

PRERELEASE EDITION

SEE THE UNBLURRED COVER AT EOH 2008

**EXHIBIT
GUIDE**

EOH

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HIGHLIGHTS

MIDDLE SCHOOL COMPETITION

The Middle School Design Contest is a prepared design for teams of 6th, 7th and 8th grade students. This year the contest has changed its challenge from last year’s cardboard constructed soap box derby race to a roller coaster design contest. Each team of up to four students will construct a model roller coaster that is designed to take a single glass marble and do a complete run with as creative of a track as the team designs. To gain the highest score, teams must learn the physics behind how real roller coasters work to build their model roller coaster to run for the longest time with vertical loops and an overall theme. The team to master the simple principles of gravity and conservation of energy with an added spark of creativity will win the contest.

RUBE GOLDBERG HIGH SCHOOL DESIGN CONTEST

Teams of high school students have put their heads together to design exciting contraptions with the goal of assembling a hamburger with vegetables and the works in as many steps as possible. 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 the **Illini Union Rooms A, B, and C on Friday between 10:00am and 2:00pm** to see these amazing machines in action and vote for your favorite one!

ILLINI ENGINEERING CHALLENGE

The 11th annual Illini Engineering Challenge is a set of onsite designs where visitors are asked to build, design and tinker their way to a given goal with the materials provided. The event will take place on **Friday, March 7th, from 10 am to 3 pm** and **Saturday, March 8th, from 9 am to 3 pm**. Judges will be on hand to explain the rules and guidelines for each design and all creations will be measured and tested by the judges. We encourage students, teachers, parents and visitors of all ages to stop by, compete with friends and family, and show off their engineering skills.

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. Robots will be moving colored hoops and discs to bases that will change color throughout each round. This is one of the largest and most exciting events at Engineering Open House and is sponsored by Advanced Micro Devices. Come join us to encourage creativity and excellence in engineering!

TRAFFIC AND SAFETY

Engineering Open House works hard to ensure the safety of our visitors. We ask you not to enter those 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 E-14 parking lot along Kirby Ave. The EOH Shuttle – operated by Pioneer Coach Lines – will run every 15-20 minutes during EOH hours.

- ExplorACES 1 Sixth and Peabody
- H. S. Design Contest Transit Plaza
- Everitt Laboratory Green and Wright
- Main Shuttle Stop Kenny Gym (Springfield Ave)
- Loomis Laboratory Goodwin Ave and Green St.
- ExplorACES 2 Gregory Dr. and Goodwin Ave
- ExplorACES 3 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 just north of Green Street on Wright Street across from Talbot Lab. 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 and beverage: 11:00 a.m. to 2:00 p.m.

Entertainment: 11:00 a.m. to 2:00 p.m.

Friday, March 7th:

- 11:00-11:35 a.m. Girls Next Door
- 11:45-12:20 p.m. Illini Saxophone Club
- 12:30-12:55/1:00 p.m. Chandani
- 1:15-1:50 p.m. Rip Chords

Saturday, March 8th

- 11:00-11:35 a.m. No Comment
- 11:45-12:20 p.m. No Strings Attached
- 12:30-1:50 p.m. Illini Contraband

EXHIBITOR VOTE

Be sure to vote for your favorite EOH exhibit! Voting ballots and boxes are located in most EOH buildings.

EOH 2008

Friday, March 7:
9am to 4pm

Saturday, March 8:
9am to 3pm

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 tshirt 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 Engineering Open House. For 88 years, this showcase event has attracted thousands of visitors each March to experience a myriad of engineering marvels and mysteries in this ever-changing world. This is one of the nation's largest and most innovative science fairs, organized and managed entirely by science and engineering students in the College of Engineering. The exhibits and contests reflect their enthusiasm for science and engineering, and passion for creativity.

This year's theme, "Sparking Curiosity," reflects the idea that the engineering students here today will use their creativity, knowledge, and experience to build the tools and technology that will create a future that is beyond what we can currently imagine.

Throughout the day, you will learn about the science and engineering behind everyday products, see how engineering is used to solve problems, and even catch a glimpse of coming innovations in technology. We invite you to open your mind to new and different ideas. Be sure to ask questions, get involved, and find out for yourselves how important engineering is to society.

Among the more than 200 colleges of engineering in the U.S., Engineering at Illinois is ranked No. 5 in the country in both undergraduate and graduate education. The University of Illinois is one of the world's gems of engineering research and education. Feel free to ask us about our programs or learn more at www.engr.uiuc.edu.

We thank you for joining us at Engineering Open House.
Sincerely,

Ilesanmi Adesida

Dean, College of Engineering

Open House Central Committee

Engineering Open House Director
Exhibits Director
Facilities Co-Directors

Corporate Co-Directors

College Design Contest Co-Directors

High School Design Contest Director
Grade School Design Contest Director
Judging and Awards Director
Visitor's Information Director
External Publicity Director
Internal Publicity Director
Safety Co-Directors

Social and Entertainment Director
Creative Design Director
Secretary/Treasurer
Webmaster

Meagan Simantz
Yang Zhao
Bryan Walker
Kushal Sanghrajka
Gavin Fernandes
Mark Persaud
Chris Reeg
Alex Lorch
Eric Tolar
Rachael Jabusch
Gavin Rehkemper
Heather Curran
Serena Liou
Matt Johnson
Ketan Darji
Jeff Ross
Stephanie Graves
Clara Kim
Perry Lin
Steven Zazeski

SPECIAL THANKS

EOH Cen-Comm would like to thank:

Awards Ltd.
Eddie Bain
Wayne Bishop
Mark Briggs
Tom Coleman
Angie Dimit
Ketty Duvall
Debra Ann Forgacs
Derek Fultz
Tony Foster
Insight Cable
Mikki Johnson
Kay Kappes
Rick Kubetz
Greg Larson
Kelly Larson
Bob Mann
Dan Mast
Donna Offenbecher
Alan Otto
John Rhoades
Liz Schmidt
Kent Studer
Nick Tsiakals
James Vattano
EOH Volunteers

21st Annual AMD W.J. “Jerry” Sanders Creative Design Competition

Sparking Curiosity 5

College students from around the world come to participate in the 21st Annual AMD W.J. “Jerry” Sanders Creative Design Competition, a two-day contest utilizing robotic design and engineering. This year, robots will battle against the clock and each other to move colored hoops and discs to color-changing bases around a 2000 square-foot, two-level arena. More points are awarded towards the end of each round as the time that teams have to drop off their hoops and discs decreases. Four teams compete simultaneously in ten-minute rounds, and the highest scoring teams advance to the final rounds on Saturday, March 8th.

Scoring:

- 15 points for each disc deposited at a base of its color
- 25 points for each hoop deposited at a base of its color
- Point values for objects will increase during the ten minute round

“Jerry” Sanders III graduated from the University of Illinois at Urbana-Champaign in 1958 with a Bachelor of Science in Electrical Engineering. Since then, he’s gone on to start one of the most successful companies of our times.

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 semiconductor 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 Semiconductor 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 7 and 8, 2008
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 8th.

