

SUPER EXPO WORLD

Your guide to Engineering EXPO



ENGINEERING
EXPO 2026

To view the digital guide or event maps,
visit: engineeringexpo.wisc.edu/guide



Engineering EXPO 2026 Guide

April 2026

Welcome to EXPO 2026: Super EXPO World

For 86 years, Engineering EXPO has proudly served as a free STEM outreach event featuring student exhibits, lab tours, hands-on activities, live demonstrations, industry booths and a scavenger hunt! EXPO is a completely student-organized and run event!

Please refer to this booklet for information about our members, industry partners, exhibits and more!

Building Info

To access digital building maps with event locations, visit: engineeringexpo.wisc.edu/guide

Throughout this booklet and on building maps, there may be use of building abbreviations. Please note the following abbreviations and their corresponding building name.

ECB = Engineering Centers Building

ME = Mechanical Engineering

E-Hall = Engineering Hall

ERB = Engineering Research Building

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MEET OUR CHAIRS



Isabelle
Egizio



Asma
Kazi



Patrick
Nowakowski



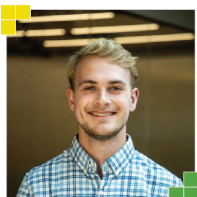
Jesseree
Reyes



Lydia
Miller



Ben
Hurwitz



Jake
Steger



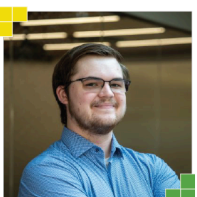
Andy
Zhu



Yoann
Choy



Shane
Walker



Emmett
Krueger



Grace
Neuville



Mai
Alessaly



Janice
Amornthanomchoke



Nathan
Hansen



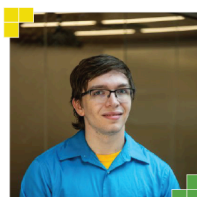
Ella
Brown



Mira
Potter



Heidi
Schwertfeger



Josh
Schooley



Sri
Krishnan



Zahed
Al-Hajji



Kushal
Agrawal



Simon
Nam

EXPO COMMITTEES

Executive Leadership

*Isabelle Egizio
Asma Kazi
Patrik Nowakowski*

Schools Committee

*Jesserey Reyes
Lydia Miller
Becca Gosset*

Graphic Design

Ben Hurwitz

Industry Committee

*Jake Steger
Andy Zhu
Steven Zhang*

Volunteers Committee

*Yoann Choy
Shane Walker
Haosi Gao*

Exhibities

*Emmett Krueger
Grace Neuville
Ali Rizvi
Derek Zhang
Noah Lorman
Ryan Wuensch*

Publicity Committee

*Mai Alessaly
Ana Meschievitz-Roman*

Activities Committee

*Janice Amornthanomchoke
Nathan Hansen*

Indoor Logistics

*Ella Brown
Mira Potter
Riley Jackson
Elizabeth Murray*

Outdoor Committee

*Heidi Schwartzfeger
Prithwiraj Purkait*

Student Exhibits

*Josh Schooley
Sri Krishnan
Lina Vincenty
Elizabeth Dornfeld*

Speakers Committee

*Zahed Al-Hajji
Kushal Agrawal
Daryl Prem*

Thank You

A special thanks to Olivia Lemke, Adrien Chu Burnette, Derek Johnson and Simon Nam

SPONSOR SPOTLIGHT

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STEGE IP



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Epic

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BUILDING & BEYOND



LUNDA
CONSTRUCTION

HNTB

HGA

S&B Schulze
& Burch
Biscuit Co.

PINNACLE
ENGINEERING GROUP

PENTAIR

CULLEN
THE TOUGH JOB EXPERTS

Bronze Sponsors

 **MACLEAN-FOGG**

HDR

SPONSOR SPOTLIGHT

Generac

Generac Power Systems, with its global headquarters in Waukesha, Wisconsin, is a leading energy technology company that provides backup and prime power products and energy storage systems for home and business applications, as well as energy monitoring and management devices and services. Founded in 1959, Generac introduced the first affordable backup generator and later created the automatic home standby generator. The company has continued to expand its energy technology offerings in its mission to lead the evolution to more resilient, efficient, and sustainable energy solutions.

