

April 6 – April 8, 2018



# SCIENCE EXPEDITIONS

exhibit guide

UW Engineering Expo also runs on Saturday April 7 from  
9:00am-2:00pm on the Engineering Campus



**ARTHUR H. ROBINSON MAP LIBRARY | SCIENCE HALL, ROOM 310 | 550 N PARK ST | 6:30 - 9:00 PM**

Department of Geography

The Arthur H. Robinson Map Library is home to a collection of over 500,000 maps and aerial photos. Visitors can explore a curated exhibit of materials from the collection and tour the library space. Staff from the Wisconsin State Cartographer's Office, the History of Cartography Project, and the UW Cartography Lab will be on hand to discuss mapping projects and other activities in Science Hall.



**ORIGAMI WITH RUTHANNE BESSMAN | ONE ALUMNI PLACE | 650 N. LAKE ST. | 5:30 - 6:30 P.M. AND 7:00 - 8:00 P.M. (TWO SESSIONS, EACH IDENTICAL)**

Wisconsin Alumni Association

Use mirrors to discover the art of origami with master artist, Wisconsin Public Radio host and UW-Madison alumna Ruthanne Bessman '79. Explore shapes, forms and colors in this hands-on workshop, and learn to fold animals, natural forms, and designs that can be used as stationery, gifts or decorations. Recommended for ages 8 and up (children must be accompanied by a parent or responsible adult). Space is limited, and pre-registration is recommended. To reserve your spot; visit AlumniPark.com or call (608) 308-5151.



**SPRING SCIENCE IN WISCONSIN'S LAKES | HASLER LABORATORY OF LIMNOLOGY | 680 N PARK ST | 5:00 - 7:00 PM**

Center for Limnology

Just as returning robins and blooming redbuds are signs of Spring in Wisconsin, our lakes have their own indicators of a changing season. Join us at Hasler Lab for a look at what Spring means as the thaw brings open water back to our lakes. Researchers at the UW-Madison Center for Limnology will give visitors a look at what's going on beneath the surface of Madison's lakes, what plants and animals are the first to shake off the winter season and what current research projects we have on deck for the coming field season. Come out and "Learn your lakes" at the birthplace of freshwater sciences in North America.



**USING DEEP SEA ROBOTICS TO EXPLORE GREAT LAKES SHIPWRECKS | WISCONSIN HISTORICAL SOCIETY AUDITORIUM | 816 STATE ST | 7:00 AND 8:00PM**

Wisconsin Historical Society

Using prototype technology, archaeologists and ROV pilots team up to investigate three of the newest and deepest shipwreck discoveries in the Great Lakes. See footage of the converted car ferry Harriet B. in 650 feet of water off Two Harbors, Minnesota, the schooner Antelope located in 310 feet of water off Michigan Island, Wisconsin, and dive deep inside the cargo hold of the steamer Senator in 450 feet of water off Port Washington, Wisconsin to see 1929 Nash automobiles. 7:00 PM start time; 45 minutes for each of the two slots. The 45 minutes each presentation will be ~30 minutes of presentation followed by ~10 minutes of conversation/Q&A, with 5 minutes to switch between #1 and #2.



Explorations  
Stations



Destinations  
for Exploration



Science  
Spectaculars

1.



**SATURDAY, APRIL 7, 2018**



**ALUMNI PARK DROP-IN TOUR | ALUMNI PARK | 724 LANGDON ST | 11:30AM-1200PM**

Wisconsin Alumni Association

Discover a new campus green space and explore science at UW-Madison with guided tour of Alumni Park, the new campus green space with outdoor exhibits featuring UW-Madison alumni, tradition and innovations. Learn about the park, its exhibits and landscape, and visit One Alumni Place, the new alumni welcome center, in these drop-in tours. Today's tour will explore science lessons and alumni in the park. Learn more at AlumniPark.com



**AMAZING LASERS**

Graduate Women in Science

We will be doing three activities using laser pointers to teach about reflection and refraction:

1. The first is a laser maze, in which participants use a mirrors to try to get the laser pointer around barricades to hit the beam onto a picture at the end of the maze.
2. The second activity is about color reflection and absorption (why we see the colors that we do) using a laser pointer that is directed at petri dish of red, blue, and purple Jello (you can see it in the red jello, kind of in the purple, and not at all in the blue).
3. The last activity shows how the laser pointer can bend down a stream of water. We use a water bottle with a hole in it and point the laser through the bottle towards the stream and you will see the light bend with it.