There will be competition 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
Directors: Alex Lorch and
Chris Reeg
Rules Chair: Casey Roth
Field Chair: James Lange
Multimedia Chair: Anna Mast
Publicity Chair: Dan McKenna
Faculty Advisor: Dan Mast

EXHIBIT

3D remote reality

A Polymerase Chain Reactor
 A Promising New Energy Source:
 A Tale of Heavy & Light- The River Under the River
 Acetone Production Engineering
 ACM credits
 Aerodynamic particle separators for air cleaning
 AIChE Projects
 Air cannons for use in Agriculture and Forestry
 Airplane-Rocket Exhibit
 Allyl Chloride Production Engineering
 Alternative Diesel Fuels for Off-Road Equipment
 Alternative Energy
 American Concrete Institute
 Anthropomorphic Robotic Arm
 ASABE at the University of Illinois
 Atoms Unleashed
 Audio Tune Recognition

Balloon Jet Races
 Bike Mechanics
 Biofiltration system for a sustainable environment
 Biomaterials
 Biomedical imaging with light
 Biped Robot
 BlimpBot
 Bluewater Ampworks
 Brain Music
 Bubble Room

Careers in Agricultural and Biological Engineering
 Carnival of Metals
 Cars Driven by Computers and the Internet
 Castaway
 Century of Flight
 Clean Diesel MTD Bus
 Cloud Chamber
 cms robotics club
 Composites in Sports
 Concrete Canoe - The Boneyard Yacht Club
 Concrete Coasters
 Concrete Crushing
 Continuum Fingerboard
 Copper Text Editor
 CubeSat: a student's introduction to space

Deathraybot
 Design and Simulation of a Biomimetic Robotic Fish
 Design-Build-Fly
 Developing Space
 Direct Methanol Fuel Cell
 Distracted Driving
 Drug Delivery Systems
 DS Hacking SHMUP

ECE 110 Autonomous Cars
 Electric Skateboard
 Engineering Outreach Society
 Esoteric Army
 Ever Seen the Bottom of the Ocean?

Fabulous Fab Lab
 Ferrofluids and non-Newtonian fluids
 Finger Finger Revolution
 Fleet Command
 Flight Simulator
 Float your boat
 float'n illini
 Fluids Lab Demonstrations
 Foosbot
 Fun with vacuums and plasma

Generate Change
 Geopolymers: Next Generation Building Materials
 Geotechnical Engineering Student Organization
 Green Machine for Safe Water in Developing Regions
 Guidance in Robotics

Hands-On Hydrologic Model
 Heat Transfer and Laptop Design
 Hexapods
 Hovercraft
 Hovercraft
 Hydraulics: Fluid Power

iClicker MADNESS
 IFRIS: 3d fractals
 Illini Pullers
 Illinois Center for Transportation
 Illinois Space Society
 In C

SOCIETY

CSL

Dept. of Ag and Bio Engineering
 Dept. of Ag and Bio Engineering
 IAHR / IWRA
 ChemE Sr, Design Spring 2009
 ACM-Webmonkeys
 Dept. of Ag and Bio Engineering
 AIChE
 Dept. of Ag and Bio Engineering
 AIAA-ISJ
 ChemE Sr, Design Fall 2007
 Dept. of Ag and Bio Engineering
 UMO
 ASCE
 IEEE
 ASABE
 ANS
 IEEE

Theta Tau
 Experimental Mechanics
 Dept. of Ag and Bio Engineering
 UMO
 Biophotonics Imaging Laboratory
 ADSL
 ACM-SIGBot
 Independent
 ACM - SIGBio
 Physics Society

Dept. of Ag and Bio Engineering
 UMO
 CSL
 ISGE
 AIAA
 Dept. of Ag and Bio Engineering
 Physics Society
 Campus Middle School club
 UMO
 ASCE
 ACI
 Experimental Mechanics
 ECE Dept
 ACM-SIGSoft
 Cubesat

ACM-SIGBot
 Independent
 Design-Build-Fly
 Illinois Space Society
 Independent
 ASME
 UMO
 ACM-Gamebuilders

ECE Dept
 Physics Society
 Engineering Outreach Society
 ACM-Gamebuilders
 IAHR / IWRA

ECE Dept
 UMO
 Digital Systems Lab - ECE Dept.
 ACM-Gamebuilders
 AIAA
 SBME
 float'n illini
 Society for Experimental Mechanics
 ADSL-ECE Dept
 AVS

Independent
 UMO - Keramos
 ASCE
 WaterCAMPWS
 Dept. of Ag and Bio Engineering

IAHR
 SWE
 Pi Tau Sigma
 WECE
 ACM-SIGArch
 ASME

!Bang
 ACM-SIGGraph Research
 Illini Pullers
 Illinois Center for Transportation
 Illinois Space Society
 ACM-SIGMusic

BUILDING

Coordinated Science Laboratory

Digital Computer Laboratory
 Agricultural Engineering Science Building
 Hydrosystems Laboratory
 Siebel Center
 Siebel Center
 Digital Computer Laboratory
 Loomis Laboratory
 Agricultural Engineering Science Building
 Bardeen Quadrangle
 Siebel Center
 Agricultural Engineering Science Building
 Materials Science and Engineering Building
 Newmark Laboratory
 Everitt Laboratory
 Digital Computer Laboratory
 Loomis Laboratory
 Everitt Laboratory

Everitt Laboratory
 Talbot Laboratory
 Digital Computer Laboratory
 Materials Science and Engineering Building
 Digital Computer Laboratory
 Everitt Laboratory
 Siebel Center
 Engineering Hall
 Siebel Center
 Loomis Laboratory

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 Transportation Building
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 Materials Science and Engineering Building
 Siebel Center

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 Siebel Center
 Hydrosystems Laboratory

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 Materials Science and Engineering Building

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 Agricultural Engineering Science Building

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 Mechanical Engineering Laboratory

Siebel Center
 Siebel Center
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 Everitt Laboratory
 Siebel Center

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EXHIBIT

Institute of Transportation Engineers
Interactive Carbon Cycle
Interactive Conductor
Lab-scale Production of Biodiesel
LaserLine & Retro Games
Lemelson-Illinois Student Prize
Liquefaction Tank
Liquid Crystal and Other Optical Materials
Liquid Nitrogen Table
LOOKOUT
Making a Connection: Gel Coated Dental Implants
Marble Sorters
Materials Science of Computers
Materials Science of Dentistry
Materials Show
Meandering Rivers: Physical Processes & Boat Races
Multi-touch Computer Screen
NanoChallenge
Network for Earthquake Engineering Simulation
New Fermentation Process for Ethanol Production
New physics technology for video gaming
New Ways to Study, New Ways to Cure
Non Newtonian Fluid
Non-Newtonian Fluids
Observe Cosmic Particles from outer Space!!
Painting in 2,5D
Paintzilla
Past Present and Future
Penny Smasher
Physics Lecture Demos
Polarity
Polymer slime and superabsorbant polymers
Polymers Magic
Power and Energy Systems Laboratory
Project Idcube
Project X: Mind-Controlled Computers
Race to Space
Radioactive Energy
Railroad Engineering Extravaganza
Real Advertisement Power
Reinforced Earth Wall
Robotics in Agriculture, are they coming or going?
Sandcasting
Shape Memory Materials
SIGBot Showcase
SIGOPS Project Showcase
Simon On VHDL
Society of Automotive Engineers
Society of Women Engineers Free Breakfast
Sound Synthesis for Experimental Music
Space Exploration
Space Shuttle Heat Tile Demonstration
Sparks
Steel Bridge Team
Sticky Skyscrapers
Sucrose
Superconductors
SWE Information Booth - It's SWEet to be in SWE!
Szygy
TAM Toys
Target Shooting Robot
Tesla's Continuum Music and Light Show
Tetricube
Tetris in VHDL
The Amazing Underground World of TARP
The Hazards of the Modern Spillway
The Iron Glove
The Making of a Video Game
The materials science of candy and food
The Mid-America Earthquake Center
The Perfect Storm
The Ultimate Guitar Hero
Time Travel Game
Traffic Control and Safety Devices
UIUC Biodiesel Initiative
Visual Pong
Walking Robots & Mobile Robot Networks
Water to Fruit Punch to Milk
Weather-a-What?: Bringing Weatherization Home
WebChalk
What is Soil, a Solid, a Liquid, Sticky or Not-Sticky?
Which Beverage is the healthiest?
Wind Tunnel Demonstration
World of Wavecraft
Wosaic

