstrations of general composites.

Location: First Floor

This exhibit is suitable for: All

## Conducting Polymers

*Undergraduate Materials Organization*

A sample of polyaniline (a conducting polymer) will be used to light up an LED through it. We will show how conducting polymers can be used as sensors by demonstrating how they change resistivity and color with doping. We will have two vials showing the different colors and an ohmmeter showing the resistance.

Location: First Floor

This exhibit is suitable for: All

## Drinking Water Treatment

*WaterCAMPWS*

The CEE WaterCAMPWS students will illustrate the design and layout of a drinking water treatment plant. We will have hands-on and visual demonstrations of a drinking water treatment system. There will be a small-scale model of a typical drinking water treatment plant, along with some more hands-on activities and demonstrations to represent various processes that occur within a system.

Location: First Floor

This exhibit is suitable for: All

## Fun with Vacuums and Plasmas

*American Vacuum Society*

During our presentations, everybody can learn more about vacuums and plasmas. No, we don't show fancy vacuum cleaners here. Vacuum is simply a volume without any air. Many industrial processes nowadays require such empty volumes, and so do plasmas. Never seen a plasma before? No problem, we will show what these strange terms really mean, and what kind of fun things you can do with them.

Location: First Floor
This exhibit is suitable for: All

## Hydrogels

*Undergraduate Materials Organization*

Learn how hydrogels work and why they can be used in many applications. There will be samples of hydrogels to touch, as well as demonstrations of how hydrogels in items like diapers can swell to many times their size. See what happens to hair gel when people "sweat". Other examples of hydrogels will also be provided to show the diversity in their functions.

Location: First Floor
This exhibit is suitable for: All

## Hydrophobic and Hydrophilic Materials

*Undergraduate Materials Organization*

A demonstration of hydrophobic and hydrophilic materials. There will be demos of "magic sand" that visitors can mold under water, but it is dry when you pull it out. There will also be some small demos with oils and water, as well as informational displays.

Location: First Floor
This exhibit is suitable for: All

## Liquid Crystals and Optical Materials

*Undergraduate Materials Organization*

Come see examples and demonstrations of different liquid crystals and optical materials, and learn about their importance to material scientists.

Location: 100
This exhibit is suitable for: All

## Materials Challenge

*Undergraduate Materials Organization*

Here, there is a hands-on project where you build plaster beams with different reinforcements. Have some fun trying to build the strongest cement block! Compete with friends and family!

Location: First Floor
This exhibit is suitable for: All

## Materials Science of Food and Candy

*Undergraduate Materials Organization*

The general idea of our project is to illustrate through demonstrations and posters the material science of different food items, such as caramel and Jell-O.

Location: 100
This exhibit is suitable for: All

## Mechanical Properties of Materials

*Undergraduate Materials Organization*

Visitors will be able to use a small, levered machine in order to attempt to deform polymers, ceramics, and metals in three tests.

Location: First Floor
This exhibit is suitable for: All

## Non-Newtonian Fluids

*Undergraduate Materials Organization*

We'll discuss non-Newtonian fluids, which include dilatants, pseudoplastics, and ferrofluids. Our exhibit includes hands-on and visual demonstrations.

Location: First Floor
This exhibit is suitable for: All

## Piezoelectrics

*Undergraduate Materials Organization*

An exploration of common piezoeletrics, such as those used in watches and various modern applications.

Location: 100
This exhibit is suitable for: All

## Recycling Aluminum

*Undergraduate Materials Organization*

We will be comparing recycling aluminum with manufacturing aluminum. The costs of recycling aluminum will be analyzed and compared to the costs of manufacturing aluminum. We will have an interactive game to help explain the process of recycling aluminum.

Location: First Floor
This exhibit is suitable for: All

## Stored Energy Solar Cooker

*Engineers Without Borders*

We are presenting a scale working model of our design of a stored energy solar cooker. Heat is collected and stored during the day, and make it available later for use in cooking. Come learn about the benefits of solar-powered cooking! Our goal is to complete construction of a full scale version later this semester.

Location: First Floor
This exhibit is suitable for: Middle School, High School, College, General Public

## Turbines: Powering the World

*Engineers Without Borders*

Our small-scale wind turbine shows how to harness natural sources of energy to turn generators. Come see the components of the generator in action. Learn the mechanics behind turbines and electricity generation. You can also discover the differences and similarities between power from fossil fuels and renewable sources.

Location: First Floor

This exhibit is suitable for: All

## The Self-Sufficient Home

*Keramos*

Create a home with a low carbon footprint using the latest in materials technology.