**ATMOSPHERIC, OCEANIC AND SPACE SCIENCES BUILDING | 1225 W DAYTON ST. | 10:00AM-2:00PM**

Cooperative Institute for Meteorological Satellite Studies (CIMSS) & the Space Science and Engineering Center (SSEC)

Learn about forces that create our local weather patterns and UW contributions to the field of satellite meteorology by viewing real-time imagery on a 3-D globe, investigating weather phenomena via interactive computer activities, and meeting engineers, ice-core drillers, scientists and UW students and outreach staff. Tours to the roof of our 16-story building will enable views of the beautiful Madison skyline while learning about the satellite dishes and instruments on the roof! More information is available at <http://www.ssec.wisc.edu/outreach/science-expeditions/>

**\* Saturday Exploration Stations are at the Discovery Building 10 am - 2 pm**



Explorations Stations



Destinations for Exploration



Science Spectaculars

2.



**SATURDAY, APRIL 7, 2018**



**BE WISE, SHADE YOUR EYES**

McPherson Eye Research Institute

Sunglasses help prevent sun-related eye health problems, including cataracts, glaucoma, and macular degeneration. Sunglasses are especially important for children, who often spend more time outside than adults. This exploration station educates visitors about damaging ultraviolet light, which is beyond the visible light spectrum, and promotes sunglass use to combat ultraviolet light exposure in the eye. Complimentary bookmarks display the Ultraviolet Light Index and have the URL of the online Ultraviolet Light Index Forecast. Visitors will receive a few ultraviolet-light-detecting beads, and will see how the beads produce color when lighted by a UV-emitting-flashlight. Guidelines will be offered for children to use the beads to conduct investigations of ultraviolet light in their home environments.



**BEES: IDENTIFY, POLLINATE AND CONSERVE**

USDA-ARS and Department of Entomology

We will have interactive displays to identify bees, look at a bumble bee colony, learn about the life stages of a solitary bee, identify the fruits and vegetables that require pollinators and learn about ways you can help conserve pollinators.



**BONE DETECTIVES**

Biocore Outreach Ambassadors (in partnership with the UW Zoology Museum)

What can bones tell us about animals? While animals have similar bones that make up their bodies, how they're shaped can tell us a lot about how they live - how they move, how they act, and what they eat. No matter how an animal evolves, form always fits function! So put on your detective hat and come help us explore everything bones can tell us with real bone specimens from the UW Zoology Museum.



**BOTANY GREENHOUSE | BIRGE HALL | 430 LINCOLN DR | 10:00AM-2:00PM**

Department of Botany

This 8,000 square foot growth space and ~1 acre of land houses the Department of Botany's extensive collection of more than 1,500 unique species of plants and 210 plant families. Come and visit each of the 8 greenhouse rooms that take you through a journey of the tropics, desert, bog, and fern forest. This collection of aquatics, succulents, bryophytes, ferns, orchids, herbs, and woody plants are used for teaching general botany, systematics, taxonomy, plant ecology, and plant anatomy to name a few. These houses also provide a space for the students and faculty of

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3.



**SATURDAY, APRIL 7, 2018**



**CAN YOU BELIEVE YOUR EYES?**

McPherson Eye Research Institute

While the eye is the sensory organ that collects light, the brain is actually responsible for converting, processing and interpreting the data embedded in those collected photons into usable information that we experience as visual perception. The brain relies on neurons to convert and process data and experience, context, inference and bias to make interpretations about sensory data, including light. But the brain can be tricked by data that overstimulates different kinds of processing neurons (physiological) or data that triggers biased inferences during interpretation (cognitive). These tricks result in the experience of visual illusions, where perception differs from reality. This exploration station looks at physiological and cognitive illusions to help visitors learn about visual perception and the brain.



**CATEGORIES, STRATEGIES, AND MEMORY, OH MY!**

Wisconsin Center for Education Research

How do you make sense of the various ways people can be categorized? How does your knowledge change when you learn new concepts and problem-solving strategies? And how does memory and expectation influence future learning? Come meet members of three of UW-Madison's educational research labs, do some fun activities, and start thinking about how you learned some of the things you know. This exploration station is brought to you by The Study of Children's Thinking, the Social Kids Lab, and the Cognitive Development & Communication Lab.



**CHASING THE GHOST PARTICLE AND PLANETARIUM SHOW |  
STERLING HALL PLANETARIUM, 475 CHARTER ST. |  
11:00 AM - 3:00 PM (1 SHOW EVERY HOUR)**

Wisconsin IceCube Particle Astrophysics Center, WIPAC

Deep in the ice at the heart of Antarctica, IceCube, the biggest and strangest detector in the world waits for mysterious messengers from the cosmos. Scientists are using tiny and elusive particles called neutrinos to explore the most extreme places in the universe. These ghostly neutrinos give us an exclusive way to study powerful cosmic engines like exploding stars and black holes. In this 30-minute show, stunning simulations of the most energetic places in our universe, and the galaxies around us, are the prelude to a thrilling journey inside IceCube, looking for traces of neutrino collisions in the ice. From one of the most remote locations on Earth to the unexplored regions of the cosmos, Chasing the Ghost Particle: From the South Pole to the Edge of the Universe will take you on a journey you won't forget. Following the film, your journey continues with an interactive tour of the universe in the planetarium. No advanced tickets needed but space is limited to the first 25 people for each show.