Foth

📍 E-Hall | Lobby

Since 1938, Foth has combined science, engineering, and technology with a true collaborative spirit to deliver innovative solutions. Our history has been shaped by the evolving needs of our clients – expanding our services, locations, and membership to meet their goals. As a full-service engineering firm, we deliver technical excellence to both public and private industries in three main areas: infrastructure, environment, and manufacturing. More than 700 employee-members provide expert guidance throughout all project phases – from planning to construction and integration. While the challenges we solve and the way in which we solve them have evolved over the years, our commitment to our clients, members, and communities has never wavered. We're solving our clients' toughest science and engineering challenges to build enduring client partnerships and create bright futures.

Steger IP

Steger IP attorneys are deeply experienced in all aspects of identifying and extracting value from intellectual property. They have worked with companies to help secure billions of dollars in value from their intellectual property by developing innovative monetization strategies, and counseling the clients, step-by-step, to enable the realization of their goals.

SPONSOR SPOTLIGHT

Isthmus Engineering & Manufacturing

📍 ECB | Atrium

Isthmus Engineering designs and builds high-tech automation machines that help factories work faster and more reliably. For example, if a company needs tiny parts assembled precisely every time, we can create a custom machine to do the job. We're a Worker Cooperative based in Madison, Wisconsin. That means the people who work here also own the company and make important decisions together.

Epic

📍 E-Hall | Lobby

Epic is a global leader in healthcare tech. We hire smart and motivated people from all academic majors to code, test, implement, and support healthcare software that improves care and save lives. Our team collaborates with some of the world's most respected healthcare organizations to improve patient care and the health of entire communities. You'll become an expert in health IT and have opportunities to grow and lead. Join us in our mission to help people get well, stay well, and help future generations be healthier!

Findorff

📍 E-Hall | Lobby

Founded in 1890, Findorff is one of the Midwest's leading builders. The company employs nearly 1,300 construction professionals and tradespeople, and has completed \$1.1 billion in construction in 2024. With offices in Madison, Milwaukee, and Wausau WI, Findorff specializes in new construction, additions, remodels, tenant build-outs, historic renovations, and sustainable building projects.

Viega

Quality is the driving force behind everything we do. It's the heart of our company's identity, and it has been that way for 125 years. Each of our fittings comes with a promise of quality and versatility on the job, no matter the application. Our commitment to quality has helped us achieve our vision of providing safer, faster, and cleaner plumbing technology for use in projects across the globe. Today, we have more than 4,000 employees worldwide and are a global market leader in pipe pressing. We set our own standards, and our products are a testament to that fact.

SPONSOR SPOTLIGHT

Alliant Energy

📍 ECB | Atrium

Alliant Energy provides electric and natural gas to customers across Iowa and Wisconsin. Additionally, Alliant Energy invests in energy infrastructure for a reliable, safe and sustainable grid today and for the future.

Lunda Construction

📍 E-Hall | Lobby

Founded in 1938, Lunda Construction Company is an award-winning transportation contractor. We specialize in the construction, rehabilitation and maintenance of bridges, railroads and other civil structures.

Lunda has built a reputation for excellence in the transportation construction industry, with an uncompromising pledge to achieve the highest standards of engineering and quality, and with the safety of our workforce and the traveling public our highest priority.

HNTB

📍 ME | Lobby

For over a century, HNTB has shaped the built environment with industry-leading expertise across a full spectrum of infrastructure solutions.

From iconic architecture and complex bridges to efficient highways and transformative transit systems, our collaborative approach and commitment to technical excellence drive us to deliver journeys that connect people and fuel progress.

HGA

📍 ME | Lobby

We are a national interdisciplinary design firm rooted in architecture and engineering. We believe that the best design results from deep insight into the people and passions that animate each unique environment. Our 1,200 people in offices from coast-to-coast work to make a positive, lasting impact for clients in healthcare, arts and culture, community, corporate, education, government, science and technology, and energy markets.

SPONSOR SPOTLIGHT

Schulze and Burch Biscuit Co

S&B is a more than 100 year old food manufacturer headquartered in Chicago with a history filled with innovation, historic accomplishments and wholesome snacks – all powered by excellent teamwork.

Pinnacle Engineering Group

📍 ECB | Atrium

Pinnacle Engineering Group provides the highest quality civil engineering design, land surveying, landscape architecture and consulting services in the industry for infrastructure projects. We provide services to corporations, real estate developers, landowners, communities, conservationists, general contractors, design/build firms, architects, and government agencies.

Pentair

📍 ME | Lobby

At Pentair, we help the world sustainably move, improve, and enjoy water, life's most essential resource. From our residential and commercial water solutions, to industrial water management and everything in between, Pentair is focused on smart, sustainable water solutions that help our planet and people thrive.

