



UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



DARE TO DEFY



**START
EVERY DAY AT THE
FOREFRONT OF
ENGINEERING.**



Bring your talent to a team with the technology to take on big challenges, the integrity to do it responsibly, and the drive to keep the world moving forward. Are you up to the job?

Learn more at chevron.com/careers

**JOIN THE
CHALLENGE.**



human energy®

Table of Contents

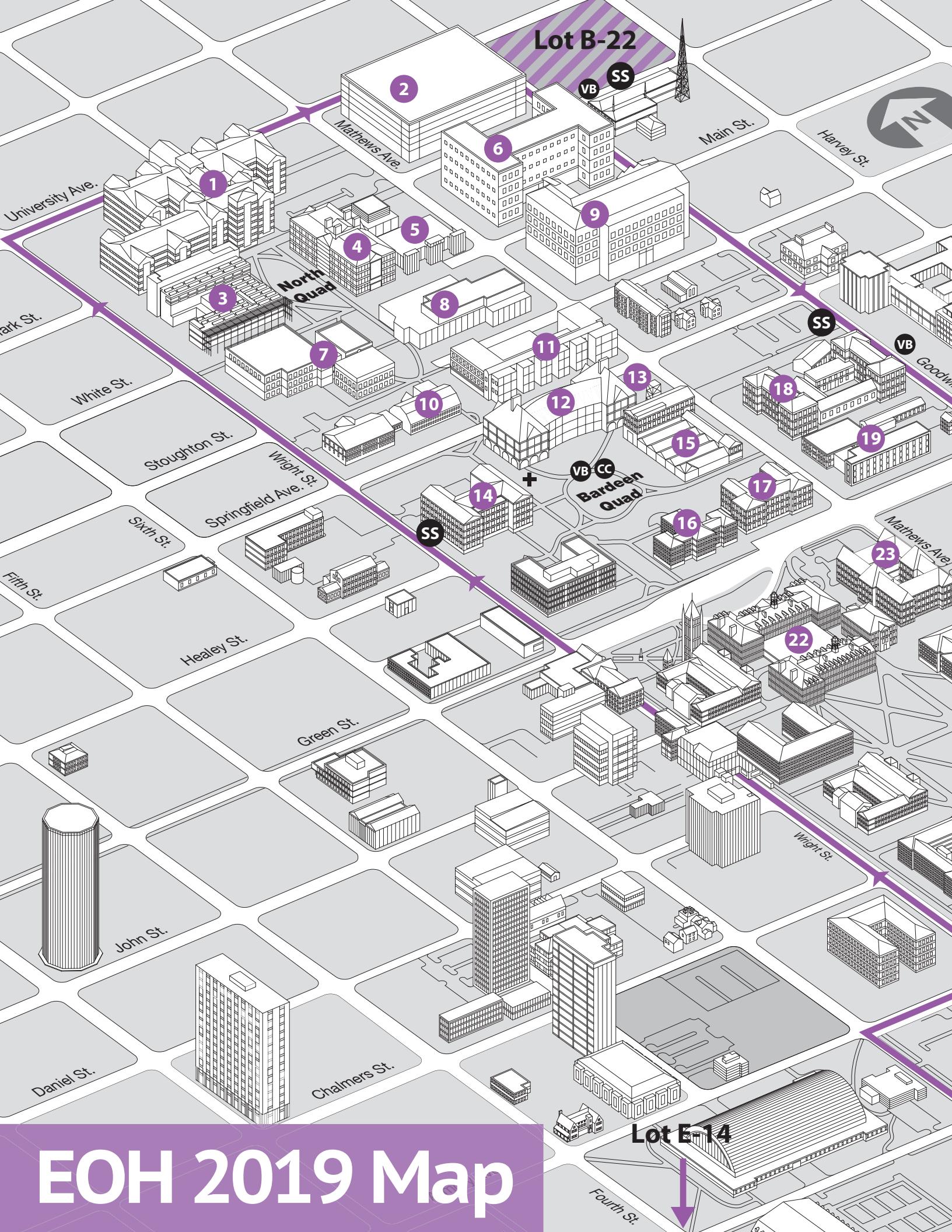
EOH 2019 Map	4-5
Scheduled Events	6-8
Visitor's Information	9-10
Director's Note	12
Keynote and Speaker Info	13
Exhibit Listing	14-34
Bardeen Quad	14
Digital Computer Lab	15
ECEB	16
Engineering Hall	17
Everitt Laboratory	18-19
Grainger Loading Dock	20
Loomis Lab	21-22
Mech. Eng. Building	23
Mech. Eng. Laboratory	24
Mat. Sci. Eng. Building	25-26
NCSA	27-28
Newmark Laboratory	29-30
Natural Hist. Building	31
Siebel Center	32
Talbot Laboratory	33
Transport. Building	34
EOH Past and Present	36-39
EOH Central Committee	40-42

- **High School Design Competition**
ECEB, Room 3002 | Fri 9am - 4pm
- **Keynote Speaker**
ECEB, Room 1002 | Fri 5pm
- **Tesla Coil Concert**
Bardeen Quad | Fri 7:30 pm
- **Concrete Crusher**
Talbot, Basement | Fri, Sat 9am - 4pm | Sign posted outside building for times
- **Midwestern Robotics Design Competition**
Kenny Gym Annex | Fri, Sat 9am - 4pm
- **Robobrawl**
Between Everitt and Ehall | Fri, Sat 9am - 4pm
- **Startup Showcase**
Siebel, 2nd Floor | Fri, Sat 9am - 4pm
- **Middle School Design Competition**
ECEB, 3rd Floor | Sat 9am - 2pm



eohillinois.org/





-
1. Beckman Institute
 2. CSL Studio
 3. Electrical and Computer Engineering Building (ECEB)
 4. Coordinated Science Lab (CSL)
 5. Hydrosystems Lab
 6. National Center for Supercomputing Applications
 7. Micro & Nanotechnology Lab (MNTL)
 8. Newmark Civil Engineering Lab
 9. Siebel Center
 10. Kenney Gym Annex
 11. Digital Computer Lab (DCL)
 12. Grainger Engineering Library
 13. Grainger Loading Dock
 14. Talbot Lab
 15. Mechanical Engineering Lab (MEL)
 16. Engineering Hall
 17. Materials Science & Engineering Building (MSEB)
 18. Transportation Building
 19. Mechanical Engineering Building (MEB)
 20. Loomis Lab
 21. Materials Research Lab (MRL)
 22. Illini Union
 23. Natural History Building
 24. Observatory
- VB**
SS
CC
+
■
- Parking Lot

Shuttle Route

Scheduled Events

High School Design Competition

Electrical and Computer Engineering Building, Room 3002

Friday, 9am - 4pm

The High School Design Competition is a competition for high schoolers to show off the Rube Goldberg contraptions they have been designing and building. This year's competition involves having these students create a contraption which puts money in a piggy bank. 14 teams from the surrounding area will be competing for the top spot to qualify for the national competition.

Middle School Design Competition

Electrical and Computer Engineering Building, 3rd Floor

Saturday, 9am - 2pm

The Middle School Design Competition is a competition built for middle school students to show off their scientific creativity and design process for a completely new challenge. This year, competitors were tasked with creating a car completely powered by a standard mousetrap! Come see area schools compete and view how they created their inventions!

Discover EOH

Visitor's Booth on Bardeen Quad

Friday, 9am - 4pm and Saturday, 9am - 4pm

Discover EOH is a scavenger hunt of some of our best exhibits! Collect 5 stickers from these exhibits and once you have 5 stickers in any row, column, or diagonal, you can claim a prize! Recommended for ages six through fourteen. Find us on Friday to win you prize.

Illinois Engineering Challenge

Engineering Hall, Room 106B8

Friday, 9am - 4pm and Saturday, 9am - 4pm

Come to the Illini Engineering Challenge (IEC) to showcase your skills! Create marshmallow towers, build and race sail cars, and design your own colorful paper chromatography! Great for kids six and above. Test your skills against your friends and make sure to get your souvenir.

Engineering Majors Fair

Digital Computing Lab, Basement

Friday, 12pm - 3pm

Considering a future in engineering? Stop by the Engineering Majors Fair to learn more about different engineering programs available at the University of Illinois. Representatives from each Engineering Department, University Admissions, and University Housing have been invited to answer questions. Find out what is possible at Engineering at Illinois!

Scheduled Events

Startup Showcase

Siebel Center, 2nd Floor

Friday, 9am - 4pm and Saturday, 9am - 4pm

The Startup Showcase is a third-year exhibit that presents startup companies in the Champaign-Urbana area flourishing from the engineering and business programs here at the University of Illinois. These are groups that have spent countless hours developing their own ideas into a product and furthermore into a company. They will be demonstrating their unique ideas and showing how they are working towards a better and brighter future.