Location: First Floor

This exhibit is suitable for: Middle School, High School, College, General Public

## Shape-Changing Materials

*Undergraduate Materials Organization (UMO)*

Here, we have a glass container of ferrofluid and other shape-changing metals. We will have demos to give away shape-changing polymers, as well as informational displays.

Location: 100

This exhibit is suitable for: All

## Solar Cells

*Undergraduate Materials Organization*

This exhibit is a demonstration of a working solar cell. Further information on dye-sensitized solar cells will be shown in a poster.

Location: 100

This exhibit is suitable for: All

## Solar Energy

*Undergraduate Materials Organization*

Presentation of solar energy, its pros and cons, and possible applications, both current and future.

Location: 100

This exhibit is suitable for: All

# Mechanical Engineering Laboratory

## Breakfast with SWE

*Society Of Women Engineers*

Grab a free breakfast and meet the girls of the Society of Women Engineers! Breakfast offerings will include bagels, donuts, muffins, and more, along with coffee, milk, and your traditional breakfast juices. Plus, you can learn more about SWE, from its role as a national organization to the UIUC section's activities on campus and in the community.

Location: 2001, 2005, 2009

This exhibit is suitable for: All

## CNC Machining

*Society Of Women Engineers*

Come learn about CNC machining - what the process entails and how it is used by a variety of industries. We'll be making EOH 2009 keychains - grab one before you leave!

Location: 1230, 1228

This exhibit is suitable for: Middle School, High School, College, General Public

## Distracted Driving

*American Society Of Mechanical Engineers*

Come learn about the dangers of distracted driving. Try your hand at a driving simulation while performing other distracting tasks!

Location: 2001, 2005, 2009

This exhibit is suitable for: All

## Formula SAE and Baja SAE

*Society Of Automotive Engineers (SAE)*

SAE will bring cars from both Formula SAE and Baja SAE to display to the general public. There will also be presentation boards and multimedia from competitions showing the work, engineering calculations, and student effort that goes into designing and building these cars.

Location: West end lower level foyer and outside

This exhibit is suitable for: All

## Illini Prosthetics Team

*Illini Prosthetics Team*

The Illini Prosthetics Team is a group of undergraduate students who is designing and constructing a prosthetic arm for use in third world countries, and those who cannot afford the current prostheses on the market. We will demonstrate the arm as we have constructed it.

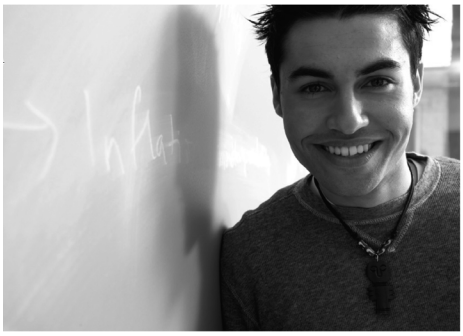
Location: 2001, 2005, 2009

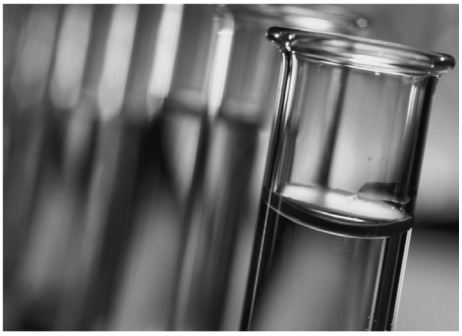
This exhibit is suitable for: All

**The College of Engineering has 240 professors, 85 associate professors, and 97 assistant professors.**

# Innovation Drives Our Success

From prevention and diagnosis to treatment and cure, Abbott is a broad-based health care company that discovers, develops, manufactures and markets innovative products. Abbott is committed to bringing together individuals with diverse backgrounds and ideas and investing in their success. Combining different perspectives, management styles and ideas makes us stronger. Abbott is continually building a culture that not only recognizes, but values, people's differences and makes the most of them. Having an inclusive environment helps drive our innovation and makes Abbott a stronger, more dynamic, more successful company.





Abbott
A Promise for Life

## Penny Smasher

*American Society of Mechanical Engineers*

We are punching a Block I into aluminum disks using a machined die and vice. A quick demonstration and unique souvenir!

Location: 2001, 2005, 2009

This exhibit is suitable for: Grade School, Middle School, General Public

## Pi Tau Sigma Presents Hexapod Robots

*Pi Tau Sigma*

The members of Pi Tau Sigma here on campus put together a display involving hexapods and an obstacle course. Demonstrations will include allowing visitors to guide robots up a small structure in a race-like fashion, pressing various buttons along the way. First person to press the last button wins!