JP Cullen

📍 ME | Lobby

We are known for our construction work across Wisconsin, northern Illinois, and northeast Iowa and nationwide for Industrial clients. Projects ranging from \$1,000 to \$100+ million in size. The State Capitol, Milwaukee Bucks Training Center, Epic Systems, and Camp Randall are just a few recent iconic projects. However, we are not just known for our awe-inspiring projects. Our proudest accomplishment is our people. We hire team members who share beliefs in family, safety, partnership, and process improvement. Our culture is one of trust and personal responsibility dedicated to empowering and growing employees for years to come.

SPONSOR SPOTLIGHT

MacLean-Fogg

MacLean-Fogg is a diversified, family-owned global enterprise with over 2,000 employees, delivering engineered solutions across the automotive, industrial, and material handling sectors. Committed to quality, performance, and sustainability, the company tackles complex manufacturing challenges through five core business groups: Fastener Solutions, Engineered Solutions, Plastic Solutions, Additive Solutions, and Mallard Manufacturing.

HDR

HDR is a 100% employee-owned, global professional services firm specializing in architecture, engineering, environmental and construction services.



SPEAKERS



Club SciKidz

📍 ECB | Rm 1003

Fly Me To The Moon! (10:15am-10:45am) - Join us for a space themed show! We'll take some of our favorite STEM projects to the next level. Bring your enthusiasm to this out of the world experience, featuring rocket balloons and hovercrafts.

Earth, Wind and Fire (11:00am-11:30am) - Join us for a show where earth, wind and fire collide! We use the elements of matter to explore some REALLY famous principals, featuring our famous dry ice experiment and giant vortex.

Chemistry Chaos (11:45am-12:15pm) - Because a little chaos can be a TON of fun! This chemistry focused demonstration features some of our most awe inspiring chemical reactions. We even scale some to be GIANT reactions! Featuring burning money and giant elephant toothpaste.

Showtimes:

10:15 AM - 10:45 AM

11:00 AM - 11:30 AM

11:45 AM - 12:15 PM

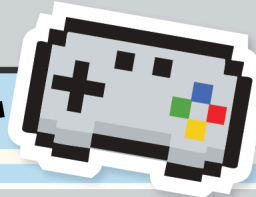


ACTIVITIES

Mario Kart Racer

E-Hall | Floor 2

Mario kart, everyone's favorite beloved racing game. Build your own race car powered by a balloon and compete with others to see which kart will go the farthest. This is a great chance to explore how force affects the motion of an object and the effects of friction stopping the kart once the balloon is out of air.



Crazy Claws

E-Hall | Floor 2

Is the arcade claw machine always dropping your toy at the last second? Well, create a sturdier claw that will help you grab onto anything. Learn how elasticity can be used to stretch and return to its original position to create functioning devices. Try to see how many pom poms your claw can pick up in under a minute.



Leap Frog

E-Hall | Floor 2

Ribbit, Ribbit, Ribbit! Help your little origami frog jump over obstacles to get to the city on the other side. Another great way to explore how potential energy turns into kinetic to jump from one spot to another.



Custom Emotes

ME | Floor 2

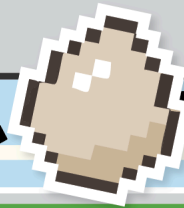
Get your groove on with your own dancing machine! Watch as your drawings turn into a dance as the pages rapidly flip into a single blur through utilizing the concept of apparent motion. This is your chance to create new poses, emotes, and moves in any way you want to design it.

ACTIVITIES

Egg Drop

E-Hall | Floor 2

Mission of the day: safely land your astronaut on Mars! Put your engineering skills to use by designing a landing device that will keep your 'astronaut' in the device while it lands. Get creative and problem solve your device so that your spacecraft makes the landing and your ping pong ball doesn't fall out.



Catapults

E-Hall | Floor 2

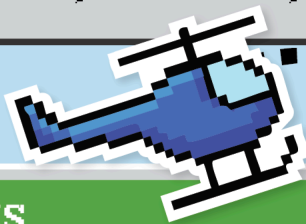
The classic Catapult. They've been around for ages and today you can design and fire a mini one on your own! This is an opportunity to learn about how potential energy is converted into kinetic energy to shoot a projectile. Keep designing and redesigning to get the best catapult you can so it will hit its target every time.