SOCIETY

ASCE
Dept. of Ag and Bio Engineering
WCS - Tech Team
BP Biodiesel
ACM-MacWarriors
Lemelson-Illinois Student Prize
GESO
UMO
Physics Society
ACM-SIGMil
AICHe
Danville High School
UMO
UMO
UMO
IAHR / IWRA
IEEE
Nano-CEMMS Research Center
ASCE
Dept. of Ag and Bio Engineering
CSL
BMES
Physics Society
Society for Experimental Mechanics
Dept. of Ag and Bio Engineering
ACM-SIGGraph
ADSL-ECE Dept
NOBCCHe
ASME
Physics Society
ACM-SIGGraph
UMO
UMO
ECE Dept
ACM-Gamebuilders
ACM-SIGBio
Illinois Space Society
ANS
ASCE
ADSL-ECE Dept
GESO
Dept. of Ag and Bio Engineering
Pi Tau Sigma
UMO
ACM-SIGBot
ACM-SIGOPS
Digital Systems Lab - ECE Dept.
SAE
SWE
ADSL-ECE Dept
Illinois Space Society
AIAA
Physics Society
ASCE-Steel Bridge Team
ISGE
ACM-SIGArch
UMO
SWE
ACM-Gamebuilders
Society for Experimental Mechanics
ADSL-ECE Dept
Independent
ACM-Gamebuilders
Digital Systems Lab - ECE Dept.
IAHR
IAHR / IWRA
GESO
ACM-SIGGraph
UMO
ASCE
IAHR / IWRA
ADSL/IEEE-ECE Dept
ACM-Gamebuilders
Institute of Transportation Engineers
UIUC Biodiesel
Digital Signal Processing Lab - ECE Dept.
CSL
NOBCCHe
EWB
ACM-SIGsoft
GESO
NOBCCHe
AIAA
Physics Society
Independent

BUILDING

Newmark Laboratory
Digital Computer Laboratory
Siebel Center
Siebel Center
Transportation Building
Newmark Laboratory
Materials Science and Engineering Building
Loomis Laboratory
Siebel Center
Loomis Laboratory
Engineering Hall
Materials Science and Engineering Building
Materials Science and Engineering Building
Materials Science and Engineering Building
Hydrosystems Laboratory
Everitt Laboratory
Mechanical Engineering Laboratory
Newmark Laboratory
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Coordinated Science Laboratory
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Materials Science and Engineering Building
Agricultural Engineering Science Building
Siebel Center
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Bardeen Quadrangle?
Mechanical Engineering Laboratory
Everitt Laboratory
Everitt Laboratory
Talbot Laboratory
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Transportation Building
Siebel Center
Materials Science and Engineering Building
Mechanical Engineering Laboratory
Siebel Center
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Loomis Laboratory
Siebel Center

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Agricultural Engineering
Science Building

1304 W. Pennsylvania, Urbana

Map Code: A

The Agricultural Engineering Science Building is home to the Agricultural Engineering Department and the Department of Food Sciences.

Agricultural Engineering Science Building

A Promising New Energy Source

Dept. of Ag and Bio Engineering
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, it improves the economic and environmental considerations of the TCC process and consequently the pork production process.

Air cannons for use in Agriculture and Forestry

Dept. of Ag and Bio Engineering
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.

Alternative Diesel Fuels for Off-Road Equipment

Dept. of Ag and Bio Engineering
The engines and fuels lab tour will provide visitors a chance to view research and testing being conducted into the use of alternative fuels for diesel engines. Discussion will include what fuels are being tested and their impacts upon the environment.

Clean Diesel MTD Bus

Dept. of Ag and Bio Engineering
The Champaign-Urbana Mass Transit District (CUMTD) provides a campus transportation system to students as well as the general public. In order to decrease the public's direct exposure to toxic diesel engine, Particulate Matter (PM) emissions, an advanced retrofit

system such as the Diesel Particulate Filter, is being adapted as a measure in reducing emissions.

Guidance in Robotics

Dept. of Ag and Bio Engineering
This robot knows its location using a spinning laser beam that hits three sensors in a board. The phase differences among the signals tells us the relative angles with respect to the receivers. This is translated into coordinates in a computer, which then sends the location to the robot wirelessly.

Bardeen Quad

Airplane-Rocket Exhibit

AIAA-ISJ (American Institute of Aeronautics and Astronautics - Illini Space Jet)
Engineers? Check. Quad? Check. Rocket? Check and launch.

Society of Automotive Engineers

SAE (Society of Automotive Engineers)
UIUC SAE is especially proud of its student design teams, Formula SAE and Mini-Baja. These teams allow students to design, build and compete with a vehicle of their own creation, all while gaining engineering, communication, and leadership skills that cannot be acquired anywhere else.

Tesla's Continuum Music and Light Show

Independent
Steven has developed Tesla coils with high levels of control allowing audio modulation of their lightning-like display. Interfacing the Continuum Fingerboard with this technology will generate a musically expressive and highly energetic, multi-voiced performance as as never been heard or seen before. Show will be on Friday night at 9:30 PM.

Coordinated Science Laboratory

3D remote reality

Independent

This system allows users to control the 3D viewing experience by combining images from multiple cameras. The system could be used for education, business and entertainment. For example, in video conferences, 3D images of co-workers on the other side of the country are transmitted to your conference room, and you can change your view as if you were actually present in the same meeting room. In this lab, we have developed a testbed with three stationary cameras and a small train set. The three cameras capture this dynamic scene from different viewing angles and then send data to a computer, which processes the information. Finally, the computer transmits the data across the Internet to another computer, where someone with a mouse is able to change the 3D viewing angles.

Cars Driven by Computers and the Internet

Independent

An automated road traffic system may be possible in the future! Directed by Professor P.R. Kumar, our research in control, wireless communication and software will help make it happen. This demonstration uses model cars to show our automated driving system and some of the practical considerations involved in making this future technology a reality.

New physics technology for video gaming

Independent

Experience the latest in video gaming technology! A new generation of physics hardware and software features physically simulated action and gameplay that's far more advanced than previous titles. The AGEIA PhysiX chip and software,

co-designed by Illinois professor Sanjay Patel, creates motion with a more realistic quality and gives gamers more control over characters' movement. Try out a variety of age-appropriate titles in the Coordinated Science Laboratory.

Walking Robots & Mobile Robot Networks

Independent

Come see the latest in robotic research at the Coordinated Science Laboratory! Using advancements in information technology, researchers are working to create robots that walk in a more life-like way. In addition, we are investigating telemanipulation in multi-robot networks, which would allow robots to complete such tasks as remote construction, search and rescue, salvage operations, and telesurgery. These are too complex at the present time to be carried out by fully autonomous robots but may be carried out by networks of semi-autonomous robots, coordinated by human operators and providing sensory data back to the human operators.