Location: 2001, 2005, 2009

This exhibit is suitable for: All

## Print 3-D Objects using Common Materials

We'll show how solid objects are created from a photoactive polymer using light from a data projector.

Location: 2226

This exhibit is suitable for: All

## PTS Engine Display

*Pi Tau Sigma*

We will display the components of 2 types of internal combustion engines, piston and rotary. There will be a cutaway of a 4-piston engine, along with a movable rotary model and an aircraft cylinder-piston assembly. Subsections of engine desgin will be discussed, including oil analysis and material selection.

Location: 2001, 2005, 2009

This exhibit is suitable for: All

## Sandcasting Exhibit

*Pi Tau Sigma*

In this exhibit, the members of Pi Tau Sigma Mechanical Engineering Honor Society will demonstrate how to create a sand mold for a small medallion, and then pour liquid aluminum at 1500 degrees into the sand mold. After the molds have solidified, the medallions will be presented to the audience as souvenirs!

Location: 1225

This exhibit is suitable for: All

## Stirling Engine

*American Society Of Mechanical Engineers*

Using any type of external heat source to run, the Stirling Engine is truly unlocking potential. Come see our various versions of the Stirling Engine.

Location: 2001, 2005, 2009

This exhibit is suitable for: All

# Newmark Laboratory

## American Concrete Institute

*ASCE*

The student chapter of ACI has been involved in many activities ranging from international concrete design competitions to bringing speakers to the University to talk about the cutting-edge in concrete technology. Recently, the chapter placed third overall in the concrete cube competition at the 2007 Fall Convention held in Puerto Rico.

Location: Crane Bay

This exhibit is suitable for: High School, College

## Asphalt Pavements are a Lot of Fun!

Discover the world of asphalt pavements! Learn about what asphalt is, how it is used, and how it is studied. You can make your own asphalt mixtures with our slime, aggregate, and other fun ingredients. We can help you test your choice of mixture to evaluate its performance. You can learn why roads fail, and examine samples of asphalt concrete.

Location: Crane Bay

This exhibit is suitable for: All

## Balsa Wood Bridge Competition

*ASCE*

The University of Illinois Student Chapter of the American Society of Civil Engineering is sponsoring a Balsa Wood Bridge Competition held during the Engineering Open House on Friday March 13th, 2009. The purpose of this competition is to build a balsa wood bridge given certain constraints with an emphasis on the greatest load to weight ratio.

Location: Crane Bay

This exhibit is suitable for: Middle School, High School, College, General Public

## Concrete Canoe

*Concrete Canoe*

The Boneyard Yacht Club, also known as the concrete canoe team, spends each year designing, constructing, and racing a canoe made of concrete. Sponsored by the American Society of Civil Engineers, schools have the opportunity of participating in a regional competition, with the winner of each regional competition competing nationally.

Location: Crane Bay

This exhibit is suitable for: All

## Engineering in the US Army

*Department Of Military Science, Univ. Of Illinois*

Come see how civilian and military engineers use the knowledge they gain in school to work on projects ranging from building infrastructure in Iraq and Afghanistan, to flood control and ecosystem restoration in the United States. Also, learn how current Army ROTC cadets are working in conjunction with the Construction Engineering Research Laboratory to gain industry experience through summer internships.

Location: Crane Bay

This exhibit is suitable for: High School, College, General Public

**Electrical and Computer Engineering had the highest enrollment of all engineering disciplines at UIUC (Fall 2007), with 1,245 undergraduates.**

## History of Arab Engineering and Inventions

*Arab American Association Of Engineers and Architects*

This exhibit demonstrates the contributions by Arabs throughout history towards the advancement of humankind though informational posters and models.