Rubber Band Helicopter

E-Hall | Floor 2

Ever wondered how a helicopter can fly using propellers? When propellers spin, the helicopter body utilizes Newton's Third Law of Motion to spin in the opposite direction and stay in the air. Explore the concept of torque and engineer your own helicopter.



Wigglebots

ME | Floor 2

Come create your own little wiggle bot! Experience an introduction to robotics and learn how to use batteries and vibration motors to create your own vibrating robot. Decorate and build it however you want and watch it wiggle and move around.

STUDENT EXHIBITS

Wisconsin-AUV - Wisconsin Autonomous Underwater Vehicles

📍 | Floor 1

Torpedo Build and Launch

Build a custom torpedo using a lego-like assembly line and launch in a race against others while learning about the fundamentals of hydrodynamics and drag.

GEG - Geological Engineering and Geoscience

📍 | Floor 2

Geological Engineering and Geoscience

We will display the use of sensors, such as accelerometers, geophones, ground penetrating radar, and liquefaction tanks, and their significance to geological engineering and geoscience problems.

DWPG - Badger Solar Racing

📍 | Floor 2

DIY Windmill Power Generation

Try your hand at building your own wind turbine blades and see how much power you can generate!

WiscWind

📍 | Floor 2

Wake Effect Challenge

The Wake Effect Challenge simulates the effect of when multiple wind turbines are placed too close together and challenges students to find an ideal spacing between turbines for a maximum power output.

STUDENT EXHIBITS

SHPE - Society of Hispanic Professional Engineers

📍 | Floor 2

Spark & Sketch!

With the power of LEDs and a mind of creativity, come join SHPE to make your own circuit drawing! Given a piece of paper from a variety of colors along with a couple strips of adhesive copper tape, create your own circuit path to light up one of our many LEDs! Don't know how to draw? Don't worry! We have templates, ideas, and bright lights for all levels of craftsmanship!

SWE - Society of Women Engineers

📍 | Floor 2

Level Up with SWE

Level Up with SWE invites visitors to explore engineering through video game-inspired challenges! Try your hand at coding without a screen as you help Luigi escape a haunted mansion using logic and algorithms, or, put physics to the test in our Donkey Kong barrel challenge by adjusting ramps to save Mario. Designed for all ages, these hands-on activities show how engineers use problem solving, creativity, and teamwork every day.

RM - FIRST Robotics

📍 | Floor 2

BadgerBots

Come explore our RoboMaster robot up close! Visitors can step into our mini arena, drive the robot themselves, and try aiming at targets in a fun, hands-on robotics experience. This interactive exhibit lets everyone—kids and adults alike—discover how robots move, aim, and respond, making engineering exciting and easy to understand.

STUDENT EXHIBITS

ESW - Engineers for a Sustainable World

📍 | Floor 2

Badger Breath

We will be displaying an air quality monitor that we have built from scratch and a fun video about the PM_{2.5} levels around campus!

CMAT - Cell Manufacturing and Technology NSF ERC

📍 | Floor 2

How manufactured cells can fit heart disease and cancer

Learn how to feed cells that fight heart disease and create CAR-T cells that are used to cure cancer.

⚠️ Friday Only

WEMPEC - Wisconsin Electric Machines and Power Electronics Consortium

📍 | Floor 2

WEMPEC Electric Machines and Magnets Demos!

WEMPEC research students will be showing a variety of engineering demonstrations related to electricity and magnetism! Come learn how you can recreate the magic of E&M in your own house!

A.O.E. - Alpha Omega Epsilon Sorority

📍 | Lobby

A.O.E. Pac-Man!

Playable Pac-Man themed video game featuring a dolphin on a quest for the gems representing A.O.E. Do you think you can win? Then come visit us!

STUDENT EXHIBITS

Pfludley Lab - Pflieger and Dudley Labs

 Lobby

Microbial and Plant Engineering

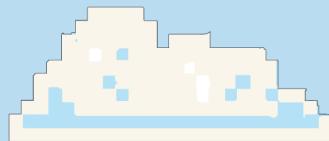
Step into the future of bioengineering with the Pflieger and Dudley Labs at UW Madison! Discover the tiny powerhouses that are changing industries. Learn how engineered microbes are being used to create sustainable biofuels, life-saving pharmaceuticals, and essential bio-products. Then, see how we are engineering plants to produce other valuable chemicals. Experience the intersection of metabolic engineering, plant engineering, and cell-free reactions, and learn about how we can apply biology to save the world!