Digital Computer Laboratory

ASABE at the University of Illinois

Dept. of Ag and Bio Engineering
Visitors will have the chance 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.
Location: West Atrium/Hallway

A Polymerase Chain Reactor

Dept. of Ag and Bio Engineering
Polymerase chain reaction (PCR) is a process used to amplify small quantities of deoxyribonucleic acid (DNA) by repeatedly duplicating it. The thermal cycler that makes PCR possible is relatively simple



Digital Computer Lab

1304 W. Springfield, Urbana

Map Code: C

The Digital Computer Lab is the former home to the Department of Computing and Communications Services Office.



Engineering Hall

1308 W. Green, Urbana

Map Code: D

Engineering Hall, an example of Renaissance Revival architecture, was built in 1894. It is the administrative hub of the College of Engineering and home to a number of Engineering Council Societies.

to the biochemistry of the chain reaction itself. We have constructed the IlliniCycler, a computer controlled thermal cycler that promises PCR results comparable to those produced by commercially available devices.

Location: West Atrium/Hallway

Aerodynamic particle separators for air cleaning

Dept. of Ag and Bio Engineering

A prototype aerodynamic particle separator for air cleaning will be on display.

Location: West Atrium/Hallway

Biofiltration system for a sustainable environment

Dept. of Ag and Bio Engineering

A renewable biofilter to minimize the transport of chemicals from agricultural fields into water will be on display.

Location: West Atrium/Hallway

Biomedical imaging with light

Biophotonics Imaging Laboratory

See below the surface of your finger with our high-resolution 3-D imaging instrument.

Location: East Atrium

Careers in Agricultural and Biological Engineering

Dept. of Ag and Bio Engineering

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/Hallway

Illini Pullers

Illini Pullers

Illini Pullers competes in a design competition with categories ranging from team presentation to a written report. The performance

competition, the highlight of the event, is comprised of a multi-stage tractor pull using a progressive sled. Through involvement in the competition, students gain practical experience in the design of drive-train systems, tractor performance, manufacturing processes, as well as leadership and communication.

Location: West Atrium

Interactive Carbon Cycle

Dept. of Ag and Bio Engineering

Complex systems are often difficult to analyze. In the BioMASS lab, we use models to help us see how a system works. In this demo, become part of a model of the carbon cycle by playing our interactive game. Suitable for all ages, 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/Hallway

New Fermentation Process for Ethanol Production

Dept. of Ag and Bio Engineering

The ethanol industry constantly explores new methods to reduce production costs of ethanol. Vacuum systems can remove ethanol selectively, thus improving ethanol productivity. Also, a recently developed enzyme allows an energy intensive cooking process to be bypassed in the dry grind plant.

Location: West Atrium/Hallway

New Ways to Study, New Ways to Cure

BMES (Biomedical Engineering Society)

Displays and demonstrations of cutting-edge classes, research, and discoveries in bioengineering. Learn about everything from nanotechnology to systems biology, and see demonstrations of medical ultrasound, simple brain wave reading devices and much more.

Location: East Atrium

Robotics in Agriculture, are they coming or going?

Dept. of Ag and Bio Engineering

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/Hallway

Engineering Hall

Bluewater Ampworks

Independent

Demonstration of vacuum tube guitar amplifiers and a discussion on basic vacuum tube theory.

Location: 106B1

Design-Build-Fly

Design-Build-Fly

Flight simulation and presentation of our student-built competition radio-controlled aircraft.

Location: 106B3

Marble Sorters

Danville High School

Using RoboPro software and Fishertechnics, 11 students in Principles of Engineering (a Project Lead the Way class) working in groups, have designed and built their own device that will sort a group of 3 different colored marbles into equal groups.

Location: 106B6

UIUC Biodiesel Initiative

UIUC Biodiesel

The UIUC Biodiesel initiative is an RSO that will convert the waste vegetable oil generated at the university dining halls into biodiesel, a carbon neutral fuel. The project will be an ongoing and self-sustaining campus-wide operation, and the fuel produced will be used in campus vehicles.

Location: 106B8

Everitt Laboratory

Anthropomorphic Robotic Arm

IEEE (Institute of Electrical and Electronics Engineers)

An anthropomorphic robotic arm programmed by IEEE members for manipulation will be on display.

Location: 168

Audio Tune Recognition

IEEE (Institute of Electrical and Electronics Engineers)

A labview based system that processes and analyzes live audio input and matches it to the correct song.

Location: 168

Balloon Jet Races

Theta Tau Professional Engineering Fraternity

Vistiors will build planes using balloons as the propulsion mechanism and race them across the room. Planes will be flown along a string track and the fastest balloon will get a prize. This exhibit will explore aerodynamics and its effect on speed.

Location: 269

Biped Robot

ADSL

This project is an autonomous biped walker that has 10 degrees of freedom (2 per ankle, one per knee, and two per hip joint). It is controlled through a Programmable Interrupt Controller supplied from Microchip and the actuators are AX-12 Servos. Sensors are also used to measure the surroundings and provide information about the current state of the robot back to the PIC which will then determine what course of action the AX-12 servos should take.

Location: 261

CMS Robotics Club

Campus Middle School club

The end result of a robotics project



Everitt Laboratory

1406 W. Green, Urbana

Map Code: E

Everitt Lab is home to the Department of Electrical and Computer Engineering and is named after the late William L. Everitt, former department head and dean of engineering.

done by students of Campus Middle School.

Location: 241

Continuum Fingerboard

ECE Dept

Mark Smart will play the Continuum Fingerboard, a new electronic music keyboard without keys -- pitch, pressure, and front-back position is continually detected and controls the synthesizer sound. You will have a chance to try it out yourself.

Location: Communications lab

Developing Space

Illinois Space Society

See why humans don't just want to explore space, but NEED to explore. Learn about settling on other worlds, terraforming, space stations, and technologies that have come out of the space program. Plus, explore the surface of the Moon yourself by playing our Lunar Explorer simulator program.

Location: 143

ECE 110 Autonomous Cars

ECE Dept

The purpose of this lab is build a car that is able to navigate a track filled with turns, curves, and splits by itself. The car uses infrared sensors to detect the track and follow it based on the color and circuitry.

Location: 146

Engineering Outreach Society

EOS

At least twice a week, EOS visits Leal Elementary School to do various science projects with the students to get kids interested in science and engineering at a young age. At EOH, the future engineers get a chance to come to our school and show the exciting projects that they have been working on.

Location: 169

Fabulous Fab Lab

ECE Dept

There will be a hands on

"photolithography" craft for K-12, a poster covering the basic steps of IC fabrication, and information on ECE 444 (IC Device Theory and Fabrication) the class.

Location: 170

Finger Finger Revolution

Digital Systems Lab - ECE Dept.

A game that is similar to DDR but it is played on a computer using a keyboard.

Location: 167

Foosbot

ADSL (Advanced Digital Systems Laboratory) - ECE Dept

The Foosbot is a computer-controlled foosball table that can play against human opponents. Video of the table is streamed to a computer running vision detection software, which predicts the ball's position. The computer sends data to a microcontroller that controls eight motors, which move the players on the table.

Location: 261

Hovercraft

WECE (Women in Electrical and Computer Engineering)

We will be explaining the key principles that drive hovercrafts with demonstrations of the hovercraft built by our members.

Location: 163

Illinois Space Society

Illinois Space Society

ISS strives to support the space program and serve the community through educational outreach.