- **Coulomb Logistics Intl.** - Coulomb Logistics is a startup seeking to deliver vital medical supplies to hospitals and clinics in the rural hospitals and clinics of South Africa using drones.
- **DisplayOne** - DisplayOne offers display solutions to showcase and protect a collector's prized possessions.
- **eSynced** - eSynced is a web and mobile platform that integrates all personal, social and communal schedules into one easy to use solution.
- **Filify 3D** - Filify 3D aims to use innovation to create a business by taking failed 3D prints and creating 3D printing filament that can be sold to printing facilities.
- **Garuda** - Garuda is a mesh network of drones that will help map wildfire prone national and state parks to predict and analyze wildfires.
- **Personal CRM** - Personal connection relation management (CRM) system to help you grow your network and relationships. Visit us on CRM.now.sh
- **LinkSocial** - An app changing the way we connect and use social media. "We are an app redefining connectivity: link one, link all, LinkSocial".
- **Halal Beauty Cosmetics** - Halal Beauty Cosmetics creates 100% halal certified beauty products that allow women to look and feel beautiful without having to compromise on their faith.
- **MakerGirl** - MakerGirl is a social, non-profit start-up with the mission of educating young girls to pursue Science, Technology, Engineering, Art and Math fields (STEAM) through 3D printing sessions.
- **Menu3** - We make visual menus through an array of images, 3D models and nutritional information to help diners make purchasing decisions at restaurants.
- **Nadabot** - NadaBot is an AI-powered application that centralizes information about events and services within a university community for students and in collaboration with local businesses, non-profits and University clubs.
- **Nouvo** - At Nouvo, we engineer and design smart connected products that improves patient outcomes.
- **OSD (USA) Inc.** - OSD is a silicon valley based startup that develops both hardware and software to help people enjoy healthier lifestyles anytime, anywhere.
- **PhantomCor** - At PhantomCor we design physical organ models for surgical practice that look and feel like the real thing.
- **Promote Properly** - Promote Properly gives businesses the tools and services to build creative marketing solutions.
- **PSYONIC Advanced Bionic Hand** - PSYONIC develops advanced bionic limbs that are accessible for everyone--we are the SpaceX for bionics.
- **Red Clover Reader, Inc.** - Red Clover Reader, Inc. is a platform that revolutionizes parenting and education by helping kids learn and develop social skills that are not necessarily taught in school.
- **RingWing** - Come play catch with RingWing®, the World's First Catchable Glider, and see our new products coming soon.
- **Stash** - Stash is a peer to peer self storage marketplace that connects people looking for storage to people who have storage space.
- **Subawu** - Subawu is an on demand networking platform that pairs students of similar academic interest with compatible study partners.
- **Virtision.com** - Virtision: Step Into Your New Home Anywhere, Anytime.

Scheduled Events

Midwestern Robotics Design Competition

Kenny Gym Annex

Friday, 9am - 4pm and Saturday, 4pm

Engineering students from universities throughout the Midwest travel to Engineering Open House to participate in the Midwestern Robotics Design Competition. This student-run annual robotics competition lasts two days and features great ingenuity displayed by all participating teams. This competition started in 1987, making it one of the oldest continuing robotics competitions in America, predating both Battlebots and FIRST Robotics by several years.

The course this year involves the traversal of a bridge over a ball pit, and launching foam balls into basketball hoops. Each year there are a plethora of robot types, ranging from wheeled and manually-controlled robots, to autonomous robots and quadcopters. The arena is a 44 x 44 foot raised platform with several different tiers. The competition is student designed, and varies every year. Obstacles can include moats, tunnels, and massive teeter totters. At the end of a competition there is an optional demolition round, in which robots can obliterate each other in a free for all frenzy to the last robot moving.

On the first day of the competition, teams play each other in a Round-Robin format. On the second day, all teams enter into a championship bracket with seeding determined by the initial rounds. A final championship match produces a competition winner.

Executive Board

Co-Director - Michael Gale

Co-Director - Timur Javid

Tech Chair - Vassily Petrov

Tech Co-Chair - Logan Pulley

Field Chair - Ramon Macias

Rules Chair - Jacob Foster

Corporate Chair - Ted Stelling

Corporate Co-Chair - Prerak Sanghvi



At P&G we pride ourselves on not only innovative products but also innovative ways of developing, producing, and distributing our products. To that end we rely heavily on automation and robotics. Highly flexible and agile robots enable a nimble supply chain which optimizes productivity and asset utilization.

Visit the P&G booth at EOH to see some of these robots and technology in action!

DEVELOPING OUR MOST IMPORTANT ASSET - YOU

P&G is known for building leaders and leading brands. Right from the start, you'll see how our training and mentoring opportunities help our employees grow into world-class managers, professionals, and experts in their fields. Our success depends on our people. In fact, you're our most important asset.

Apply now at pgcareers.com
#PGDAY1

CAN YOU IMAGINE? WE CAN. | ILLINOIS NCSA

Friday, March 8
9 a.m.-4 p.m.

National Center for Supercomputing Applications
1205 W. Clark St., Urbana

Join us to imagine a better world, made possible through advanced digital resources and data. Fun hands-on activities and movies in 3D! Suitable for all ages.

Saturday, March 9
9 a.m.-4 p.m.

National Petascale Computing Facility
1725 S. Oak St., Champaign

(Corner of Oak St. & St. Mary's Road, across Oak St. from parking lot E-14)

Learn all about supercomputers and how they help scientists. See and touch components like motherboards and processors. Learn how more than 13 quadrillion calculations happen every second! Suitable for all ages.

NCSA.ILLINOIS.EDU

Visitor's Information

Visitors Booth

Have some questions? Need another visitor's guide? What about exhibit suggestions? Find our volunteers to answer your questions at the following locations:

- Bardeen Quad
- Near Clark Shuttle Stop
- Near Goodwin Shuttle Stop

General tours

Have an engineering student tour guide show you the best side of campus and EOH.

- Friday and Saturday
- From 9am to 4pm
- Departs every 30 minutes from Bardeen Quad Visitor's Booth

Custom tours

For groups registered for the custom tour, please contact your respective student tour guide.

Food

Watch out for our students' favorite food trucks on Springfield Ave. between Wright and Mathews St. (Directly north of Grainger Library)

Entertainment

- Entertainment tent North of Talbot
- Friday, 12pm - 2pm
- Saturday, 11am - 2.30pm

Emergency Information

• Missing Child

Please report any case of a missing child to the Central Committee tent on Bardeen Quad. Our volunteers throughout campus will be notified to keep a lookout for the lost child, or parents of the lost child.

• Injuries

In any case of injury, immediately notify nearby volunteer and go to the Illini Emergency Medical Services (IEMS) at the North-West corner on Bardeen.

• Local Hospitals

- Carle Foundation Hospital
- Presence Covenant Medical Center

• Lost and found

Any missing items can be brought to/ found at the Central Committee tent North of Talbot Lab between 9am and 4pm on Friday and Saturday (during EOH hours), or at the Engineering Council office (Engineering Hall 103C) at any other time.

• EOH Central Committee Tent

For any other emergencies, please approach any central committee member in the Central Committee Tent on Bardeen Quad.

Important FAQ's

Q: How can I commute around campus during EOH?

A: There is a shuttle service that will be provided on Friday and Saturday from 8am-5:30pm that runs continuously from lot E-14 to North Quad/Engineering Campus.

Q: Where are the shuttle stops located?

A: Shuttle stops are located:

Near Talbot Laboratory on Wright St

Near Lot B-22 on Clark St.

Near Loomis Laboratory on Goodwin St.

The stops will be indicated by signs and are located on the map.

Q: Where can I park?

A: On Friday, March 8th, you can park for free at B-22, E-14, B-4, E-24 or in any covered parking garage on campus. You may also park on street parking assuming you pay for the meters. On Saturday, March 9th, you may park in any University lot for free as parking is not enforced on the weekends.

Q: I am arriving in a school bus with my class, where should the bus drop off?

A: School buses should drop off students and teachers at the designated EOH stops on Goodwin Ave (marked by signs). The bus drivers should then proceed to lot E-14 to park the bus and take the shuttle to Engineering Campus.

Q: How far of a walk is it to EOH from the shuttle stops and lots?

A: All the lots mentioned above except for lot E-14 are within a block of Engineering Campus. Lot E-14 is about 1.5 miles from center of EOH action, which is why we provide the shuttle.

Q: Do I need to pay for parking?

A: Parking is free in the lots mentioned above but you will have to pay for metered street parking.

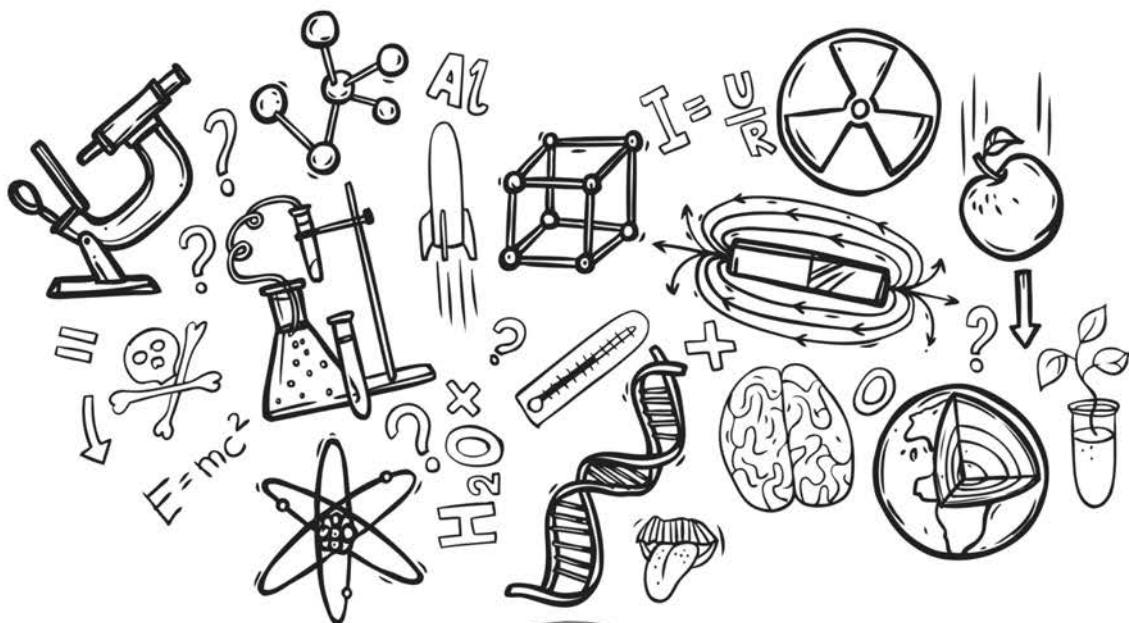
Q: Will there be any streets that are closed off or limited access?

A: Springfield Avenue will be closed from Wright St to Matthews Ave. Matthews Ave will also be closed from Green St to Springfield Ave. These street closures will be enforced from 7am to 5pm. Only corporate sponsors, judging, emergency vehicles, and food trucks may access these routes.