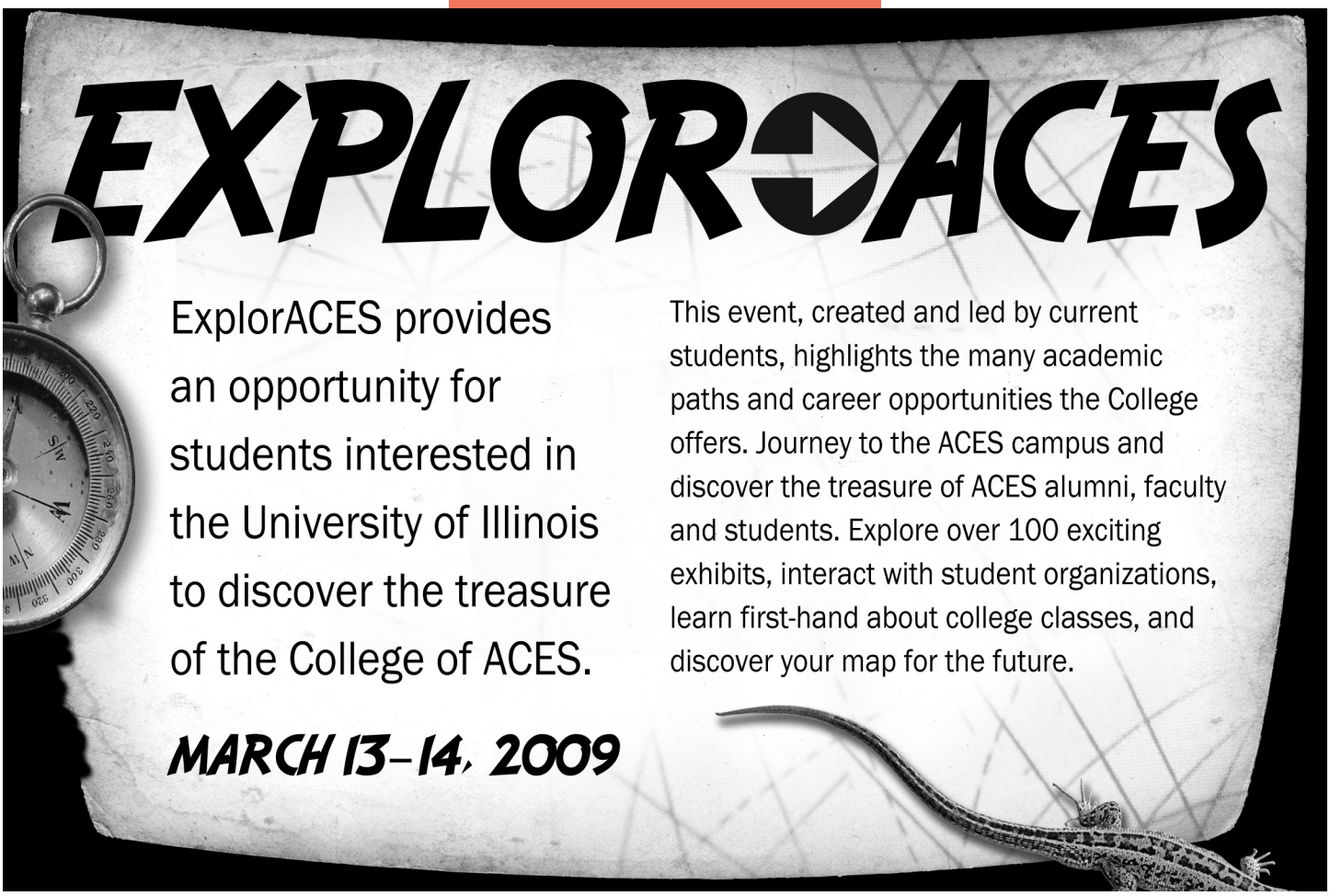
Location: Crane Bay

This exhibit is suitable for: All

## Railroad Engineering Extravaganza

*American Society Of Civil Engineers*.

Come see the leaders of the railroad transportation industry! We will demonstrate traffic control and maintenance and operations on a railroad. There will be a



locomotive simulator for visitors to learn how a locomotive is operated, and demonstrations of both the tools used in maintenance and traffic control. We will also have a booth with Operation Lifesaver.
Location: 1233
This exhibit is suitable for: All

### Steel Bridge Team
*ASCE*
Steel bridge is an annual competition put on by the American Society of Civil Engineers and the American Institute of Steel Contractors. Students compete against one another and are judged for speed, efficiency, and bridge stiffness.
Location: Crane Bay
This exhibit is suitable for: All

### Structural Engineers Association
*ASCE*
This exhibit will have posters of outstanding structures across the world and a computer displaying software for civil engineering design. We will show how the program works and let viewers play/interact with it.
Location: Crane Bay
This exhibit is suitable for: All

### What is Quicksand?
*Geotechnical Engineering Student Organization*
Come find out what quicksand is, and see a demonstration that examines many interesting aspects of quicksand and 'liquefied' soils.
Location: Crane Bay
This exhibit is suitable for: High School, College, General Public