Location: 143

Multi-touch Computer Screen

IEEE (Institute of Electrical and Electronics Engineers)

This project has made a simple, effective, and inexpensive multi-touch screen for the IEEE student chapter at UIUC. The screen allows users to interact directly with the computer display surface using multiple

simultaneous touches. This is accomplished using the technology and techniques detailed by Jeffery Han of New York University in his paper "Low-Cost Multi-Touch Sensing through Frustrated Total Internal Reflection." Applications developed for the screen range from painting to picture viewing to full fledged games.

Location: 165

Paintzilla

ADSL (Advanced Digital Systems Laboratory) - ECE Dept

Paintzilla is a robot that paints a picture by taking a digital image and spraying it out onto paper.

Location: 261

Power and Energy Systems Laboratory

ECE Dept

Power and Energy are core disciplines in Electrical Engineering. A series of projects are set up to demonstrate this exciting area, including Magnetic Ring Cannon, Floating Frying Pan, Automated Etch-a-Sketch, and many more.

Location: Power Lab, ground floor

Race to Space

Illinois Space Society

Play the EOH-award-winning space trivia game, two years running!

Location: 143

Real Advertisement Power

ADSL (Advanced Digital Systems Laboratory) - ECE Dept

Using a 42 inch LCD Display and an embedded micro ITX board with wireless capabilities, it is possible to play a series of videos and pictures uploaded from a remote site. The display is intended for advertisement purposes, and will most likely be seen in bars and other public locales

Location: 261

Simon On VHDL

Digital Systems Lab - ECE Dept.

A game of Simon created using an

Altera FPGA and plays using a keyboard and monitor.

Location: 169

Sound Synthesis for Experimental Music

ADSL (Advanced Digital Systems Laboratory) - ECE Dept

A hardware DSP system for producing new timbres within a voltage controlled synthesis environment.

Location: 261

Space Exploration

Illinois Space Society

How do we explore space, and what new methods are being used to do so? From chemical rockets, to electric ion propulsion, space tethers, space elevators, the Moon and Mars and beyond.

Location: 143

Target Shooting Robot

ADSL (Advanced Digital Systems Laboratory) - ECE Dept

This project is an autonomous airsoft gun that can move on two axes (pitch and yaw), uses a camera to capture the image of a target arena, and uses a PC to do image processing and control the movement and firing of the gun. It is based on the Defconbots competition.

Location: 261

Tetris in VHDL

Digital Systems Lab - ECE Dept.

A hardware version of Tetris using a keyboard and VGA monitor to run on an Altera FPGA board. This was created as a final project for ECE 385.

Location: 169

The Ultimate Guitar Hero

ADSL/IEEE (Advanced Digital Systems Laboratory) - ECE Dept

Think you're a rock star? Compete versus a computer to see who is the Ultimate Guitar Hero!

Location: 168

Visual Pong

DSP (Digital Signal Processing) Lab

ECE Dept.

An interactive game of Pong where players hit a virtual ball with their hands.

Location: Communications Lab

Hydrosystems Laboratory

A Tale of Heavy & Light- The River Under the River

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

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.

Ever Seen the Bottom of the Ocean?

IAHR / IWRA

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

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.

Meandering Rivers: Physical Processes & Boat Races

IAHR / IWRA

Come learn about meandering rivers and then play.

The Amazing Underground World of TARP

IAHR / IWRA

Come discover the complex and intriguing Tunnel and Reservoir Project (TARP) of the greater Chicago.



Hydrosystems Laboratory

301 N. Mathews, Urbana

Map Code: G

The Hydrosystems Lab is a research facility in the Department of Civil and Environmental Engineering.

The Hazards of the Modern Spillway

IAHR / IWRA

This demonstration examines the incredible increase in energy as flow overtops a spillway.

The Perfect Storm

IAHR / IWRA

Think you have what it takes to design a ship to battle the elements of the open ocean. Come build your own aluminum foil boat and test it in our enormous wave tank to see if it survives Mother Nature.



Loomis Laboratory

1110 W. Green, Urbana

Map Code: J

The Loomis Laboratory of Physics is home to the Department of Physics.

Loomis Laboratory

AIChE Projects

AIChE (American Institute of Chemical Engineers)

A series of exhibits from the chemical engineers in AIChE

Location: North Lobby

Atoms Unleashed

ANS (American Nuclear Society)

Atoms unleashed looks at super heated gases called plasmas. There are demonstrations showing some of the physics that apply to plasmas. Plasmas have applications in both research and industry, and are becoming a larger part of life.

Location: 151

Bubble Room

Physics Society

Come discover why bubbles are round. Is it because the wands are circular or intrinsic to the bubble? What happens when bubbles collide?

Location: 137

Cloud Chamber

Physics Society

This chamber illuminates the cosmic rays from the sun that are constantly passing through the atmosphere.

Location: South Lobby by doors of 142

Direct Methanol Fuel Cell

Independent

Building a small direct methanol fuel cell and using it to power a simple circuit.

Location: North Lobby

Electric Skateboard

Physics Society

This is a fun and ecologically friendly form of transportation. Come see a demonstration of our re-engineered skateboard.

Location: 144

Liquid Nitrogen Table

Physics Society

Watch what happens when things get really cold! Participants can hypothesize whether a balloon will pop, change color, or catch fire when dipped into liquid nitrogen (hint: none of the above) and then observe the truth in a close-up experiment. Come to join years of impressed EOH audiences in discovering what -320° Fahrenheit does to flowers, corks, and bananas.

Location: South Lobby by 141

Making a Connection: Gel Coated Dental Implants

AIChE (American Institute of Chemical Engineers)

Introduction to an exciting area of research on dental implants and how we can make the connection between the dental implant and human bone. On display will be a model of what an implantable device coated with a hydrogel and biodegradable microgels might look like once it has made the connection with the jaw bone.

Location: North Lobby

Non Newtonian Fluid

Physics Society

Not all liquids behave as you would expect if you push on them... some push back! Non-Newtonian fluids change viscosity with the amount of strain applied. (So if you hit a mixture of cornstarch and water, it will seem hard, but if you push it lightly, it seems to be a "normal" liquid. Come investigate the properties of these strange fluids. This will be in the "waves" room.

Location: 136

Past Present and Future

NOBCChE

A look at the contributions of professional Black Chemists and Chemical Engineers to the science and engineering community.

Location: South Lobby

Physics Lecture Demos

Physics Society

In this fun and educational show, members of the Physics Society explain the nature of air, extreme cold, electricity, and the true meaning of the word 'stuff'. From young children to knowledgeable adults, everyone has found this annual exhibit explosively popular - don't miss it!

Location: 141

Radioactive Energy

ANS (American Nuclear Society)

This exhibit is about radiation in medicine and the use of nuclear power. There will be demonstrations primarily dealing with medicine and a presentation that explains how nuclear power works. Demonstrations include a cloud chamber, and common household materials that are radioactive.

Location: 151

Sparks

Physics Society

Explore electricity, we have a variety of methods of producing sparks, this includes but is not limited to a nifty tesla coil, a sweet marx generator, a totally tubular jacobs ladder, a gaussian accelerator and a van de graff generator.

Location: 136

Water to Fruit Punch to Milk

NOBCCHE

Can't decide what beverage to drink with your meal? Come watch a delightful demonstration by which we will change the properties of water to resemble a few beverages that will surely satisfy your palate.

Location: South Lobby

Which Beverage is the healthiest?

NOBCCHE

Vitamin C is an important antioxidant for human health, come and see how to measure the vitamin C in your food and beverages.