Just a short walk from EOH

BECKMAN INSTITUTE OPEN HOUSE 2019

40-plus exhibits showcasing innovative
interdisciplinary research discoveries



Friday, March 8
9 a.m.-4 p.m.

Activities for
All Ages



Café Open for
Breakfast & Lunch



ILLINOIS

Beckman Institute for Advanced
Science & Technology

More details at
bit.ly/BIOH19

Located at 405 N. Mathews Ave., Urbana, at the intersection of Mathews and University avenues. Metered parking is available in the parking deck to the east of the Institute as well as on nearby streets.

Director's Note

Welcome to the 99th annual Engineering Open House at the University of Illinois at Urbana-Champaign! Every year this student-run STEM fair gets bigger and better. EOH currently showcases over 250 collegiate project exhibits, hosts four competitions, and draws thousands of visitors to U of I's campus in just two jam-packed days! I encourage you to explore some exciting newer additions as well: the Startup Showcase, Discover EOH, and the Speaker Series.

This year, the Engineering Open House Central Committee is proud to present our theme: Dare to Defy. Too often we get caught up in doing things as they have been done in the past. Consistency is a comfort, but not the path to revolutionary solutions. Great thinkers can be found throughout history, from Alexander Graham Bell to Marie Curie. These innovators all share a common characteristic: they refused to accept the world as it was and dared instead to make it better.

As engineers and scientists, we have the ability to do the same. While exploring this year's Engineering Open House, I encourage you to think about the motivation behind each project. Are the exhibitors solving an issue in the medical field? Are they exploring a physical phenomenon? Are they creating just because it is fun? Whatever the motivation, you will see at the core of each project the ingenuity of the engineers responsible. After leaving EOH, I encourage you to take what you learned a step further: what problems exist in the world that you want to solve? Maybe you could find new uses for previously recycled materials or discover a way to control robots with your brain. We dare you to take the ordinary, think outside the box, and make it extraordinary. If we all follow these steps in life, the world better fasten its seatbelt because some exciting changes are on their way!

I would like to thank the 27 fantastic members of the EOH Central Committee for their dedication to making EOH 2019 possible. Since EOH has expanded exponentially over the years, every committee member holds a vital role in making the event a success. If you see any committee members walking around campus this weekend, please take a moment to thank them for all their time and effort as well.

Finally, I would like to recognize you, our visitors, for supporting all of us at EOH. We hope that you find Engineering Open House an enlightening, fun, and joyful learning experience. From preschoolers to grandparents, seeing your excitement makes this event inspiring to us all. It does not take much to make the world a better place, just some motivation and a little creativity. I hope you enjoy this year's Engineering Open House and continue on your journey in life breaking the status quo and Daring to Defy.

Maddie Wilson
Director, Engineering Open House 2019

Keynote and Speaker Series

Friday | ECEB 1002

Saturday | Everitt 1306

Day in the Life: Steel Dynamics Engineers

11am - 12pm

It takes a team of expert engineers to run a successful steel mill including – mechanical, electrical, process, metallurgical and computer engineers team.

Dare to Defy Expectations Panel

1:30pm - 2:30pm

What does it take to defy expectations? From unusual career paths in STEM to research that breaks the fundamental fabric of human knowledge, join our stellar panelists in challenging the status quo!

The Changing Landscape of Healthcare and Retail: Walgreens Tech Talk

2:30pm - 3:30pm

With the advances in technology and engineering comes the ability to improve patient outcomes and provide lasting customer experiences. From mechanical arms in surgery to tiny sensors in prescription drugs, companies are improving our ability to live healthy lives. At the same time, retailers make shopping for everyday products faster and easier so we can get on with our lives. Come hear about how careers in STEM are bringing these changes to life.

Student Leaders Panel

11am - 12pm

With over 1,600 student organizations on campus, opportunities for leadership abound! In this panel of student leaders, we explore what makes a good student leader, and how to balance academic responsibilities with a passion for leading our peers.

What do you want to be when you grow up ... ?

1pm - 2pm

What will work look like in 2030? Join our panelists in exploring their unique paths to the present, and what lays ahead in the future of STEM.

Startup Showcase / Ignite Talks

2:30pm - 3:30pm

Over the past 5 years, the number of UIUC-born startups topped 1,000! Come hear from the founders themselves about their tech, their journeys, and what makes Illinois such a great starting point for the problem-solving companies of the future.

Keynote Speaker: Dr. Ashlynn Stillwell
Friday ECEB Room 1002 5pm - 6pm

Custom 3D Printer

iRobotics

Between Everitt and EHall

A robust 3D printer designed around specific design criteria decided based on use cases for other iRobotics teams.

Robobrawl

Robobrawl

Between Everitt and EHall

Robobrawl is an annual combat robotics event that takes place each year during the Engineering Open House on the University of Illinois campus. The event consists of a double elimination tournament over the two days of Engineering Open House where each team battles for dominance. The current format consists of 30 pound combat robots fighting in a 16X16 arena.

VEX U ILLIN1

iRobotics

Between Everitt and EHall

Our team uses VEX parts to combine effective mechanical design, capable electronic sensors, and CS into two specialized, competitive robots.

The Robotic Arm Project

iRobotics

Bardeen Quad

A robotic arm that mimics that actions of a human! The arm will be automatically controlled by a human.

Pac Bot

iRobotics

Between Everitt and EHall

A 3-D printed, 100% autonomous robot that plays a real life game of Pac-Man. Competing at Harvard in April.

Sponsored by Walgreens

AIAA EOH

AIAA

Between Everitt and EHall

This exhibit involves model rockets racing along Boneyard Creek, and a Milestones of Flight display.

Dye Release

WRES

Bardeen Quad

Let's turn the river green! Release approximately 10ml of Flourescien dye into Boneyard Creek to learn about its effects.

Hybrid Rocket Engine

Illinois Space Society

Outside Talbot

Come see a hybrid engine hot fire in person! Using acrylic and gaseous oxygen we will demonstrate how Newton's laws come into play!

Hydraulic Rocket

WRES

Launching from EHall

Transfer the Energy To Fun! Kids will have the opportunity to launch an Hydraulic Rocket "designed" by themselves.

Illini Hyperloop

Illini Hyperloop

Between MEB and

Transportation Building

Illini Hyperloop's high-speed, all electric vehicle, for the upcoming SpaceX Hyperloop Pod competition.

Siege Weapons

Pi Tau Sigma

Outside Mechanical

Engineering Lab

A modern recreation of a mechanical siege weapon. A ballista will launch a broom handle at a target.

Rocket Race

American Institute of

Aeronautics and

Astronautics

Outside Talbot

Rocket race across Bardeen Quad! Come build rockets learn about astrophysics.

Rubber Duck Racing

WRES

Boneyard Creek - Front of

EHall

GO DUCK GO! Through duck racing in a natural creek, you can learn why the starting location matters.

Solar Power Charging

Station

inSPIRE

Middle of the Quad

See the practical impacts of solar power in your everyday lives and how battery storage systems can work together.

TRASHCANO

UIUC Volcano Lab

Middle of Bardeen Quad

They simulate an explosive eruption using a trash can, water, and liquid nitrogen! We'll be running demonstrations at 12pm, 1:30pm, and 3pm.

Triangle Nano-Grid

Triangle Fraternity

Bardeen Quad

Triangle's Nano-Grid! The portable and sustainable energy solution for anyone! Solar panels and wind turbines powering phones. WHAT!

Live Aircraft Build

Student Aircraft Builder

Outside Talbot

SAB will bring our full-scale aircraft to EOH. Exhibitors will be doing live builds. Learn about the principles of flight.

Listen Up (or Down)

Augmented Listening Lab

Coordinated Science Lab

Multipurpose Room

Learn about the far-field listening technology that powers the Amazon Echo, Google Home, Apple Homepod, and Microsoft Kinect.

ABE Farm Model

Agriculture and

Biological Engineering @
Illinois Ambassadors

DCL Atrium

3D Hyper-realistic Replica
of ABE Experimental Farm.

DIY Lava Lamp Demo

DCL Atrium

oSTEM (Out in Science, Technology, Engineering and Mathematics) will be providing an exciting educational experiment where you can make your own lava lamp!

Penny Bridge Chal- lenge + Crystal Gem Creation

Engineers Without
Borders

DCL Atrium

Can you effectively build a bridge with only a piece of paper and pennies? Challenge your friends to see whose bridge can hold the most weight. Also, take part in creating crystal gems right before your own eyes! Visit us to learn more about EWB as well.

Chemical and Biomo- lecular Department

DCL Atrium

Chemical engineers love a good challenge. Explore the ChBE field. Demonstrations include Liquid Crystals and Chromatography,

Illini Algae Research

Group

DCL Atrium

Explore the applications of algal based technologies to address current environmental, agricultural and energy concerns.

Soil or Water?

Agricultural and Biologi-
cal Engineering Class 497

DCL Atrium

Food of the future! Learn more about research using hydroponic systems on water usage and plant growth.



Electrical and Computer Engineering Building

ADSL Student Projects

ECEB 2076

See ECE students projects in the Advanced Digital Systems Lab! See Tesla Motor founder Martin Eberhard's first electric vehicle design, "The Touring Machine."

The Power of Electricity and Magnetism

IEEE Power and Energy Systems Group ECEB 4024

A variety of exhibits demonstrating the power of electricity. Come use electricity to launch 6-inch rings across the room, learn how motors work, see a floating frying pan, learn about solar power, and more. Learn about moving magnetic fields and conductive material. Good for older students.

Bio-Inspired Swarm Robots

Grace Gao Research Group ECEB Atrium

Inspired by golden shiner fish, a swarm of 100 small robots use collective intelligence to identify and navigate to the target area

Design, Build and Fly a Drone Swarm

Grace Gao Research Group ECEB Atrium

Come and see how a drone swarm is designed and built

Force Resistive AR Gloves

Sigma Phi Delta ECEB Atrium

Using our gloves you will be able to feel virtual objects. This exhibit is touch friendly and recommended for high schoolers.