HFES - Human Factors and Ergonomics Society UW-Madison Student Chapter

 Lobby

Human Factors and Ergonomics

We will be showcasing an eye-tracking demo, exo-skeleton, and VR demo. For the eye tracking demo, observers will look at a computer screen that tracks their eye movement without any instrumentation on the observer. Participants can also wear an exo-skeleton or interact with NPC's virtual environment.



STUDENT EXHIBITS

IEEE - Institute of Electrical and Electronics Engineers UW Madison

 | Lobby

PID Arm

An inverted pendulum is a system with a free swinging weight where its center of mass is located above its pivot point. When the center of mass is not aligned directly above the pivot point, the system is unstable, and the weight can fall over at any time. However, it can be stabilized through a PID controlled feedback loop. Using a rotary encoder to measure the angle of the pivot, we can counteract the falling inertia of the weight by rapidly pulling the pivot toward the direction of its fall in order to recenter its center of mass above the pivot point. By restricting the pivot's degree of freedom to a linear v-slot aluminum rail, we can pull the entire system on a cart using a motorized belt assembly. The whole system will be controlled by a raspberry pi microcontroller.

SME - Society of Manufacturing Engineers

 | Lobby

SME

Visit our exhibit to learn about research and academic communication for manufacturing engineers!

 **Saturday Only**

CBE - Department of Chemical and Biological Engineering

 | Lobby

Department of Chemical and Biological Engineering

Come join us at the Department of Chemical and Biological Engineering hands-on activity table. At the table, you will learn about research going on in the department through fun and engaging hands-on activities for all ages. Activity topics will include new technologies for plastics recycling, building a battery with everyday materials, and more!

STUDENT EXHIBITS

BMES - Biomedical Engineering Society

📍 | Floor 1

Biomedical Engineering Society

Stop by the Biomedical Engineering Society's table to check out how an ultrasound machine works! You will get to see how medical professionals operate crucial medical devices in their day to day life. Come to learn about BME, the different disciplines, and try out some fun activities!

Wisconsin Racing - Wisconsin Racing Formula SAE

📍 | Atrium

Racing into the Future

Wisconsin Racing is a student organization focused on building all-electric race cars to compete with schools from around the globe. Our exhibit showcases our simulator that we use to train our drivers and prepare for competition.

WPC - Water Power Club

📍 | Atrium

Hydropower Design

Come check out a prototype of a hydropower dam, with drawings designed by CAD with a physical prototype!

STUDENT EXHIBITS

EEC - Environmental Engineering Club

📍 | Atrium

EEC AquaQuest: The Clean Water's Hidden Journey

Step into this miniature of Dane County, where we show how clean water keeps everything moving! In this hands-on exhibit, you'll follow water as it travels from homes to lakes, through pipes, drains, and treatment centers, all while discovering the engineering systems that keep it clean and safe. Explore a fully working filtration model that transforms "dirty" water back into clear, usable water, and learn how this treated water makes its way back to households and the environment. Kids will also take on the role of junior water engineers by building their own water filters using simple materials like plastic bottles, sand, gravel, cotton balls, and activated charcoal. Along the way, they'll experiment, test, and see firsthand how real-life water treatment works. This interactive exhibit brings the entire water cycle to life. We invite families to explore, build, and imagine how smarter designs and sustainable engineering can help create cleaner, healthier, and more resilient cities for the future!

ETC Lab - Energy Transport & Conversion Laboratory

📍 | Atrium

The Energy of Sunlight: How Solar Cells Work

Solar panels seem like magic - sunlight hits this special surface, and it is converted into useful electricity! In this exhibit we'll show you what really happens...how sunlight is made of different colors that have different amounts of energy, how solar panels absorb those different colors, and how they are transformed into something that can turn on your lights at home. We'll play with some real solar cells, simulate "sunlight", and use color filters and shadows to see how these affect a solar panel!

STUDENT EXHIBITS

Scalable Systems Lab - Scalable Systems Laboratory

📍 | Atrium

Science in Everyday Life: Materials, Energy, and Smart Design

Come explore the following exhibits! Identifying Recyclable Plastics: Students will examine common household plastics and learn how to identify recycling symbols and material types. Through hands-on sorting activities, they will discover simple ways to protect the environment through everyday choices. Lemmon/Potato Battery Experiment: Students will build a simple battery using lemons or potatoes to see how chemical reactions can generate electricity. This experiment demonstrates how energy can be stored in materials and converted into usable power. Packaging Game - Learning Optimization Through Play: In this interactive backpacking toy game, students must choose items that maximize value while staying within weight limits. This activity introduces the idea of optimization, which finds the best solution under given constraints. Topology Exhibit - How Shape Affects Function: After viewing colorful images of complex materials like liquid crystals, students will explore how different geometric shapes influence the way materials behave. They will learn that shape plays a key role in determining function, not just appearance.