Location: South Lobby

World of Wavecraft

Physics Society

From light to music, the world runs on waves. See a vacuum suck the sound out of an alarm clock, see how our ferrofluid roils and spikes when near magnetic waves. A water table makes the sound from an electric guitar into something tangible.

Location: 144

Material Science Engineering Building

Alternative Energy

UMO (Undergraduate Materials Organization)

An array of energy sources make up this project. Solar power is discussed, with information on their use and makeup. Wind energy is also explored. Similar details are provided, such as feasibility and future applications of the technology. Finally, hydrogen fuel cells, with an emphasis on the auto industry, are presented. Demos include a solar/hydrogen powered car, sample solar panels, and a small-scale wind turbine.

Location: First Floor

Biomaterials

UMO (Undergraduate Materials Organization)

Our group will be displaying some samples of modern biomaterials and a poster with history of biomaterials. Prosthetics/ artificial joints, dental biomaterials, drug delivery, and cardiovascular materials will be covered. Some of the items on display will be artificial hips and knees and cardiovascular stents.

Location: First Floor

Carnival of Metals

UMO (Undergraduate Materials Organization)

Hands-on activities. Learn about ferrofluids, 'liquid metal', magnetic balls, and other demos.



Material Sciences Engineering Building

1304 W. Green, Urbana

Map Code: K

The Material Science and Engineering Building holds labs and offices for the Department of Material Science and Engineering.

Location: First Floor

Composites in Sports

UMO (Undergraduate Materials Organization)

Exhibit will display various applications of composites in different types of sports equipment.

Location: First Floor

Drug Delivery Systems

UMO (Undergraduate Materials Organization)

Ever wonder how the drugs you take are made? Discover the ways in which drugs like Tylenol®, ibuprofen, or Nyquil® are made. Learn about techniques like double emulsion and PEGylation and others the drug industry uses.

Location: First Floor

Ferrofluids and non-Newtonian fluids

UMO (Undergraduate Materials Organization)

There will be demos with ferrofluids and magnets and cornstarch and water. We will also be talking about some of their real life applications.
Location: First Floor

Fun with vacuums and plasma

AVS (American Vacuum Society)
Demonstration of the concepts of vacuum and plasmas using fun experiments.
Location: West Hallway

Geopolymers: Next Generation Building Materials

UMO - Keramos (Undergraduate Materials Organization)
Video loop of the different demos we have done in the lab and poster with information on geopolymers.
Location: First Floor

Green Machine for Safe Water in Developing Regions

WaterCAMPWS
This exhibit will demonstrate the results of a WaterCAMPWS student project. Students were challenged to provide a sustainable, affordable solution to remove pathogens from drinking water in developing regions.
Location: First Floor

Materials Science of Computers

UMO
Examples, demonstrations, and information on the materials used in computers and data storage.
Location: First Floor

Materials Science of Dentistry

UMO
Do you know what teeth fillings used to contain mercury? Do you know that teeth are composed of 4 layers of tissues and have little resemblance with bones? "Materials Science of Dentistry" explores the science and engineering applications behind teeth fillings, teeth

replacements, and other dentistry topics beyond these two.
Location: First Floor

Materials Show

UMO
A short film showing the fun side of Materials Science.
Location: First Floor

Non-Newtonian Fluids

Society for Experimental Mechanics
There are a wide range of fluids surrounding us everyday with a wide variety of properties. Some behave like water, a very familiar fluid, while others behave much differently, like toothpaste or wet concrete. Stop by the exhibit for some hands-on experience with some amazing fluids.
Location: First Floor

Polymer slime and superabsorbent polymers

UMO
Demo and information on how superabsorbent polymers work, their applications and silly putty making.
Location: First Floor

Polymers Magic

UMO
A "magic show" displaying the mystical properties of polymers.
Location: First Floor

Shape Memory Materials

UMO
We will be exploring the unique properties of Shape Memory Materials. We will have samples of both alloys and polymers, and there will be demonstrations of their memory capabilities when heated. In addition to the on-site demonstrations, we will be showing clips of other applications, such as in the medical field, that would not be possible to do at the open house.
Location: First Floor

Superconductors

UMO
Displays of practical inventions using superconductors, including a

a magnetically levitated train.
Location: First Floor

The materials science of candy and food

UMO
The manufacturing and processing science of various foods.
Location: First Floor

Weather-a-What?: Bringing Weatherization Home

EWB (Engineers Without Borders)
Demos and info about standard/new weatherization technologies and their many benefits.
Location: Entrance Hallway

Mechanical Engineering Laboratory

Distracted Driving

ASME (American Society of Mechanical Engineers)
Try your hand at a driving simulation while performing other distracting tasks!

Heat Transfer and Laptop Design

SWE
Look at laptops with heat cameras to see where heat builds up in the laptop. Learn about the problems that can be caused by heat build-up, and the ways engineers design laptops to prevent this from occurring.
Location: Second Floor

Hexapods

Pi Tau Sigma
Come and Play soccer with these amazing six legged creatures, its just like a video game except the action is live and you are controlling them. Up to six people can play at a time and they can move, kick, and score goals when you control them with Sony Playstation 2 controllers. Come, find out what you got!

Hydraulics: Fluid Power

ASME (American Society of Mechanical Engineers)

A small scale simulation of how a dump truck bed is lifted, using hydraulics to clear the bed. This exhibit is interactive. After the bed is filled, participants will be able to push a button engaging the hydraulics, which will invert the bed and dump its contents.

NanoChallenge

Nano-CEMMS Research Center
Presentation of a research experience in the area of microfluidics for high school students.

Penny Smasher

ASME (American Society of Mechanical Engineers)

Punching a Block I into aluminum disks using a machined die and vice. A quick demonstration and unique souvenir.

Sandcasting

Pi Tau Sigma

Come see how engineers create cast parts with silica molds.

Society of Women Engineers Free Breakfast

SWE

Eat free food while learning about SWE and the many opportunities for women in engineering!

Location: Second Floor

SWE Information Booth - It's SWEet to be in SWE!

SWE

Learn about the many opportunities available through the Society of Women Engineers. Jillian Frank will present her research poster which won 3rd at the SWE National Conference.

Location: Second Floor

American Concrete Institute

ASCE (American Society of Civil Engineers)

The student chapter of ACI has been involved in many things, from competing in international competitions to organizing speaker series. Stop by for more information about what we do.

Location: Crane Bay

Concrete Canoe - The Boneyard Yacht Club

ASCE (American Society of Civil Engineers)

Concrete canoe is an engineering extracurricular activity revolving around the design, creation, and racing of a canoe made of concrete. Students learn valuable design and teamwork skills, and have the great opportunity to meet civil engineering students from schools across the nation.

Location: Crane Bay

Concrete Coasters

ACI (American Concrete Institute)

Visitors will be able to make their own souvenir from a small batch of a quick-setting cementitious material to be placed in a petri-dish mold with their own chosen foam or colorful decorations to personalize the coaster.

Location: Crane Bay

Geotechnical Engineering Student Organization

ASCE (American Society of Civil Engineers)

The Geotechnical Engineering Student Organization at the University of Illinois at Urbana-Champaign was founded in September 2006 by geotechnical graduate students interested in pursuing a higher degree of learning, discussion, and socialization with colleagues. GESO holds meetings with guest speakers who present on a variety of topics in both current research and practical application.

Location: Crane Bay



Mechanical Engineering Laboratory

105 S. Mathews Ave, Urbana

Map Code: M

The Mechanical Engineering Laboratory is home to the Department of Mechanical and Industrial Engineering.