Gesture-Recognition Alexa Device

Eta Kappa Nu (HKN) ECEB Atrium

A gesture-recognizing Alexa-enabled device, with possible applications in disability assistance.

Sponsored by Walgreens

holoHome

Society of Hispanic Professional Engineers ECEB Atrium

A holographic display that uses four images to create a phenomenon known as a pepper ghost.

Sponsored by Walgreens

Illini RoboMaster Robotic Club

Illini RoboMaster ECEB Atrium

How exciting can it be to play First Person Shooting Games on Real Robots?

Live Object Detection in Video Feed

SIGAI ECEB Atrium

Our computer vision algorithm detects objects in live video feed, and can track them as they move.

Race through the Track

WECE ECEB Atrium

Come out to see if you can program a car and have it go through our specially-designed racetrack!

Soil Tester

WECE ECEB Atrium

Soil testing is a problem that is faced in all farms, and if done well, could result in significant increase in agricultural productivity.

ECE 110/120 Honors Projects

ECEB, Second Floor Balcony

ECE 110/120 Honors is the honors section for the introductory Electrical and Computer Engineering courses. Honors students spend the semester designing, building, and presenting their unique projects using knowledge gained during their first year of college. Projects range from automatic cat feeders to retro computing simulators.

Virtual Jazz Orchestra

Mark Smart ECEB, Second Floor Balcony

Virtual Jazz Band Created Using the Haken Continuum Fingerboard, a musical instrument designed by Professor Lippold Haken of the ECE Dept.

3D Printing Pens

ENVISION

EHall, 1st Floor

Come learn how 3D printing works and get hands-on 3D printing experience with 3D pens! What will you make? Target is middle schoolers

Arduino Glow

Engineering Freshman

Council

EHall, 1st Floor

Bright LED lights powered by a tiny Arduino computer. Can't go wrong with that! If you are interested in electronics, this is for you.

Illinois Enactus

EHall, 1st Floor

Entrepreneurship in Action. Our projects transform lives and shape a better, more sustainable world. Visit our booth to learn more about the products we've developed and the solutions we're creating!

Paper Circuits

Engineering Committee

EHall, 1st Floor

Come learn about the magic of circuits at our hands-on exhibit! Show off your creativity by using copper tape to make lights glow!

Rube Goldberg Machine

Rube Goldberg Society

EHall, 1st Floor

Ever get tired of uncapping that tube of toothpaste in the morning or before bed? Now you can let our unnecessarily complex Rube Goldberg machine do it for you! This machine is 9 feet wide and 6 feet high. Featuring over 60 steps connected to each other, the once mundane task has never been more fun or exciting to watch! It's fun for all ages.



AVS: Peeps in SPACE

Advancing the Science

EHall, 1st Floor

AVS will be showcasing what happens when an edible peep, balloon, and alarm clock are all vacuum sealed.

Quantum Levitation

Alpha Omega Epsilon

EHall, 1st Floor

A demonstration of quantum locking using neodymium magnets. Wingardium Leviosa! It's Magical Levitation... or Is It?

The REACT Program

Department of Chemistry

REACT Program

EHall, 1st Floor

Come learn about endothermic and exothermic reactions while watching objects being lit on fire!

Business in Engineering

NOBE

EHall, 1st Floor

Explore and learn how business and engineering come together through an interactive activity!

Remote Controlled Tank

National Society of Black Engineers Tech Team

EHall, 1st Floor

A remote controlled tank which uses arduino and PS4 controller.

Theta Tau Projects

Professional Fraternity

EHall, 1st Floor

Come check out our booth if you're interesting in learning about FPV Racing Drones or about how we developed an application for our fraternity.

Everitt Laboratory

Weather Works and Wonders

American Meteorological Society
EHall, 1st Floor

Want to understand how severe weather phenomena like tornadoes and hurricanes work?

May the Force Be With You!

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Get a glimpse of a world where we can use muscle or brain cells to control the world around us.

3-D Printing Biomaterials for the Future

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Come by our booth to learn how 3D printing has revolutionized biology and see our printers in action!

3D Printed Vein Finder

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Have you ever gotten your blood drawn before? Come and see how our device allows you to see your veins!

Beats by Dr. Jay

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Stop by to fulfill your life-long dream of being part of a rock band... without the need for instruments! Use just your hands/feet.

Breathing Rate Monitor

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Developing countries often lack reliable medical equipment, as most equipment is donated and often ends up malfunctioning once it arrives. Our goal was to improve the portability, affordability, and accessibility of breathing rate monitors so that developing countries can have a reliable and simple solution to monitoring the breathing rate of patients. Using humidity, temperature, and air quality sensors, we have constructed inexpensive devices using each sensor independently which will accurately measure a patient's breathing rate. We have found the sensor that works the best. Come stop by our booth to learn more.

But It's A Talking Dog

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Have you ever wondered what your dog might be thinking? We used EEG electrodes to hear our dog. Dog Lovers Only.

CPR: I'm Gloving It

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Come see a pressure sensing glove that we have developed to help a person administering CPR ensure correct timing and rhythm, and pressure for improved healthcare outcomes.

CRISPR Creations

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Our project features a simulation of the revolutionizing genome-editing technology of CRISPR!

Sponsored by Walgreens

DNA Extraction

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Even though DNA contains the code for every living thing, it isn't big enough to see with the naked eye. We demonstrate for you.

Fluorescence Effervescence

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

What if your cells glowed in the dark? Now they can, with fluorescence imaging! Fluorescence imaging allows you to see selectively stained parts of a living sample underneath a fluorescent microscope. Come watch a remote-controlled "biobot" detects various types of "cells" and learn its applications to the medical field.

Gait Mate Running Analyzer

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

By measuring key aspects of running biomechanics, this software can make you a healthier runner.

Growing Prosthetic 2.0

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Get a taste of being a cyborg... Control a robot hand with your arm muscles! Interact with a motorized prosthetic hand.

Heart of Spinach

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

This project shows a de-cellularized spinach leaf and how it could be implemented into a biological scaffold.

LIAR LIAR Lie Detector

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Lie detector tests, also known as polygraph tests, have taken the world by storm, exposing friends, politicians, and celebrities alike. But what many people don't know is the fact that the test is somewhat of a lie itself, being accurate only 70% of the time. Lucky for you, we have made a more sophisticated and affordable lie-detection system by enhancing current skin-conductivity, respiratory, and cardiovascular activity sensing abilities, as well as adding more components, like thermal imaging and eye-tracking. Ever wanted to get the truth out of your friends or family? Or do you think you can beat our detector? Stop by and sit in the hot seat!

Mask Filtration

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Helping the most air polluted populations breathe better by looking for a way to apply an adhesive or gel to the mask.

Going with the Flow?

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

What if, you can predict an individual's response to medicines, chemicals, and foods? Microfluids!

Personalized 3D Bone Printing

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Our goal is redefine how bone placeholders are used to treat bone degenerative disorders.

Pete's Knees

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Exploring new types of materials for knee replacement. Look at some knee models. This exhibit is for middle schoolers.

Shifting Helmet Design Into a New Gear

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

What if your bike helmet could fold up like a book? Come learn about our design process.

Muscle Controlled Car

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Who needs a steering wheel when you have the power of your very own muscles to drive a car? Use EMG sensors instead!

Protect Your Noggin

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Although contact sports like football, rugby, and hockey are incredibly fun to watch, they can be dangerous for the players. Research shown that traumatic brain injuries (TBIs) from player collisions can have lifelong consequences. This project is developing the sports helmet of tomorrow by designing to specifically reduce and prevent concussions.

Quantum Dots Demystified Using Ant-Man!

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Get ready to learn what quantum dots are and how they are being used in imaging and detection techniques.

Spider Team 6

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Come by and learn from Spider Team 6 to learn about the amazing characteristics of spider silk and its many applications!

Grainger Loading Dock

SynthGraft

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

What if you could 3D-print bone grafts? Synthetic bone structures could be faster to obtain in emergencies.

The Beauty Within

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

What if you could tell someone's hidden emotions? We can with new developing technologies in computer vision.

The Limb-itless Possibilities of Prosthetics

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Come build your own prosthetic and test it out on a series of challenging tasks!

Wound Healing: Accelerating The Process Using Stem Cells

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Showcases the stages of wound healing and teaches about stem cells.

YOUtesnils

Biomedical Engineering Society (BMES)
Everitt, 1st Floor

Our device helps each patient customize their own spoon and fork handles to maximize comfort and usability.

Eco Illini Supermileage

Eco Illini
Grainger Loading Dock

A small passenger vehicle aimed at achieving over 1000mpg. We will be showing off our car and doing test drives as well. Come learn.

EV Concept

Electric Concept Vehicle
Grainger Loading Dock

Join the effort to change the face of the electric vehicle! We will be demonstrating our build and design process and well as answering Q's.

Illini Motorsports

Formula SAE

Grainger Loading Dock

Illini Motorsports is the racecar team on campus that designs, builds, and races a Formula-1 style open-wheel racecar. Our racecar places amongst the fastest Formula SAE cars in the world and is faster than 95% of road-legal vehicles and sports cars! We will be showing off our simulator for passersby to try. Come check us out!

Illini Pullers

Grainger Loading Dock

Quarter Scale Tractor Pulling Club. We will be bringing out a 900lb tractor that runs on a gasoline engine. Come learn more about our club.

ESPL Vehicle Demonstration Track

Grainger Loading Dock
Friday

10am,11am,1pm,2pm,3pm
Saturday

10am, 11am, 1pm, 2pm

Track showcase for vehicles built and designed by engineering student teams for collegiate competitions. Vehicles: two Formula Race-cars, a Baja off-road ATV, a 3-wheeled super-mileage vehicle, an electric commuter concept car, a tractor pull, and a solar powered vehicle.