## Outdoor Exhibits

### Remote Control Sports Utility Vehicle (RC SUV)
*Project Q*
Our current project entails a remote control sports utility vehicle (RC SUV). We intend to fully control an SUV using a controlling device, such as a joystick or a cellular phone.
Location: Open area southwest of Beckman Institute
This exhibit is suitable for: All

## Siebel Center for Computer Science

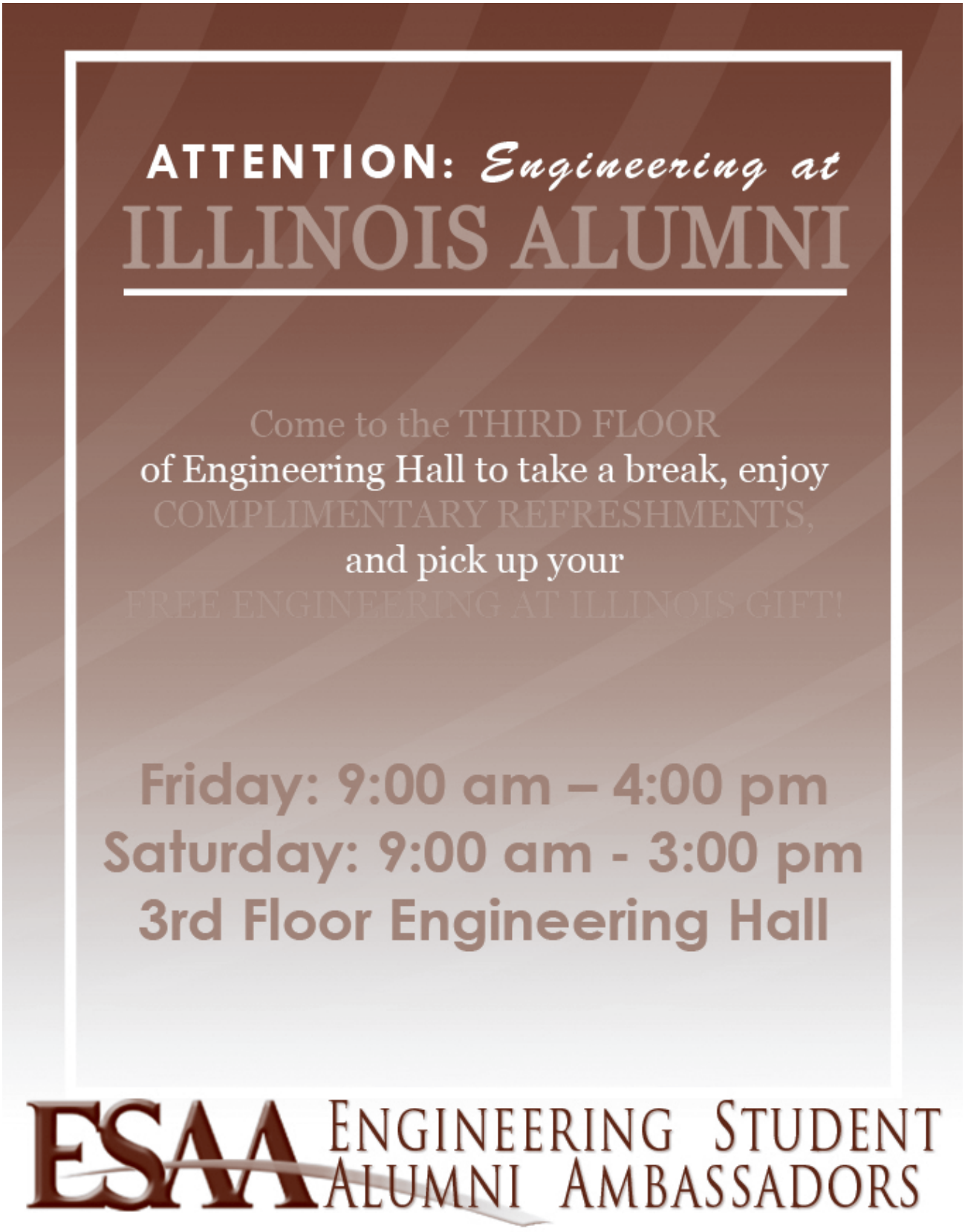
### !Multiplicity
*!BANG*
We are demonstrating a network protocol and client which work together to distribute processing-intensive problems among multiple computers, speeding up the process considerably. Our implementation gives the ad-hoc flexibility and range that most common clusters lack.
Location: Atrium
This exhibit is suitable for: College

### Bookworm
*SIGSoft*
Bookworm is a searchable index of ACM's library. A clean interface provides a simple way of finding your favorite math, science, or programming book in ACM's extensive collection.
Location: Atrium
This exhibit is suitable for: High School, College, General Public