Newmark Laboratories

205 N. Mathews Ave, Urbana

Map Code: N

Newmark Laboratories is home to the Department of Civil Engineering.

Newmark Laboratory

Illinois Center for Transportation

Illinois Center for Transportation
The Illinois Center for Transportation's (ICT) exhibit introduces visitors to the varied research that is conducted at the center which, since its inception in Fall 2005, has rapidly grown to be one of the largest engineering centers at UIUC.
Location: Crane Bay

Institute of Transportation Engineers

ASCE (American Society of Civil Engineers)
Our goal is to introduce students to the transportation profession and supplement their classroom and laboratory experiences. ITE provides a forum for transportation engineers to gather, exchange ideas, socialize, and interact. Finally, ITE seeks to promote transportation engineering at the University of Illinois.
Location: Crane Bay

Liquefaction Tank

GESO
How quicksand swallows objects? Will you drown in quick sand? What if the sand under your home becomes quick? You might've seen it in movies...see it real...with reasoning.
Location: Crane Bay

Network for Earthquake Engineering Simulation

ASCE (American Society of Civil Engineers)
The MUST-SIM facility is one of the 15 equipment sites that form the George E. Brown Network for Earthquake Engineering Simulation (NEES). This facility provides a total testing-analysis-visualization-display environment that combines the ability to test full-scale subassemblies under complex loading and boundary conditions.
Location: Crane Bay

Railroad Engineering Extravaganza

ASCE (American Society of Civil Engineers)
For over a century the University of Illinois has been a leader in railroad engineering research and education. The U of I has a distinguished record of accomplishment and remains highly respected by today's railroad engineering community. Come see the leaders of the railroad transportation industry!
Location: Crane Bay

Reinforced Earth Wall

GESO
A paper-reinforced wall (called Mechanically Stabilized Earth Wall "MSEW" in Civil Engineering) holds a lot of weights, while the unreinforced earth wall fails to stand even on its own! The two walls appear the same from the outside, but behave much differently. This experiment never fails to amaze! Paper can do more than you think! Paper strips...make the wall carry more loads.
Location: Crane Bay

Steel Bridge Team

ASCE (American Society of Civil Engineers) - Steel Bridge Team
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

The Iron Glove

GESO
Would you like to shake hands with soil? Come and see if soil wants that too, or it just limps its hand for you!
Location: Crane Bay

The Mid-America Earthquake Center

ASCE (American Society of Civil Engineers)

The Mid-America Earthquake Center is one of three national earthquake engineering research centers established by the National Science Foundation and its partner institutions. The MAE Center, headquartered at the University of Illinois at Urbana-Champaign, consists of a consortium of nine core institutions.
Location: Crane Bay

Traffic Control and Safety Devices

Institute of Transportation Engineers
A comparison between incandescent bulbs and LED signals, and measuring Perception Reaction Time.
Location: Crane Bay

What is Soil, a Solid, a Liquid, Sticky or Not-Sticky?

GESO
Is soil a liquid or a solid? It can be just sticky like a gum or fluid like water. It can behave differently at the same time; Come and see how amazing a soil can be simply by shaking it!
Location: Crane Bay

Siebel Center for Computer Science

Acetone Production Engineering

ChemE Sr. Design Spring 2009
Current Seniors in Chemical Engineering Design will be presenting their senior project ideas for the development of a chemical plant to produce 100,000 metric tons/yr of Acetone. Students working in teams of 4-5 have explored reactions, separations, environmental and safety concerns, economics, and sustainability for this product which is critical to the chemical, film, and solvent market.
Location: 1105

ACM credits

ACM (Association for Computing Machinery) - Webmonkeys

A project to build a system to handle various transactions of ACM members through the use of "ACM credits".

Location: Main Atrium

Allyl Chloride Production Engineering

ChemE Sr. Design Fall 2007

Students will be presenting their final senior project: The Design of a Plant to produce 100,000 metric tons/yr of Allyl Chloride. This project represents about 500 hours of work per team and encompasses the development a safe, efficient, and economically optimized process to make a chemical which is instrumental to the pharmaceutical and plastics industries.

Location: 1105

BlimpBot

ACM (Association for Computing Machinery) - SIGBot

An autonomous blimp that can fly itself and avoid obstacles.

Location: Main Atrium

Brain Music

ACM (Association for Computing Machinery) - SIGBio

Come see the results of SigBio's foray into music controlled by your brain waves.

Location: Main Atrium

Copper Text Editor

ACM (Association for Computing Machinery) - SIGSoft

Copper Text Editor (CuTE) is a collaborative text based work environment intended to ease group cooperation.

Location: Main Atrium

Deathraybot

ACM (Association for Computing Machinery) - SIGBot

A robot that tracks targets by color and "shoots" them with laser

pointers, it can even track moving targets.

Location: Main Atrium

DS Hacking SHMUP

ACM (Association for Computing Machinery) - Gamebuilders

Play across this space shooter, utilizing your enemies to do your bidding. Playable on the Nintendo DS.

Location: Main Atrium

Esoteric Army

ACM (Association for Computing Machinery) - Gamebuilders

Fight the enemy using your knowledge of tactics and strategy in this turn-based strategy game, and allow yourself to be engulfed in the fantastic setting. Playable on the PC.

Location: Main Atrium

Fleet Command

ACM (Association for Computing Machinery) - Gamebuilders

Utilize your strategic skills while commanding a fleet of warships in space. Play against other people online in this turn-based strategy game. Playable on the PC.

Location: Main Atrium

Hovercraft

ACM (Association for Computing Machinery) - SIGArch

The SIGArch hovercraft is a big bad hovering machine. What sets this project apart from most conventional gasoline powered hovercrafts is that ours runs on pure electricity.

Location: Main Atrium

iClicker MADNESS

!Bang

Come see the iClicker do things it has NEVER DONE BEFORE! Bring your own iClicker or use ours!

Location: Main Atrium

IFRIS: 3d fractals

ACM (Association for Computing Machinery) - SIGGraph Research

Fractals are used to make some



Siebel Center for Computer Science

201 N. Goodwin, Urbana

Map Code: O

The Thomas M. Siebel Center is the new home to the Department of Computer Science.

of the most fascinating images in computer science. Several 2d fractal editing programs are widely available, but there is no comparable 3d fractal editor. IFRIS fills the gap by allowing the user to make amazing and artistic 3-d fractals.

Location: Main Atrium

In C

ACM (Association for Computing Machinery) - SIGMusic

An interactive, computerized version of Terry Riley's famous minimalist piece.

Location: Main Atrium

Interactive Conductor

WCS - Tech Team

We created a program that allows users to interact with it through video. Users select sound clips by waving their hands in the air and selecting a clip. Its a lot of fun and its really easy to do. Come see us and make music!

Location: Main Atrium

LaserLine & Retro Games

ACM (Association for Computing Machinery) - MacWarriors
Classic Games projected on a modern Laser Projector.

Location: Main Atrium

LOOKOUT

ACM (Association for Computing Machinery) - SIGMil

Our project is designed to be a platform and testbed for data collection and processing in a wireless world. We have built modular hardware that lets us explore and map our environment in a variety of new ways.

Location: Main Atrium

Painting in 2.5D

ACM (Association for Computing Machinery) - SIGGraph

An application for creating digital paintings with a variety of styles and depth.