Off-Road Illini BAJA SAE

Grainger Loading Dock

Off-Road Illini is a team that designs, builds and races an off-road vehicle meant to withstand tough obstacles every year.

Illini Formula Electric

Grainger Loading Dock

Illini Formula Electric is a student engineering team that designs and builds a fully-electric formula racecar each year to compete in international competitions in the summer. This year's car features twice the power and a full carbon fiber aero package! The team is made of students from all years and all different engineering majors. We will be demonstrating our vehicle as well.

A Twist in Time

AIChE

Loomis, Atrium

Have you ever wondered if it's possible to reverse color mixing? Like turning purple back into red and blue? Come learn about laminar.

An Introduction to Hydrophobic Materials

AIChE

Loomis, Atrium

Stop by this interactive exhibit to learn about the fascinating world of hydrophobic materials!

All About Batteries!

AIChE

Loomis, Atrium

Ever wondered how your electronic devices are powered? In this exhibit, we will look at various forms of batteries to power everyday devices!

ChemE Car

AIChE

Loomis, Atrium

Look at the power of electrochemistry create power to light up a lightbulb in front of your eyes, and see the power of pressure move a car.

Sponsored by Exelon



WE'RE PREPARING TOMORROW'S ENERGY LEADERS.

The Ameren Innovation Center at the University of Illinois Research Park provides students the opportunity to work on smart energy solutions, while allowing Ameren to explore new innovations in the energy industry. This collaboration with university students and faculty has led to meaningful research and developed a talent pipeline to help Ameren build a skilled workforce of forward-thinkers.

Learn more at
Ameren.com/Careers



ENERGY AT WORK

Carbonated Fizzy Fruits

AIChE

Loomis, Atrium

Want a yummy frozen treat? Come eat various fruits that have been cooled using dry ice. This activity is fun for all ages and delicious too.

Chemistry of Brewing

AIChE

Loomis, Atrium

Come stop by to learn about the chemistry involved in the smell, taste, and appearance of brewing beer! It's worth tasting for all ages.

Electricity and Magnetism Room

Society of Physics Students

Loomis, Atrium

Our demonstrations, involving static electricity, generators, plasma, optics, and permanent magnets,

Food for Thought

Society of Women in Physics

Loomis, Atrium

Engage with demos of physics from vacuum chambers to electric pickles through everyone's favorite medium: food!

Gene the Graphene

Illinois Materials

Research Science and Engineering Center

Loomis, Atrium

Come and meet our nanomaterial friend, Gene! What is a nanomaterial? Come find out.

Nanomaterials and Magnetism

Illinois MRSEC
Loomis, Atrium

Come learn how scientists are using nanomaterials in new ways, and interact with magnetism.

We All Scream for (NaCl) Ice Cream

AIChE
Loomis, Atrium

Making Ice Cream through the Science of Freezing Point. If you are hungry stop by for a delicious treat.

Paper circuits

Society of Women in Physics
Loomis, Atrium

Learn about electronics by painting your own circuits! We will be drawing circuits to light a bulb. Fun for all ages.

Repurposing Used Vegetable Oil

Biodiesel Initiative
Loomis, Atrium

Learn how vegetable oil from the kitchen can be transformed into fuel for cars and hand soap.

Sponsored by Exelon

Robot Petting Zoo

ASABE
Loomis, Atrium

Make your own Bristlebot in the Robot Petting Zoo! With just a toothbrush head, batteries, and a motor, your robot will come alive!

Self-Siphoning Beads

Society of Physics
Students
Loomis, Atrium

Watch a chain of metal beads jump like a fountain in an exciting display of classical physics! For middle schoolers.

Slime Time!

AIChE
Loomis, Atrium

See how polymers can crosslink to exhibit different properties. Children will be allowed to take some slime home with them as well!

Whipped Cream Demonstration

Omega Chi Epsilon
Loomis, Atrium

Come make your own whipped cream the way chemical engineers do! Great for students in grade school.

Physics Van Show

Physics Department
Loomis, Hall 141

University of Illinois's exciting science show for all ages; explosions, cannons, hoverboards, dart guns, fire waves and more!



CELEBRATING 100 YEARS

Challenge the impossible with Cummins Inc.
at the Engineering Open House.

Stop by our booth inside the Mechanical Engineering Building or come see us run our training engine outside near Goodwin and Green.

Mechanical Engineering Building (MEL)

Welcome to the Hydrostatic Potty(Party)

AICHE

Loomis, Atrium

Have you ever wondered what a see-saw of water could do? Come on over to learn about the incredible phenomenon of hydrostatics!

Interactive Magnetic Fluid Display

Omega Chi Epsilon

Loomis, Atrium

Using magnetic particles and water in a sealed container, we demonstrate how the particles interact with magnets.

Escape Room

Society of Women Engineers

Mechanical Engineering Building, Room 154 & 158

You were sent to Mars to rescue some stranded volunteers, but you crash landed and now have no way of returning to Earth. You found an abandoned research lab, but there's only enough oxygen for 20 minutes. Can you repair the rocket in time? Make sure to visit early so you can go on this mission!

Girls Club

Society of Women Engineers

Mechanical Engineering Building

Come and create your own silvering mirrors and lava lamps with SWE and learn about chemical reactions!

Paper Airplane Launcher

ASME

Mechanical Engineering

Building

Experience this epic airplane launcher as it brings your homemade paper airplanes to life!

Adaptive Technology

SWE Team Tech

Mechanical Engineering

Building, Room 152

Society of Women Engineers collaborates with John Deere on an exciting multidisciplinary engineering project!

Air Conditioner

Technology

ASHRAE Student Branch

MEL, 1st Floor

Why in brazing hot days, your AC can blow out some cool air? Learn about air conditioners, its kid friendly!

ASME Competitions

Robot

American Society of Mechanical Engineers

MEL, John Deere Pavilion

UIUC Robot Competing in the 2019 ASME Student Design Competition! Come watch and support.

Giant water hoop shooter

ASME

MEL, 1st Floor

Compete against your friends in an under the sea battle for supremacy. Catch the most jellyfish and be crowned the king!

Homemade

Penny-Crusher

Pi Tau Sigma

MEL, 1st Floor

Use cranks, gears, and rollers to smash a penny into a funky souvenir! Great for kids in grade school.

TAM Toys

Society for Engineering

Mechanics

MEL, 1st Floor

We demonstrate the conservation of angular momentum by rotating visitors at slow speeds.

The Mighty Cheese

American Society of

Mechanical Engineers (ASME)

MEL, 1st Floor

Try your hand at wrestling the mighty cheese! Currently, an undefeated champion among men. Come out to see!

3D Chocolate Printer

Society of Engineering

Mechanics

MEL, 2009

Chocolate printed before your eyes! This exhibit involved robotics and food, what could be better. Come taste for yourself!

Automated S'mores Machine

Society of Engineering

Mechanics

MEL, 2009

A robotic assembly line that creates S'mores. Great for children in middle school.

Mechanical Engineering Laboratory (MEL)

The distance between imagination and...creation



When you work with us, you're not just making quality automobiles; you're building a future that's as strong and attainable as our products. Our opportunities, and yours, are endless; because we go as far as our talents can take us – and then, we Go Further.

The distance between you and an amazing career has never been shorter. Join the Ford team today, and discover the benefits, rewards and development opportunities you'd expect from a diverse global leader.

Bring your talents to Ford and help us build an even greater future, for both of us.

Complete your online applicant profile at www.careers.ford.com today.

Connect with us and be part of the growing Ford community at:



[Facebook.com/FordMotorCompany/Careers](https://www.facebook.com/FordMotorCompany/Careers)



twitter.com/FordCareers



linkedin.com/company/ford-motor-company

www.careers.ford.com

By choice, we are an Equal Opportunity Employer committed to a culturally diverse workforce.



Go Further

Massilator

ASME

MEL, 1st Floor

Want to lift your spirits? Come to the Massilator exhibit and test your strength by hoisting yourself into the air using a series of pulleys.

Small Cannon

ASME

Mechanical Engineering Building

Embrace your inner Jack Sparrow and shoot down your enemies at sea! Test your aim with this fun mechanized cannon and see how many targets you can knock down!

Giant Pinball Machine

ASME

MEL, John Deere Pavilion

Come play your favorite old school computer game on a GIANT pinball board in real life! You won't want to miss this extraterrestrial adventure!

The Rheology Zoo

Ewoldt Research Group

MEL, 2nd Floor

Come explore Fluids, Solids, and Things In-between as we defy classical definitions of fluids and solids in your everyday life with hands-on demonstrations.

Marshmallow Gatling launcher

Society of Engineering Mechanics

MEL, 2009

Mini Marshmallow launcher! Great for middle schoolers that want to learn about robotics.

PTS Fluids Team

Pi Tau Sigma

MEL, 2009

Use of Vortex Tubes to Power the World. We are using two vortex tubes to create steam of air at different temperatures.

MNMS Cleanroom

MEL, 2nd Floor

The Micro Nano Mechanical Systems (MNMS) cleanroom exhibit demonstrates the wonders of the micro- and nanoscale by showcasing the cleanroom capabilities in the Department of Mechanical Science and Engineering. We will have video footage showing students from the ME487 MEMS NEMS Theory and Fabrication class doing microfabrication experiments in the cleanroom, every day items made with MEMS based devices, working pressure sensors and microfluidic mixers that were fabricated during the class. We will also demonstrate the special clothing that needs to be worn while working in the cleanroom to contain particles.

CapaciTurntables

MSE 183

MSEB, 1st Floor

Capacitive sensing is a versatile technology that is present in devices, such as smartphones and computer touchpads, that we use every day. In our project, circuits drawn from electric paint function as capacitive sensors to control audio -- just like a DJ mixer. Come learn about the materials science and electronics principles behind circuits and capacitance, while having fun playing some spicy tunes as well!