### Chromatactix
*Gamebuilders*
You and up to three friends try to fend off hordes of enemies to save the galaxy. Player-cooperation is required to survive.
Location: Atrium
This exhibit is suitable for: General Public

### Communications/Protocol Framework
*SIGOps*
Today, most protocol implementations are written from scratch for specific purposes, or an overly general approach is taken by using XML and other serialization techniques. There are drawbacks to each method. Our protocol framework captures the essence of what is needed to define a protocol, and allows for easy code generation for protocol and message validation.
Location: Atrium
This exhibit is suitable for: College, General Public

### Crescendo
*SIGSoft*
Crescendo is a distributed democratic music library and player. It allows many people to share music and vote for what they'd like to hear. Crescendo is distributed, so it's possible to use more than one database of music. Alternatively, you can set up your own database and plug it into a public player so that others can enjoy your music collection.
Location: Atrium
This exhibit is suitable for: All


ATTENTION: Engineering at
ILLINOIS ALUMNI
Come to the THIRD FLOOR
of Engineering Hall to take a break, enjoy
COMPLIMENTARY REFRESHMENTS,
and pick up your
FREE ENGINEERING AT ILLINOIS GIFT!
Friday: 9:00 am – 4:00 pm
Saturday: 9:00 am - 3:00 pm
3rd Floor Engineering Hall
ESAA
ENGINEERING STUDENT
ALUMNI AMBASSADORS

## Eyetracking Whack-A-Mole

*SIGBio*

We have created a game system that uses an eye-tracking camera and surface EMG instead of a typical controller. We applied this to the classic game Whack-A-Mole, using the eye-tracking to specify the target and muscle contraction to dictate the hit.

Location: Atrium

This exhibit is suitable for: General Public

## Graffiti

Ever walk into a restaurant, cafe, or lecture hall and wondered what people were saying about it? Come see Graffiti, which turns everything in the physical world into a virtual graffiti wall that you can write comments on!

Location: Atrium

This exhibit is suitable for: College, General Public

## Greening the Desktop

*SIGSAC and SIGNet*

Thin clients are small, efficient devices that provide a centrally managed system to meet the computing needs of the average person. We will have a few on display to show everyone the potential benefits of using these devices in place of power-hungry desktop computers.

Location: Atrium

This exhibit is suitable for: College, General Public

## Hovercraft

*SIGDave*

What is an air-cushion-vehicle? How does it work? How much weight does it hold? How do you steer? These are all questions we're answering with the construction of our very own hovercraft.

Location: 1214

This exhibit is suitable for: All

## IClicker Expansion

*Tech Team - Women in Computer Science*

TechTeam has expanded the uses of the iClicker. You should come check it out and see the new features!

Location: Center Atrium (near stairs)

This exhibit is suitable for: Middle School, High School, College

## Illini Entrepreneurship Network: Student Start-ups

*Illini Entrepreneurship Network*

The Illini Entrepreneurship Network (IEN) aims to foster entrepreneurship in students at the University of Illinois through presentations, workshops, competitions, and entrepreneurial ventures. With the addition of the Student Startup Incubator, IEN helps students with an entrepreneurial idea make that idea come to life. We are showcasing some of the student startups of our members.

Location: Atrium

This exhibit is suitable for: High School, College, General Public

## In Darkness

*Gamebuilders and SIGGRAPH*

Navigate the gathering blackness using all your senses and fight back against the undead menace in this 3D game! Gamebuilders and SIGGRAPH jointly present a new way to visualize three-dimensional games in this unique project.

Location: Atrium

This exhibit is suitable for: College

## Instant Messaging Chat Bot

*SIGART*

Make a new friend! Our instant messaging chat bot wants to meet you. Its amusing demeanor will surely put a smile on your face, and you'll see it learning and improving its vocabulary as you converse with it. Who knew that testing the limits of modern natural language processing could be so much fun?

Location: Atrium

This exhibit is suitable for: All

## Lego Logic Gates

*SIGDave*

Lego logic gates are an entertaining and educational way to recreate our most basic digital building blocks. AND, NOT, OR, XOR, NOR, and NAND all combine to form a half-adder, a full-adder, and potentially a full blown ALU (Arithmetic Logic Unit).