DARC - Digital and Robotic Construction

📍 | Atrium

Smart Build: Robotics & Digital Construction for the Future

Our demo will showcase a quadruped “robot dog” navigating a mock construction zone by using onboard cameras and LiDAR to avoid obstacles, inspect work areas, and map terrain, illustrating how robotics can boost safety and productivity. Then, slip on a VR headset and climb into the operator’s seat of a tower crane. You’ll practice precision lifts and learn about swing radius and fall zones.

STUDENT EXHIBITS

WEM - Wisconsin Engineer Magazine

📍 | Atrium

Wisconsin Engineer Magazine

For our 130th anniversary, we will showcase archived editions of WEM alongside vintage publishing equipment to highlight the history of engineering communication. Visitors will learn about the engineering mechanisms behind early printing operations and how they evolved over time. Students will also have the opportunity to create their own 8-bit characters inspired by something they learned at EXPO, with selected designs featured in our latest issue!

The Franck Lab - The Franck Lab for Experimental Soft Matter and Cell Mechanics

📍 | Atrium

Brain Mechanics and Injury Prevention

This exhibit demonstrates how engineering design helps protect the head during impacts. A drop tower demonstration shows how even a single piece of protective material can absorb impact energy and help prevent damage when an object is dropped from height. Visitors will also explore 3D printed models of the human skull, brain, and brain cells to understand why protection matters, along with soft materials and helmet components used in modern helmet design. The exhibit highlights how biomechanics and materials engineering contribute to safer sports and protective equipment.

ECIC Team - Electrical Contractors Innovation Challenge Team

📍 | Atrium

AI in Construction

Our exhibit focuses on AI usage in construction, life cycle analysis, and 3D building modeling as it continues to advance the construction industry.

STUDENT EXHIBITS

INFORMS - UW-Madison INFORMS Student Chapter (Institute for Operations Research and the Management Sciences)

📍 | Atrium

INFORMS: Solving the World with Math

Explore small demonstrations for how people can use optimization and machine learning models to make better decisions!

KHK - Kappa Eta Kappa

📍 | Atrium

Kappacade

Come explore a retro-themed reimagination of Clash Royale!

SPIE - SPIE Optica Student Chapter – UW–Madison

📍 | Atrium

Optics

Our exhibit features interactive virtual optical demonstrations where students explore lenses and diffraction patterns. Through guided activities, students learn how light bends, focuses, and creates patterns in a fun and engaging way!

ASHRAE - ASHRAE Madison

📍 | Atrium

Heat to Power

We will use a simple Stirling Heat Engine to demonstrate that energy is stored as temperature and can be moved and used!

★ 2025 Award-Winning Exhibit

STUDENT EXHIBITS

MRSEC - Wisconsin Materials Research Science and Engineering Center

📍 | Atrium

Materials that Shape our World!

Materials Scientists and Engineers create new things to solve problems and make the world a better place. Come and engage in hands-on experiences with amazing materials that have changed the world. You'll explore things like LEDs, metal with a memory, magnets, metallic glasses, viscosity and more! You will also talk to the scientists here at UW-Madison who are creating better devices, from computer chips to super strong glass and very, very fast lasers!

⚠️ Friday Only

AICHE - American Institute of Chemical Engineers at UW-Madison

📍 | Atrium

Rubens Tube: The Shape of Sound

Our exhibit is a Ruben's Tube. By running propane through a tube with evenly spaced holes and attaching a speaker to one end, the flames "dance" with the music, making sound waves visible. This demonstration highlights key ideas such as sound as a pressure wave, wavelength, frequency, and the formation of standing waves. The exhibit will have three parts. First, we'll use a tone generator to show how standing waves form at different frequencies. Next, we'll play music to show how various instruments and vocals affect the flame patterns. Finally, we'll have a keyboard available so students can directly interact with the exhibit (and maybe show off their music talent!).