Gallium vs. Aluminum

MSE 183

MSEB, 1st Floor

Watch as Gallium seeps into an Aluminum can causing it to be brittle and then crush it with ease. Great for middle schoolers in chemistry.

Gel Beads and Worms

Material Advantage

MSEB, 1st Floor

Come experience the cross-linking of polymers and the bio properties of materials as you play with gel worms and beads!

Nitinol Origami

MSE 183

MSEB, 1st Floor

Watch metal sheets fold themselves into complex structures through the power of shape-memory alloys, and learn all about the mechanics of these interesting metals.

Tesla Coil Concert



**7:30pm
Friday
Bardeen Quad**

**Sponsored by
Huawei**

Non-Newtonian Carnival

MSE 183

MSEB, 1st Floor

Play carnival games with oobleck, a non-newtonian fluid! Try to defy science and you'll get stuck. Great for grade schoolers.

Photonic Crystals

Material Advantage

MSEB, 1st Floor

What do opals and butterfly wings have in common? They are both photonic crystals! Middle schoolers will love this project.

Polymer Magic!

Material Advantage

MSEB, 1st Floor

Experience some of the cool and magical properties of polymers; such as crosslinking, superabsorption, and hydrophobicity!

Resistance Welding

Material Advantage

MSEB, 1st Floor

Using electrical resistance for spot welding. Good for older kids especially those in high school. Come check us out.

Sand Castle Crusher

MSE 183

MSEB, 1st Floor

Come try and break one tough sand castle! You can learn all about Materials Science and where these ideas are seen in our world while trying to crush the strongest castle ever.

Solid or Liquid

Keramos

MSEB, 1st Floor

Explore the properties of solids that act like liquids and liquids that act like solids! We will be using Oobleck and liquid sand. Intended for grade schoolers.

Sugar High

MSE 183

MSEB, 1st Floor

Materials Science is Sweet! Come find out why! We will be making taffy and learning about MatSE come on down. Great for grade school.

Superconductors and Magnetic Properties of Materials

MSE 183

MSEB, 1st Floor

Come and see the wonders of quantum levitation as we levitate a superconductor above a track using only magnetism!

The Exciting World of Polymers

MSE 183

MSEB, 1st Floor

Learn about the special characteristics of polymers by creating your own decorative mold using a UV light.

The Self Driving Potato

Material Advantage

MSEB, 1st Floor

Come witness battery technology first hand with a self driving potato, and learn about the future of the field of batteries and low power electronics.

The war against dihydrogen monoxide

MSE 183

MSEB, 1st Floor

Learn about how materials stay dry, even when drenched in water. Exhibit features hydrophobic magic sand.

NCSA 4K/3D Cinematic Scientific Visualizations

Advanced Visualization Laboratory (AVL) Research Group

National Center for Supercomputing Applications Room 1006

Established at NCSA over 14 years ago, the Advanced Visualization Laboratory's (AVL) mission is to communicate science and inspire audiences to learn about science through the creation and integration of data visualizations into public outreach projects. Working in close collaboration with domain scientists, AVL creates high-resolution, cinematic, visualizations of scientific data. These visualizations provide insight into computational science—a key method of contemporary science. AVL shares its work with the world through shows featured in digital full-dome planetariums, IMAX theaters, and documentary television. This exhibit is great for grade schoolers and teaches them about research. Come check us out.



Nice work

Thanks for helping turn possibilities into reality

Proud sponsor of the University of Illinois
Engineering Open House 2019

Walgreens Trusted since 1901[®]

©2019 Walgreen Co. All rights reserved. | 952374-2414

Nanomanufacturing

Node

NCSA, Atrium

The NSF nanomanufacturing (nanoMFG) node at Illinois aims to develop simulation tools to help the manufacturing of nano-enabled structures and devices. This exhibit takes a fun approach to describing why nanomanufacturing is important and the types of tools that the nanoMFG node are developing. People of all ages are encouraged to attend!

NCSA Blue Waters

NCSA, Atrium

The Blue Waters at NCSA is one of the most powerful supercomputers in the world with hundreds of thousands of computational cores that achieve a peak performance of more than 13 quadrillion calculations per second. Blue Waters has more memory and faster data storage than any other open system in the world. Learn more about how Blue Waters powers innovative research.

Design for America

NCSA, Atrium

Design for America (DFA) at University of Illinois Urbana-Champaign is a registered student organization, as well as a part of a national network, of passionate creators & innovators revolutionizing the way college students engage with our local communities. Our Studio fosters idea incubation, empathy in design, and motivation in approaching complicated challenges. Come learn more about our project.

Innovative Software and Data Analysis

NCSA, Atrium

The Innovative Software and Data Analysis group pursues research & development to further the state of the art in data curation, data management, as well as visualization/presentation tools and methodologies. Our activities are driven by real-world complex problems across basic science, engineering, the humanities and social sciences, where we partner with researchers at Illinois and across the nation to provide custom software development and data management solutions with the aim of advancing discovery and insight with simple interfaces to powerful tools. Intended for high schoolers that want to know about research.

Ever imagined computers combating deadly disease?? We have, we do, we aim to, every single day at NCSA Genomics!

NCSA, Atrium

We are Biologists, Computer Scientists, Physicists, Bioinformaticians, Students and Engineers. With intellectuals from multiple disciplines, the Genomics group has successfully executed projects that have addressed disparate challenges in healthcare and made the impossible possible!

Unveiling the mysteries of the cosmos with the Dark Energy Survey (DES) and the Large Synoptic Survey Telescope (LSST)

NCSA, Atrium

NCSA provides a data management framework for the Dark Energy Survey (DES), which is using one of the world's largest digital camera to undertake the largest galaxy survey ever attempted and have produced, among other discoveries, the most accurate and largest map for dark matter to date using the data from only 1 out of its 6 years of operations. This framework processes, calibrates, and archives the massive amounts of data. LSST will track changes in the universe and explore the mysteries of dark energy and dark matter.

National Center for Supercomputing Applications NCSA, Atrium

The show features one of the most intensive efforts ever made to visualize the inner workings of the sun.

SC18 NCSA Student Cluster Competition

Team

NCSA, Atrium

The team designs and builds small clusters with hardware and software vendor partners, learns designated applications.

University Laboratory High School Frankel Scholar student program in collaboration with the NCSA's Students Pushing INnovation (SPIN) program

NCSA, Atrium

Join Scholar students as they present their work from the past academic semester. Students in this program conducted research in a variety of areas including, computational science, genetics, web development, virtual reality and more.

Extreme Science and Engineering Discovery Environment (XSEDE)

NCSA, Atrium

Coordinates the sharing of advanced digital services - including supercomputers and high-end visualization and data.

Illuminating the Dark Sector of the Universe with Deep Learning NCSA, Atrium

Black holes have been promoted from the realm of science fiction to real astrophysical objects. Come learn.

NCSA Industry

NCSA, Atrium

Home to the largest industrial HPC program in the world. We have worked with many Fortune 50® companies in sectors including manufacturing, oil and gas.

NCSA SPIN - Students Pushing INnovation

NCSA, Atrium

Internship program was launched to provide University of Illinois undergraduates with the opportunity to apply their skills to real challenges in high-performance computing,

Screening “Seeing the Beginning of Time”

NCSA, Auditorium

Learn how state-of-the-art technologies were created using NCSA's Blue Waters supercomputer to create cinematic production-quality data visualizations.

Screening “Solar Superstorms Narrated by Benedict Cumberbatch”

NCSA, Auditorium

The 50-minute, 4K science documentary follows astronomers in a space effort.

Critical Technology

Studies

NCSA, Atrium

Have you ever wondered what a see-saw of water could do? Come on over to learn about the incredible phenomenon of hydrostatics!

“Soil Lab”

Geotechnical Engineering Student Organization
Newmark, Crane Bay

How does sand defy gravity? What is effective stress? How does pile capacity work?

ACI Concrete Exhibition

American Concrete Institute
Newmark, Crane Bay

Make your own coasters and learn about concrete! You can learn about compressive strength.

ASCE's Giant Jenga

American Society of Civil Engineers
Newmark, Crane Bay

Introduction to civil engineering through Giant Jenga. Great for Middle Schoolers that want to learn more about Civil E.

Bringing High Speed Rail into United States!

AREMA
Newmark, Crane Bay

Come to see the next-generation high-speed rail technology exhibits.

Concrete Canoe

ASCE Concrete Canoe
Newmark, Crane Bay

We design, build, and race a canoe made out of concrete. Learn about the fields of research, construction, and the engineering design process.

Deflections in Structural Engineering

Structural Engineers

Association
Newmark, Crane Bay

Come test your weight using one of the most fundamental concepts of structural engineering: deflections!

Earthquake Shake Table

Earthquake Engineering Research Institute
Newmark, Crane Bay

We will be using a research-grade shake table to explore the different elements.

Happy Trains

American Railway Engineering and Maintenance-of-Way Association
Newmark, Crane Bay

A perfect stop for young kids to play with puzzle and craft trains while giving a break for parents.

Liquefaction: how does quick sand work?

Geotechnical Engineering Student Organization
Newmark, Crane Bay

A liquefaction tank, filled with sand and water, is used to showcase the science behind quick sand.

Illinois Center for Transportation

Research Group

Newmark, Crane Bay

Transportation- Where excellence meets the road. Come learn about us and all the cool things we have learned this year.

Illinois Solar Decathlon

Newmark, Crane Bay

We are a club dedicated to building zero energy, sustainable homes. It will include images of our current work. Great for college students.

ITE CUMTD Bus

Institute of Transportation Engineers
Newmark, Crane Bay

Explore the ins and outs of a bus from one of the best bus systems in the country! Parked on the Street.

Intermodal Game

AREMA
Newmark, Crane Bay

Learn about containers transportation while playing a competitive game! Ages 4 and over are welcome. We would love to talk to you.

JR Central

AREMA
Newmark, Crane Bay

Come and learn about flying trains! Central Japan Railway Company shows their maglev model and teaches about magnetic levitation.