Location: Atrium

This exhibit is suitable for: College

## LUG to the Rescue

*Linux Users Group*

LUG demonstrates their preconfigured Linux environment intended for system repair and

recovery. It is designed to be booted either from across a network or from removable media.
Location: Atrium
This exhibit is suitable for: College, General Public

## The Mechanical Eye
*SIGBot*
Now Showing! “The Mechanical Eye” -- the camera that watches you while you move! Using two cameras, it processes video input to differentiate objects from their background and follows them. It also uses depth perception to generate 3D video, so you can watch the cameras watch you IN 3D! (just in case).
Location: 1214
This exhibit is suitable for: General Public

## Moonbean
*SIGGRAPH*
This 3D-animated short film follows our characters through the Solar System in a showcase of modern animation and other computer graphics techniques. The project sums up 7 months of effort from a mixed group of programmers, artists, and musicians in a collaboration characteristic of the film industry. Whether you are interested in film-making technology or a good story, you won’t want to miss “Moonbean”.
Location: 1304
This exhibit is suitable for: All

## Multi-Touch Surface
*SIGArch*
SIGArch is implementing a capacitive multi-touch surface. It detects more than one touch by detecting changes in capacitance on a wire grid.
Location: Atrium
This exhibit is suitable for: College, General Public

## MyCampus
*MacWarriors - ACM*
Navigating a campus can be a tricky thing, especially if it is new. The iPhone platform is quickly becoming a more widely used and exciting platform. MyCampus is designed so that you can better understand the campus you spend your time on, and so provides you information from the most convenient source: your pocket.
Location: Atrium
This exhibit is suitable for: All

## NewsLight
*SIGWin*
Many students dislike the inability to check newsgroups from any computer. NewsLight is an in-browser newgroup reader, made using Microsoft’s new SilverLight, allowing anyone from any computer to check newsgroups whenever they want.
Location: Atrium
This exhibit is suitable for: All

## Overly Professional
*Gamebuilders*
Impasto the briefcase salesman is on a mission. Are you a good enough salesman to rescue the president? Featuring a unique whiteboard-based style and excessive explosions.
Location: Atrium
This exhibit is suitable for: General Public

## Radio OneLlama
“...An Illinois based startup OneLlama, has aggregated many... [radio] stations into a single hub called Radio OneLlama, allowing users to quickly identify the stations that best fit their tastes.” - TechCrunch.com, September 2008. Stop by our booth and get a free Radio OneLlama t-shirt!
Location: Atrium
This exhibit is suitable for: Middle School, High School, College, General Public

## RTS Racer
*Gamebuilders*
Race through an open world environment running over your enemies with a convoy of vehicles at your side.
Location: Atrium (Video Wall)
This exhibit is suitable for: General Public

## Spatially Augmented Reality
*SIGGRAPH*
What does it look like for an object to come to life? Spatially augmented reality uses projectors to transform everyday objects into virtual experiences. It’s the closest thing to magic you’ll see all day.
Location: Atrium
This exhibit is suitable for: All

## Swarming Cars
*SIGBot*
Come see our swarm of four independently thinking cars! As a mass, they can follow a moving target, very similar to a school of fish. Watch as they act in

**EXPLORE**your potential
**RISE**to the opportunity
**SHINE**in a place like no other

**What if**… you did something to make your career soar?

At Exelon, you can. We have become a *Fortune 150* company by investing in the best ideas and now we want yours. We firmly believe a divers work culture, full of original ideas, makes us stronger. And we'll reward your performance with competitive pay and benefits from our annual revenues of more than $15 billion. Come share our culture, there's a place for you at Exelon.

Explore a brighter future.
**www.exeloncorp.com/careers**

Exelon®

EOE M/F/D/V

concert, although they are programmed to act on their own!
Location: 1214
This exhibit is suitable for: All

### Unfriendly
*SIGMiL*
Your privacy settings online do not protect you. Unfriendly demonstrates the pervasiveness of information on the internet.
Location: Atrium
This exhibit is suitable for: Middle School, High School, College, General Public

## Talbot Laboratory

### Century of Flight
*AIAA*
Documentary video presentation regarding the history of flight.
Location: 105
This exhibit is suitable for: All

### Concrete Crushing
*Society For Experimental Mechanics*
Every year, Concrete Crushing is a must-see exhibit. Our four-story testing machine is capable of exerting up to 3 million pounds of crushing force on whatever we choose to put underneath it. Don't miss out on this larger-than-life demonstration! Crushing Times are as follows: 10:00am, 11:30am, 1:00pm, 2:30pm.
Location: Basement
This exhibit is suitable for: General Public

### Crazy Springs
*Society For Experimental Mechanics*
We have launched an exploration into the phenomenon of the nonlinear spring system. What is known as the "jump" phenomenon is a stunning feature of mechanics that can be explained with an investigation into the mechanics that is "Crazy Springs".
Location: 104
This exhibit is suitable for: College