STUDENT EXHIBITS

Pegasus-III

📍 | Lobby

Fusion Energy Takes Flight with Pegasus-III

What if we could build a star here on Earth and use it to power our future? At this exhibit, you'll explore Pegasus-III, a cutting-edge fusion energy experiment that uses powerful magnetic fields to confine super-hot plasma, the fourth state of matter, and study the conditions needed for fusion energy. Fusion is the process that powers the sun and stars, and scientists around the world are working to make it a safe, abundant, and carbon-free energy source on Earth. Pegasus-III is helping researchers understand how matter behaves under extreme conditions and how to design future fusion power plants that are smaller, more efficient, and more practical. You'll be able to tour our lab to see how engineers and scientists work together to control plasma and push the boundaries of what's possible. From fundamental plasma physics to real-world energy solutions, fusion energy is taking flight with Pegasus-III!

⚠️ This exhibit runs every 30 minutes beginning at 9am.

MA/AFS - Material Advantage/ American Foundry Society

📍 | Floor 1

Liquid Nitrogen Ice Cream, Stretchy Plastics, and a Bubble Raft

Our exhibit brings materials science to life with interactive and hands-on demonstrations. Visitors can observe and taste-test ice cream being made in seconds using ultra-cold liquid nitrogen! Visitors can also participate in hands-on activities including nylon polymer pulling and modeling crystal structures with bubbles.

Biomechanics - Biomechanics Research Groups

📍 | Floor 1

The Human Machine

Demonstrations, experiments, and activities of how your body acts like a machine!

STUDENT EXHIBITS

Henak Lab

📍 | Floor 1

Candy Crusher

Investigate how materials break using sweet treats! Simulate failure testing using custom test machines and look at the results (or what's left of them) under a microscope!

Henak Lab

📍 | Floor 1

Breaking Boundaries: Testing Between Layers

Ever wonder how materials work together? Learn about the strength between materials by launching off a ramp in this ski-ball-inspired game! Can you pick the right combination to score the most points?

CBL - Cardiovascular Biomechanics Lab

📍 | Floor 1

Human Machine

Explore our exhibit on the biomechanics of the human body through "The Human Machine!"

BAM Lab - Roth Group: Biomechanical Advances in Medicine Lab

📍 | Floor 1

Exploring Knee Biomechanics

Explore how our joints work by building a "knee" with simple mechanical parts, and discover how different knee implants affect the way the joint moves.

STUDENT EXHIBITS

Flow Lab - Computational Flow Physics and Modeling Group (CFPM)

📍 | Floor 2

Turbines, Waves & Whiskers: Harnessing Flow for a Sustainable Future

Our exhibit explores how moving water and air can power a more sustainable future. Through hands-on demonstrations of wind turbines, turbulence tanks, wave-sediment interactions, and the dynamics of seal whiskers, visitors will discover how engineers study flow to generate renewable energy and design smarter systems. Stop by to spin turbines, watch waves form, and see how nature inspires innovation.

ME Robotics Research Groups

📍 | Floor 1

Robotics Research in Mechanical Engineering

Our exhibit showcases the cutting-edge robotics research conducted in the Mechanical Engineering Robotics Research Groups. Visitors will explore demonstrations of autonomous systems, robotic manipulation, mobile robots, and intelligent control technologies developed in our labs.

ME RS&CG - ME Robotics, Sensing, and Controls Group

📍 | Floor 1

ME Robotics, Sensing, and Controls Group

Researchers in the Robotics, Sensing, and Controls Group will showcase displays and host activities focusing on the topics spanning each lab's research of interest, ranging from microrobotics and rehabilitation devices to marine robotics.

STUDENT EXHIBITS

ASME - American Society of Mechanical Engineers

📍 | Floor 1

Catapult with ASME!

Launch an object from a catapult! Who can get the furthest launch?

WISP - Wisconsin Space Program

📍 | Floor 1

Pneumatic Rocket Launching

WISP will host a rocket exhibit. Kids will have the opportunity to build, decorate, and launch their own rockets, which use principles of fluid mechanics and thermodynamics to turn pressure generated by a bike pump into rocket thrust!

RM - RoboMaster UW-Madison

📍 | Floor 2

BadgerBots

Come explore our RoboMaster robot up close! Visitors can step into our mini arena, drive the robot themselves, and try aiming at targets in a fun, hands-on robotics experience. This interactive exhibit lets everyone—kids and adults alike—discover how robots move, aim, and respond, making engineering exciting and easy to understand.

STUDENT EXHIBITS

Gebbie Group

📍 | Floor 2

DIY Electrolytes: The Power of Salt

Electrolytes are in your phones, your muscles, and your drinks! Come to our table to learn what an electrolyte is and make your own “water-splitting” electrolyte by mixing together everyday liquids like pickle juice, sweat, and your favorite sports drinks. You can test your electrolyte against everyone else’s and put your score on our data-visualization tower table. This demonstration will show how simple changes in the electrolyte can have big impacts on our energy systems, such as batteries and hydrogen fuel production.