Location: Main Atrium

Polarity

ACM (Association for Computing Machinery) - SIGGraph

A quirky polar bear throws the status quo in an icy neighborhood. (An animated short).

Location: Main Atrium

Project Idcube

ACM (Association for Computing Machinery) - Gamebuilders

Join Thomas S. Wythoff in his battle against the invading Hexagon army, playing through this color-based shooter across a musical environment. Playable on the Xbox 360 and PC.

Location: Main Atrium

Project X: Mind-Controlled Computers

ACM (Association for Computing Machinery) - SIGBio

SIGBio will be demonstrating the possibilities of new computer interfaces based on vision tracking in combination with electromyography.

Location: Main Atrium

SIGOPS Project Showcase

ACM (Association for Computing Machinery) - SIGOPS

SIGOPS has been busy this year with a multitude of impressive projects. Examples include: a custom init system for *NIX based systems, a package manager for OpenBSD ports, RpExpose: a task switcher designed for the Ratpoison window manager, and possibly our own microkernel and our own Jurassic Park style file browser.

Location: Main Atrium

Sucrose

ACM (Association for Computing Machinery) - SIGArch

Sucrose is a networked vending machine that allows you to pay for your snacks with the swipe of a card. Sucrose tracks your purchases and keeps a leader board of who consumes the most chips and candy.

Location: Main Atrium

Syzygy

ACM (Association for Computing Machinery) - Gamebuilders

What's this? Spheres. Pilot a ship around a whole planet in spherical based level design warding off enemies. Playable on the PC.

Location: Main Atrium

Tetricube

ACM (Association for Computing Machinery) - Gamebuilders

A 3D spin on the old classic: tackle an onslaught of 2D and 3D pieces to fill a 3D grid with classic Tetris rules. Playable on the PC.

Location: Main Atrium

The Making of a Video Game

ACM (Association for Computing Machinery) - SIGGraph

How do you create immense virtual worlds inside a computer? Come learn how video games are brought to life using concept art, design documents, prototypes, 3D models, and lots of programming.

Location: Main Atrium

Time Travel Game

ACM (Association for Computing Machinery) - Gamebuilders
Play through this top down puzzle game using one of the greatest weapons of all time, time travel. Your allies, multiple instances of yourself, your enemies, utterly confused. Playable on the Xbox 360 and PC.

Location: Main Atrium

WebChalk

ACM (Association for Computing Machinery) - SIGSoft
Introducing: WebChalk. U of I's twenty first century gateway to campus events. Search or browse lectures, parties, club meetings, and more! WebChalk: plan, advertise, and attend area events today!

Location: Main Atrium

Wosaic

Independent
Wosaic is a project that aims to turn everyday pictures into themed works of art. Our goal is to grab pictures from various sources, including the user's local files, Flickr, and others in order to reconstruct a larger image. In this manner, we will create a mosaic of one large image that is made up of many smaller images.

Location: South End of Main West Hallway

Talbot Laboratory

Bike Mechanics

Society for Experimental Mechanics
The world of mechanics applied to the everyday bicycle.

Location: 103

Century of Flight

AIAA (American Institute of Aeronautics and Astronautics)
Movie detailing 100 years of manned flight. Starting with the Wright brothers and ending with

the International Space Station.

Location: 105

Concrete Crushing

Society for Experimental Mechanics
Concrete is very strong, but can it withstand the load that our 3 million pound compression/tension machine can deliver? Come see our huge and historic machine crush some concrete!

Location: Basement

CubeSat: a student's introduction to space

Cubesat
Small student designed satellites launched into orbit carrying scientific experiments.

Location: 1st Floor Hallway, outside 105

Flight Simulator

AIAA (American Institute of Aeronautics and Astronautics)
An improved Frasca Flight Simulator will be placed in the hallway of Talbot Laboratory for visitors to experience flight.

Location: 104

Fluids Lab Demonstrations

Society for Experimental Mechanics
Do like swimming? How about airplanes or boats? Over the past several years, the University of Illinois has been researching the many amazing phenomena in fluid mechanics so that we can better understand our world and design the most efficient planes, trains, automobiles, etc. possible. Stop by the fluids lab and see where the magic happens!

Location: Fluids Lab

Space Shuttle Heat Tile Demonstration

AIAA (American Institute of Aeronautics and Astronautics)
Demonstration of a Space Shuttle Heat Tile and its ability to dissipate heat during the shuttle's re-entry into Earth's atmosphere.

Location: 100H



Talbot Laboratory

104 S. Wright, Urbana

Map Code: P

Talbot Laboratory houses the Department of Aeronautical and Astronautical Engineering and the Department of Theoretical and Applied Mechanics.



Transportation Building

104 S. Mathews, Urbana

Map Code: Q

The Transportation Building houses the Industrial and Enterprise Systems Engineering.

TAM Toys

Society for Experimental Mechanics
Mechanical phenomena exhibited by everyday objects.

Wind Tunnel Demonstration

AIAA (*American Institute of Aeronautics and Astronautics*)

Demonstration of lift, drag and other aerodynamic properties of a wing, sphere and golf ball.

Location: 18A

Transportation Building

Castaway

ISGE

Each person is given a sheet of tin foil, straws, and tape and they must create a boat out of them. The participants then test the strength of their boats by placing pennies on it until it sinks. A record of the strongest boats will be kept throughout the day.

Location: 114

Float your boat

SBME

Teams will have to build a boat and see how many pennies they can carry across a tub of water.

Location: 101

Floatn Illni

float'n illini

welcome to floatn illni, we are an undergraduate research group that works with NASA. the purpose of the drop tower is to show how the fast acceleration can allow for the simulation of microgravity in space.

Location: 103

Generate Change

Independent

We will illustrate the difference between energy sources through a hands-on activity which allows visitors to construct their own generators.

Location: 203

Lemelson-Illinois Student Prize

Lemelson-Illinois Student Prize
Winner/finalists of the \$30,000 Lemelson-Illinois Student Prize display their inventions/innovations.

Location: 203

Sticky Skyscrapers

ISGE

Each person is given a bag with a set number of toothpicks and marshmallows. It is their job to determine the best way to build a tower out of those that will be the tallest and still structurally stable.

Location: 112

College of Engineering Deans Welcome Session

Location: Room 151 Everitt Laboratory

For all visitors:

- Friday, March 7 at 10:30 a.m., 1:30 p.m., 2:30 p.m.
- Saturday, March 8 at 10:30 a.m.

For more information, stop by the College of Engineering booth on the 1st floor of Engineering Hall.



attention:
engineering
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 & Saturday
9:00 a.m. – 4:00 p.m.
3rd Floor Engineering Hall



ESAA ENGINEERING STUDENT
ALUMNI AMBASSADORS

Engineering Open House 2008 for Educators



2008 engineering open house sparkling curiosity

- Agriculture Engineering Sciences Building (E4) A
- Beckman Institute (A4) B
- Digital Computer Laboratory (B4) C
- Engineering Hall (B4) D
- *Everitt Lab (B4) E
- *Grainger Engineering Library (B4) F
- Hydrosystems Lab (A5) G
- *Illini Union (C4) H
- Kenney Gym (B4) I
- *Loomis Lab (B5) J
- Materials Science and Engineering Building (B5) K
- Mechanical Engineering Building (B5) L
- Mechanical Engineering Laboratory (B5) M
- Newmark Laboratory (B4) N
- Siebel Center (B5) O
- Talbot Lab (B4) P
- Transportation Building (B5) Q

Free parking in E-14
with shuttle service!

* denotes Shuttle Stop