Newmark Civil Engineering Laboratory

Meet a Railroader

American Railway
Engineering and Maintenance-of-Way Association
Newmark, Crane Bay

Experienced railroaders from Canadian National share their stories and display an amazing track signaling system.

MSE wall: on the making of an earth wall with soil and paper

GESO
Newmark, Crane Bay

How can we reinforce an earth wall with paper? Let's find out!

What's a supercomputer?

OPEN SATURDAY ONLY. Come visit the National Petascale Computing Facility and learn all about supercomputers! You can experience some of the world's fastest supercomputers in action. See and touch components like motherboards, memory, and processors. Go behind the scenes to view the power and cooling that make more than 13 quadrillion calculations happen every second! Located at 1725 S. Oak St.

Track Signals

American Railway
Engineering and Maintenance-of-Way Association
Newmark, Crane Bay

UIUC students show how track signals work with an LED track model!

Railroad Track Panel

American Railway
Engineering and Maintenance-of-Way Association
Newmark, Crane Bay

Real track components and tools are displayed and explained in detail by expert UIUC students.

Rock and roll; playing with rock mechanics

GESO
Newmark, Crane Bay

Which rock will slide faster down the slope? What is friction and how does it affect the sliding? The Rock mechanics lab is here to explain.

Train simulator

AREMA
Newmark, Crane Bay

Have you ever wondered what it is to conduct a train? Come and find out with our real train simulator! Ages 12 and over are welcome.

Watersheds: Water Those?!

Water Environment Federation- American Water Works Association
Newmark, Crane Bay

Come check out an interactive watershed model. Learn about how different factors impact your local water environment.



Maximize the potential of your energy.

At Exelon, we are committed to constant improvement. As the nation's leading competitive energy company, we are driven to perform by developing new perspectives that help drive our progress. From finance to operations and beyond, there are internship opportunities throughout the Exelon family of companies for you to start creating a brighter future.

www.exeloncorp.com

©Exelon Corporation, 2019

Augmented Reality Sandbox

Department of Geology
NHB, 1st Floor

Build mountains and rivers and see a map of your world changing in real time! See colors of the sand change.

Fluid galaxy

Water Resources
NHB, 1st Floor

Play with the mesmerizing flow patterns! We will be using suspended micro-crystals to visualize flow patters in a rotating disk.

Groundwater Flow model

Water Resources
NHB, 1st Floor

How does water flow under the land surface? Learn about how humans withdraw this water for various applications.

Fish egg transport

Water Resources

NHB, 1st Floor

Tracking Asian carp eggs. Understand the behavior of eggs at different flow conditions which allow us to spot spawning locations such as streams.

Food For Thought

Water Resources

NHB, 1st Floor

How much water is in your cheeseburger? See how much water is consumed to produce the food we eat everyday, like vegetables.

Tunnel and Reservoir Plan Model

Water Resources

NHB, 1st Floor

Where did the water go? Chicago still uses sewer pipes which contains sanitary and stormwater flows.

Flowing Sand

Civil & Environmental

Engineering

NHB, 1st Floor

How does water flow? We will be making a fluidized sand tank to demonstrate some key principles. This exhibit is great for all.

Fossils and Minerals:

Start your rock collection!

Department of Geology
NHB, 1st Floor

Come see ancient creatures and beautiful minerals, and take some home with you!

Wave attenuation by vegetation

Water Resources

NHB, 1st Floor

Eco-engineering our coasts. Come to experience how water waves and aquatic vegetation shape our beaches.

JOIN US.



Intern & Full-Time Positions Available!



Opportunities available all year for Master's & PhD students



Positions located in USA & China. Benefit through Patent Applications, Publications & Working alongside R&D



Sample projects including: Android System Optimization, AI, Machine Learning, IoT, Big Data, Cloud Development, Parallel Programming, Computer Architecture...and more!

To learn more, visit or email:

<http://researchpark.illinois.edu/directory/huawei>

Misha.Shah@Huawei.com

What's up with the Modifiable Areal Unit Problem (MAUP)?

Geography and GIS
NHB, 1st Floor

Areal spatial units affect every aspect of how we view and interact with the world! How do voting districts and state boundaries shape election results? How do county lines influence rare disease hotspots? How do sampling patterns impact weather predictions? Learn about historical and modern examples of this pervasive phenomenon through an display.

Solar Observing at the Observatory

Astronomical Society
Observatory Dome

Join us at the University's historic Observatory to get a glimpse of the Sun. We will be using a twelve inch telescope

Watching Sedimentary Rocks Form

Earth Surface Processes
NHB, Sedimentology Lab

How do sandstones form and what do they look like? Come and see a thin water channel and observe how water moves sediment, and see sedimentary rocks forming in front of your eyes. Then look to see what these sediments look like in rocks hundreds of millions of years old!

Journey through the Amazon River

Earth Surface Processes
NHB, Sedimentology Lab

Take a journey through the depths of the Amazon River and see what lies at the bottom of the World's largest river!

Music Maker

SIG Music
Siebel, Atrium

An AI program to help you write songs. If you are interested in music and technology this is just the place for you to explore.

ADSA Data Analytics Projects

Association of Data Science and Analytics
Siebel, Atrium

Interesting demos and displays that harness the power of data analytics to bring insights.

Visualization Lab

Di Girolamo Research Group

NHB, Visualization Lab

See what NASA satellites see through the lens of virtual reality and 3D stereoscopic views! Observe the earth suspended from space and experience weather and clouds from above! We will be using VR, 3D glasses and computers to show you. If you are a high schooler this exhibit is perfect for you.

IllinoisAUV

ACM@UIUC
Siebel, Atrium

A student-run organization with an aim to build an autonomous underwater vehicle to compete at the international RoboSub competition.

Founders

Illinois Entrepreneurs
Siebel, Atrium

Founders is the student entrepreneurship organization at the University of Illinois. We connect student startups with the resources they need.

ClimaVR

CS 498 VR
Siebel, Atrium

Explore our environment and the stunning effects of climate change in a whole new way by immersing yourself into various ecosystems.

Illini Drone Racers

Illini Drone Racing
North Quad

Watch pilots steer and maneuver drones through an obstacle course and learn more about how drones work. Learn about pre-programmed and autonomous flight, and attempt to fly a drone yourself! We demonstrating an autonomous flight / pre-programmed flight drone. Intended for middle schoolers or anyone that likes technology.

SIGGRAPH@UIUC

Special Interest on
Computer Graphics
Siebel Center, Atrium

Using a laptop and display, we will be showing off some of the projects that SIGGRAPH@UIUC worked on this year.

Women in Computer Science Tech Team Projects

WCS
Siebel, Atrium

A collection of projects created by teams from including productivity-related apps and websites!

Illini Solar Car

North Quad

A fully student made car that is completely powered by solar arrays and is able to accelerate up to 70mph! Come see how it works and even a test run.

Rockets and Robotics

Illinois Space Society
Talbot, Room 104

Why do engineers and scientists send rockets to space? How can we use them to test our inventions from Earth? Find out more at our "Rockets and Robotics" exhibit, featuring our very own rover, MORLTE! The Illinois Space Society participates in two annual projects, each of which conduct challenges with certain engineering objectives.

Liquid Nitrogen and Space Shuttle Tile Demo

Illinois Space Society
Talbot, Room 103

Come learn about the extremes of space! See a real space shuttle tile and eat liquid nitrogen dipped marshmallows!

Student Space Systems

Student Space Systems
Talbot, 1st Floor

Students building high powered rockets with a focus on liquid rocket engine technology. We will be displaying old rockets.

Design Build Fly

Design/Build/Fly
Talbot, 1st Floor

Team Squirrel Works: Boldly Design and Elevate Your Intuition. Come learn about their engineering process and their cool projects.

American Nuclear Society

ANS
Talbot, Room 220

The American Nuclear Society shows off projects made by students and interactive demonstrations to explain everything nuclear! From fusion in the sun to reactors here on earth, there is something for all ages to learn and enjoy. Some things to see are the "Can Crusher", "The Cloud Chamber", and "Plasma Ball".

Egg Drop Competition

Institute of Industrial & Systems Engineers
Talbot, Room 105

Build a device to prevent a raw egg from breaking (or cracking) when it is dropped out of the window.

Women in Nuclear Quiz Game

Women In Nuclear
Talbot, Room 225A

Answer our riddles and be rewarded with radioactivity-free candy and an explosive balloon show. Fun for all ages.

Human Spaceflight

Illinois Space Society
Talbot, Room 105

Ever wondered how astronauts live in space and how you can be a part of it? Swing by our Human Spaceflight exhibit to talk to members.

Concrete Crushing

Society for Engineering Mechanics

Talbot, Basement

Get captivated by the three million pound concrete crusher.

What more is there to say?

Virtual Education and Research Laboratory

VERL

Talbot, Room 135

"Immerse yourself in a whole new world!" Learn VR and 3D modeling.

Transportation Building

Fan Copters

Aerospace Outreach
Talbot, Basement

Build your own paper helicopter and learn about Aerospace!

Supply Chain Maze

IISE
Transport, Room 203

Guests attempt to navigate through a maze while minimizing the cost of their trip.

Optimal IoT Control in Smart Homes

Prof. Richard Sowers
Transport, Room 206

Designing smart home appliances that can be activated at an optimal time via a voice command through Alexa.

Smart IOT

ACM SIGARCH

Explore creating smarter, smaller, specialized devices for future IOT markets and pushing the boundaries of what's possible.

A New Light

Alpha Pi Mu Honor's Society

Transport, Room 204

Learn why blacklight makes things glow! Fun for all ages.

Cotton Candy Stand

Material Advantage
MSEB

Delicious and freshly made cotton candy.

Illinois Robotics in Space

Talbot, Basement

Applying engineering and robotics to tomorrow's space exploration missions.