### CubeSat
CubeSat is a student-run organization that designs and builds small satellites to fly in space. Students from many engineering disciplines work in teams on designing subsystems of the spacecraft. We hope to launch our next satellite into space in late 2009 or early 2010!
Location: 206H
This exhibit is suitable for: General Public

### Design, Build, Fly: Design and Construction Of R/C Airplanes
*Design, Build, Fly*
Design, Build, Fly is a student organization that competes in an annual competition sponsored by the American Institute for Aeronautics and Astronautics and hosted by Cessna and Raytheon. Our presentation will include an overview of the design process, as well as key design points from current and past airplanes. A flight simulator will also be presented to allow for first hand experience with flying R/C airplanes.
Location: 103
This exhibit is suitable for: All

### Flight Simulator
*AIAA*
A computer along with yoke, pedals, and throttle will be available for flight simulation. The image will be projected onto a large screen for optimum viewing and more realistic interaction.
Location: 105
This exhibit is suitable for: All

### Fun with Fluids
*Society For Experimental Mechanics*
The Fluids Laboratory in Talbot Lab is the most hands-on fluids laboratory at the University of Illinois. Demonstrations are fun for all ages. The non-Newtonian fluids demonstration provides a wonderful experience for those wishing to further understand fluids that don't behave like we might expect them to.
Location: 126
This exhibit is suitable for: All

### Smoke Rings!
*Society For Experimental Mechanics*
Come and see our smoke ring generator that will create smoke rings 6 feet in diameter. These monstrous rings are big enough to park your car in, but still obey laws of fluid mechanics. Come see it to believe it!
Location: Hallway between 104 & 126
This exhibit is suitable for: All

### Space Shuttle Tile Demonstration
*AIAA*
An actual space shuttle tile is held in one hand by a team

member while a blow torch is used to heat one side of the tile. This demonstration will show the tile's insulating capabilities.
Location: 105
This exhibit is suitable for: All

## Wind Tunnel

*AIAA*
We are using the wind tunnel in the department of Aerospace Engineering to demonstrate drag forces on a smooth spherical ball compared to a dimple-covered golf ball.
Location: 15B
This exhibit is suitable for: All

**"Smart Money" Magazine ranked UIUC #1 in the Big Ten for how quickly graduates earn back the cost of their tuition.**

# Transportation Building

## IIE Exhibit

*Institute Of Industrial Engineers*
Looking for a fun, hands-on project? Join us for an exciting egg drop experiment! Learn how a good design and industrial engineering principles can make your egg drop a success. Great prizes, fun and knowledge are are waiting!
Location: 101
This exhibit is suitable for: All

## SPLATFest!!! Egg Drop

*Gamma Epsilon*
In this exhibit by Gamma Epsilon, the General Engineering Honor Society, it is your goal to build a device to prevent a raw egg from cracking when it is dropped from a second story window. Use (play) money to buy extra supplies, and try to achieve the goal with the lowest price. All designs that successfully keep the egg from cracking will win a prize!
Location: 207
This exhibit is suitable for: All

## Sticky Skyscrapers

*ISGE*
Build the tallest tower with toothpicks and marshmallow! Make a boat out of aluminum foil! How many pennies will fit on the foil before it sinks?
Location: 206
This exhibit is suitable for: Grade School, Middle School, General Public

The inspiration for EOH first came in 1906 when the physics department hosted its first open house.

Engineering Open House is an event run entirely by the students of the University of Illinois.

**Engineering Open House has many exhibits and attractions representing all of the departments in the College of Engineering at the Univeristy of Illinois:**

- **Aerospace Engineering**
- **Agricultural and Biological Engineering**
- **Bioengineering**
- **Chemical and Biomolecular Engineering**
- **Civil and Environmental Engineering**
- **Computer Science**
- **Electrical and Computer Engineering**
- **Industrial and Enterprise Systems Engineering**
- **Materials Science and Engineering**
- **Mechanical Science and Engineering**
- **Nuclear, Plasma, and Radiological Engineering**
- **Physics**

The purpose of the Electrical Engineering Show in 1907, a precursor to EOH, was to raise funds to contribute to a memorial in honor of steamboat inventor Robert Fulton.

The first Engineering Open House was held in 1920 to commemorate the centennial of the birth of James Watt.

In the early years of EOH, exhibits put on by companies were one of the highlights of the open house. Since then, the focus has shifted to student-run exhibits.