★ 2025 Award-Winning Exhibit

Measurements Lab - Measurements Laboratory (Friends of ME368)

📍 | Floor 2

Super Mario: Rise of the Airflow

Using an upward jet of air disguised as a Mario warp pipe, visitors levitate game-inspired ping-pong balls and uncover the physics behind the fun. They’ll see how fluid motion, pressure differences, and drag forces can suspend objects in midair, turning a classic video game visual into a real-life physics experiment.

WR - Wisconsin Robotics

📍 | Lobby

Wisconsin Robotics

Come drive and watch our robots zoom around!

STUDENT EXHIBITS

Sch - Schreier Group

📍 | Lobby

Charge up and break water

Come see how you can use electricity for water splitting!

BiTE - Badgers in Themed Entertainment

📍 | Lobby

Bucky's Blastoff Coaster & Deep Sea Dark Ride

Our deep sea dark ride will allow kids to view, experience, and control a first-person view remote controlled vehicle through an underwater treasure hunt! We will also have Bucky's Blastoff Roller Coaster that students can launch themselves and an accurate roller coaster car model with working restraints. We teach physics and engineering principles while also creating fun interactive exhibits!

ANS - American Nuclear Society

📍 | Lobby

ANS Presents: Past, Present, and Future, The Story of Nuclear

The American Nuclear Society will introduce visitors to the basics of nuclear science and the nuclear industry. The exhibit will look at where the industry has been, where it is now, and will highlight where we are looking to in the future. Take a look at the diverse applications of nuclear science and technology including in the medical, marine, space, and power generation sectors.

★ 2025 Award-Winning Exhibit

STUDENT EXHIBITS

Helios - Helios UW Madison

📍 | Lobby

Renewable Energy Community

Explore an interactive miniature display of a self-sustaining renewable energy community, complete with houses and a battery that distribute energy as you change the weather conditions.

Insight - Insight Wisconsin

📍 | Lobby

Insight Wisconsin

Join us for live demonstrations of our work on developing cost-effective solutions for cutting-edge orthotic devices!

WA - Wisconsin Autonomous

📍 | Lobby

Autonomous Expo

What we'll most likely do: a 3D point cloud showcase using LiDAR. Also maybe a video of our car running through a course autonomously

Triangle - Triangle Fraternity

📍 | Lobby

Apollo Lunar Lander Simulator

The Apollo Lunar Module (LM) is the first and only spacecraft to bring humans to the surface of the moon. It is the pinnacle of 1960s technology, chock-full of pivotal advancements in nearly every field of engineering. To fulfill this year's Engineering EXPO theme of "Super EXPO World," the Triangle Fraternity has endeavored to create a realistic simulation of the LM, giving visitors the opportunity to experience the challenge and wonder of a lunar landing.

STUDENT EXHIBITS

IEEE-HKN - IEEE Eta Kappa Nu

📍 | Lobby

Holonomic Maze

Help navigate one of our robots through a maze in this interactive exhibit!

BARS - Badger Amateur Radio Society

📍 | Atrium

Modern amateur radio!

See modern radio communications in practice! Get hands-on experience with high frequency radio talking to people around the globe.

Xiao Lab - Xiao Lab: Shedding light on quantum materials

📍 | Atrium

Exploring 2D flatland with quantum materials

At our exhibit students will have the opportunity to explore 2d quantum materials. Students will use the "Scotch Tape" method to exfoliate 2d material flakes themselves from bulk crystals and view them in an optical microscope.

WiscoHumanoids

📍 | Lobby

Meet AlohaMini

Can robots help with everyday tasks? This exhibit showcases a robotic system designed to interact with the physical world by recognizing, sorting, and manipulating objects. Visitors will see the robot perform tasks like folding clothes, cleaning up items, and organizing objects using sensors and intelligent decision-making. The robot will also demonstrate its problem-solving abilities by attempting interactive games and physical puzzles. Through these demonstrations, attendees can explore how modern robotics combines engineering, perception, and reasoning to tackle real-world challenges.

STUDENT EXHIBITS

AM2 - Kuang Lab

📍 | Atrium

Polymer that has memory

We will bring some materials the audience can play with which are able to memorize their shape when treated with different temperatures. Meanwhile, we will demonstrate how this material can be used in manufacturing through our Digital Light Processing 3D printer.