Bluetooth Enabled Electric-Skateboards

IEEE

One powered skateboard, with a lithium battery pack. One cell phone, to send commands to the skateboard. Come see.

STEM the Flood

Engineering Outreach Society

Transport, Room 114

Building Structures Against Floods and Hurricanes. Great for grade school students.

Rocket Surgery

Illinois Space Society
Transport, Room 103

What actually makes up rockets, and how do they work? Come by and learn all about it in ISS's new Rocket Surgery exhibit!



Prepare to Make A Difference

In Your Life and the Lives of Others

Watlow's advanced thermal solutions work to improve and enhance our everyday lives. Our products are found in everything from renewable energy, semiconductor technology and life saving medical applications. Are you looking for a challenge? Are you interested in making an impact? Are you looking to make a difference in your life's work? If so, Watlow is the place for you.

Powered by Possibility

WATLOW

For more information please visit our website at www.watlow.com



What can we accomplish in a century?
Join us for our centennial celebration.

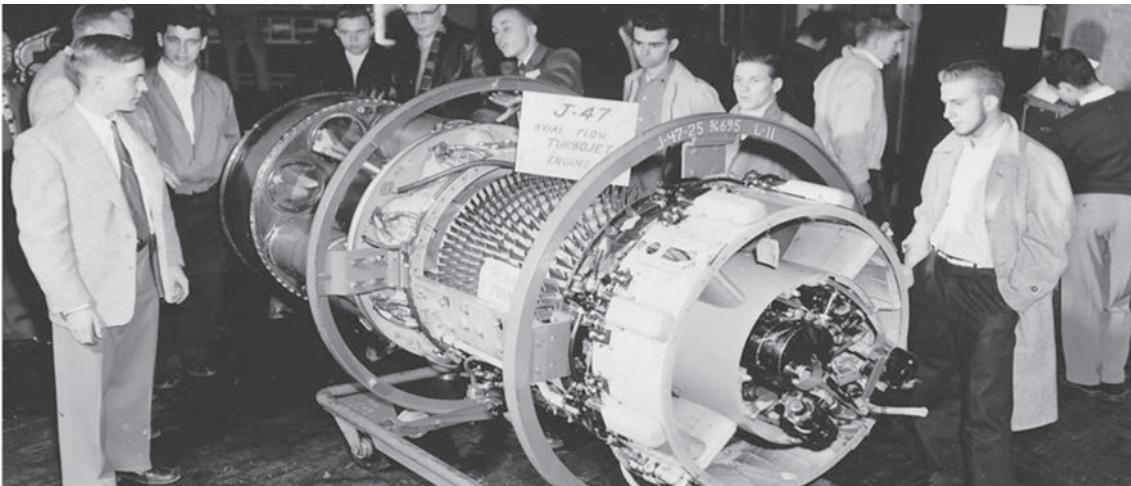
March 27-28, 2020

EOH Past and Present

From the very beginning, the purpose of Engineering Open House has been to demonstrate the work that the college and students within it have done. The inspiration for Engineering Open house came from a few individual department's events including the physics open house which started 1906, the electrical engineering show that started in 1907, and a mechanical engineering open house from 1914. The college-wide Engineering Open House, as we know it today, began in 1920 and united all the separate department showcases, except for the Electrical Engineering show which continued to be separate until 1942. EOH premiered in 1920 and commemorated the centenary of the birth of James Watt with a little over 60 exhibits. Engineering Open House was put on hiatus because of the war but then returned biannually in 1948. It became an annual even in 1952 and had over 100 exhibits including the Illinois Central Railroad, the Illiac, and the concrete crusher which has continued to be an exhibit to the present day.

Engineering Open House began as an attraction for high school students and grew throughout the year to become an event for everyone. In the 1950s EOH had drawn over 13,000 visitors including students from 42 high schools, in the present we have more than doubled the number of visitors with over 600 high schools attending the event. Back in 1954 Engineering Open House used 19 buildings and had over 800 students from various majors helping to run it. The number of people involved in Engineering Open house has continued to grow from the beginning as the event also began grow. Now in its 99th year Engineering Open House has grown to be a huge celebration of engineering and science and continues to attract minds of all ages.





Transportation Building, 1959

We hope you will be blown away by our exhibits



Tam Laboratory, 1956

The Concrete Crusher is one of our longest lasting exhibits.



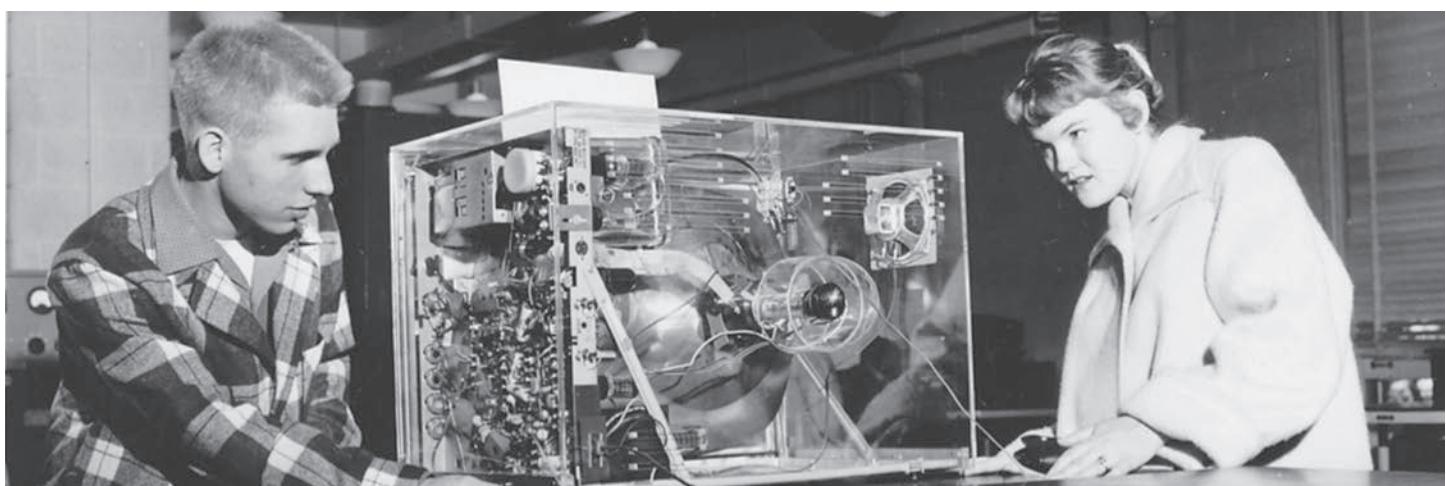
Electrical and Computer Engineering Building, 2017

The main goal of EOH is show children of all ages that with a little imagination and a lot of work, you can accomplish anything.



EOH, 1918

This is what the humble beginnings of EOH looked like. It has grown exponentially since then.



EOH, 1959

EOH has been showcasing innovation and ground breaking tech since its early days.



Engineering Hall, 1959

What we all need to know before Feb 14. Too bad EOH happens in March...



North Quad, 1959

Engineers go big or go home!



Bardeen Quad, 2017

We have tons of exhibits and hope you can check them all out.



Bardeen Quad, 2018

EOH is meant for all ages to learn about engineering and how exciting it is.

EOH 2019 Central Committee



Madison Wilson
Director of EOH
Electrical Engineering
Senior



Emma Sementi
Director of Exhibits
Ag. and Bio Engineering
Junior



John Choi
Senior Corporate Director
Computer Engineering
Senior



Naomi Benson
Junior Corporate Director
Materials Science and Eng.
Senior



Brandon Wang
Junior Corporate Director
Computer Science
Sophomore



Pratik Ainapure
Director of Judging and Awards
Electrical Engineering
Senior



Abbey Blankensop
Director of Creative Design
Advertising
Senior



Priya Bharath
Director of Facilities and Equipment
Material Science and Eng.
Junior



Sai Komaragiri
Director of Traffic and Safety
Material Science and Eng.
Senior

EOH 2019 Central Committee



Savni Nagarkar

*Director of Visitor's
Information*

Computer Engineering
Sophomore



Emily Roth

*Director of External
Marketing*

Systems Engineering
Sophomore



Jane Park

*Director of Internal
Marketing*

Material Science and Eng.
Junior



Jenni Nugent

*Director of Internal
Relations*

Civil and Env. Engineering
Senior



Adithya Bellary

Treasurer

Electrical Engineering
Senior



Sujal Sutaria

Director of HSDC

Electrical Engineering
Junior



Andrew Gonsalves

Director of MSDC

Bioengineering
Senior



Michael Gale

MRDC Co-Director

Industrial Engineering
Junior



Timur Javid

MRDC Co-Director

Computer Engineering
Sophomore

EOH 2019 Central Committee



Rahul Surti
Director of Technology
Computer Engineering
Senior



Jonathan Xu
Director of Technology
Computer Engineering
Senior



Kourosh Arasteh
Director of Special Events
Electrical Engineering
Senior



Alixandra Ramos
Director of Advancement
Computer Engineering
Senior



Alice Perng
Director of Startup Showcase
Engineering Physics
Sophomore



Maneesh Madala
Historian
Computer Engineering
Sophomore



Gonzalo Gutierrez
2020 Planning Chair
Mechanical Engineering
Senior



Arjun Reddigari
EFC Representative
Computer Science
Freshman



Dev Satpathy
EFC Representative
Bioengineering
Freshman

Leadership through Innovation



Rolls-Royce innovation powered the Concorde supersonic airliner for more than 25 years, providing the only regularly scheduled supersonic flights across the Atlantic. Today, Rolls-Royce is working with University of Illinois researchers to develop innovative new approaches to aircraft/engine integration, enabling future aircraft to be even more efficient and environmentally friendly.

As a proud sponsor of Engineering Open House and a Corporate Partner of the Illinois Leadership Center, Rolls-Royce is continuing its commitment to leadership through innovation.

Trusted to deliver excellence



Rolls-Royce

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN