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**SATURDAY, APRIL 7, 2018**



**CHEMISTRY DEMO SHOW WITH SPICE | CHEMISTRY BUILDING ROOM 3651 | 1101 UNIVERSITY AVE | 1:00-2:00PM**

Students Participating in Chemical Education

Students Participating in Chemical Education (SPICE) will be performing a demo show full of reactions, fire, and fun! Join us as we learn about a variety of chemical reactions and see just how cool science can be!



**COMPARATIVE PSYCHOLOGY: THE BRAIN AND BEHAVIOR OF ANIMALS**

UW Psychology Department

Kids will be able to engage in various memory games, compare themselves to other animals, and learn about animal research.



**CURIOSITY TALK**

Curriculum & Instruction, SOE

We will have a table with a simple hands-on activity (TBD) and then invite visitors to participate in a "Curiosity Practice" in which we will get a handful of guardian/child pairs together to talk about the science they've been experiencing and make sense of it together in an open discussion. We need this discussion to happen in a quieter space, if at all possible, and are working with IRB to get permission to video-record them for our research.



**DAZZLING DISPLAY OF WISCONSIN ROCKS AND FOSSILS**

Wisconsin Geological Survey of UWEX

Rocks and fossils from around Wisconsin will be on display along with examples of rock core. Get your own piece of the state rock (red granite) and learn where it comes from - and where it goes.



**DC SMITH GREENHOUSE | 465 BABCOCK DR | 10:00AM-2:00PM**

College of Agricultural and Life Sciences

Learners of all ages are welcome to visit and explore the greenhouses and participate in plant related activities.



**DESIGNING AND BUILDING CHEMISTRY GLASSWARE FOR SCIENTIFIC RESEARCH | CHEMISTRY BUILDING, ROOM B-201 (MATHEWS BUILDING) | 1101 UNIVERSITY AVENUE | 12:00-3:00PM**

College of Agricultural and Life Sciences

Tour of Chemistry Department Scientific Glassblowing Laboratory

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**DIFFERNT WAYS OF SEEING**

McPherson Eye Research Institute

How might a person with impaired vision see the world? With different abilities and limitations, what things are easy to do and what things are difficult to do? Looking through specially prepared masks and goggles, participants can simulate vision impaired by: (1) central blind spots, often caused by age-related macular degeneration (AMD) or Stargardt's disease; (2) tunnel vision, often an early symptom of glaucoma or retinitis pigmentosa; (3) impaired acuity across the whole visual field, occurring with cataracts and with congenital impairments such as optic nerve hypoplasia, albinism, and colorblindness. While looking through these mask and goggle simulators, participants will try activities including reading, writing, and telling time.



**DISCOVERY CUP MINI TERRARIUMS**

TriBeta Biological Honors Society

Create your own mini terrariums with fast-growing Mother-of-thousands plants



**DNA EXTRACTION!**

American Society for Biochemistry and Molecular Biology (ASBMB)  
Undergraduate Student Organization

We will be performing a wheat germ DNA extraction. It's a quick and simple experiment that children love that helps to get them to be curious about the science involved in the world around them.



**EXPLORE SCIENCE WITH KSEA!**

Korean-American Scientists and Engineers Association

We You may play with magnetic rifle and learn about physics while you can also learn about diabetes and other interesting biological experiments.



**EXPLORE THE GREAT LAKES!**

UW Sea Grant Institute

Come and take an analog and a digital trip around the Great Lakes and explore the many natural and cultural attractions found on the rural roads and downtown streets that hug Wisconsin's Lake Michigan and Lake Superior coasts.



**EXPLORING INSECTS**

Entomology

Live and preserved insects, with expert entomologists to answer all your bug-related questions

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## SATURDAY, APRIL 7, 2018



### EXPLORING THE SOLAR SYSTEM

Wisconsin Science Museum

We will bring two to three activities including (1) kit to simulate moon craters with sand, iron filings and marbles, a Mars Rover simulation, and a Moon map 'hide and seek' activity.



### EXTRACTING DNA FROM FRUIT

Chemistry

Extract and isolate the DNA from strawberries, kiwis, and bananas!



### EXTREME SOUTH POLE SCIENCE

Wisconsin IceCube Particle Astrophysics Center, WIPAC

Come experience the world of the neutrino! Learn about IceCube, the biggest and strangest neutrino detector in the world. It's located at the South Pole and is searching for these ghost particles. We will have many hands-on activities as well as an LED model of IceCube.



### FUN WITH BIOMEDICAL ENGINEERING

Biomedical Engineering

Our exhibit will teach kids about Biomedical Engineering by offering finger casting, an alginate gel hands on activity, and display of an EKG.



### HOW DO OIL SPILLS AFFECT BIRDS?

Undergraduate Zoological Society

Participants will be able to do a hands-on activity to see how bird feathers react to oil, and how this affects their health during oil spills. The activity will involve dropping water on a feather to observe how it repels water, then dropping vegetable oil on it to observe how oil changes the feathers and stops them from working properly. Participants will then be able to clean and restore their feathers using dish soap.



### HOW DOES YOUR BRAIN WORK?

NTP Outreach

NTP Outreach will be bringing human brains, along with other neuroscience related activities so that participants can get hands on and learn more about how their brain works!



### ICECUBE VR: USING VR TO LEARN ABOUT ASTROPHYSICS RESEARCH IN ANTARTICA

Field Day Lab

Try out a new VR experience from a team of designers and scientists at UW Madison and the IceCube laboratory on the South Pole!

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**SATURDAY, APRIL 7, 2018**



**L.R. INGERSOLL PHYSICS MUSEUM (EST. 1918) | CHAMBERLIN HALL ROOM 2130 | 1150 UNIVERSITY AVE | 9:00AM- 4:00PM**

Department of Physics

The Ingersoll Physics Museum is free to public. Our exhibits give our guests a hands-on experience of physical concepts ranging from mechanics to modern physics in a demonstrational kid-friendly environment. Our 1500sf museum consists of over 75 exhibits with some rotating in and out each year. In conjunction to our museum, you can find photos of the Nobel Prize Winners in Physics from 1901-1993, as well as many historical instruments on display along the corridors of Chamberlin Hall.



**LEAFCUTTER ANT DISPLAY COLONY | MICROBIAL SCIENCES BUILDING | FIRST FLOOR | 1550 LINDEN DR. | 12:00-2:00PM**

Currie Lab, Department of Bacteriology

Visit the Currie-lab's large leaf-cutter ant colony and learn about these amazing organisms! Observe the ants cutting and carrying leaves to feed the symbiotic fungus they farm in underground chambers. Watch the ants raise their young and weed their fungus. Plus, learn how we can improve our understanding of basic biology, discover new antibiotics, and contribute to biofuel research by studying these insects. Visitors can observe our display colony, play a game to experience the challenges of forming a successful leaf-cutter ant colony, and learn how to collect ants in their own backyards.



**LIGHTS, CAMERA, BACTERIA!**

Medical Microbiology and Immunology

There are some bacteria that generate light to help the Hawaiian Bobtail squid hide its shadow when out at night. How do they do this? Come learn about how tiny bacteria talk with one another to produce light and create some agar art that glows!



**MAKE YOUR OWN CAT OR DOG**

Undergraduate Genetics Association

What makes your cat or dog unique? Come make your own cat or dog out of construction paper with its own special mix of traits! Who knows, you may even be able to spot some squid....



**MAKE YOUR OWN LAVA LAMP**

Biology Outreach Club

Make your own mini lava lamp in a tube using common household items! Learn about the chemical reaction behind it, and how certain liquids mix while others do not (a quality called miscibility). Who knows, you may even be able to spot some squid....

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## SATURDAY, APRIL 7, 2018



### **MARMOSETS IN OUR MIDST | PRIMATE CENTER | 1220 CAPITOL CT | 12:00 - 4:00 PM**

Wisconsin National Primate Research Center

Visitors can view and learn about our lobby's family of common marmoset monkeys, engage in hands-on learning activities, and discover more about the Primate Center's life saving research, humane animal care, and careers in biomedical research and animal care.



### **MILKWEED FOR MONARCHS**

UW-Madison Arboretum

North America currently lacks about 2 billion milkweed plants to support a sustainable monarch butterfly population. Participants in this activity will receive materials to plant milkweed and can place a sticker on the map to represent where they will plant milkweed.



### **PLANTS ARE AMAZING! | DISCOVERY BUILDING | SHOWS AT 11AM, 12PM, 1PM (30 MINUTES LONG)**

Wisconsin Science Museum

Investigate the fascinating world of plants hiding in plain sight.



### **PROTIST MANIA**

UW Micro Club

Viewing Protists Under a Microscope



### **REPTILES AND AMPHIBIANS!**

Madison Area Herpetological Society

The Madison Area Herpetological Society educates enthusiasts and the general public about frequently misunderstood reptiles and amphibians. It is a great source for people to exchange knowledge, from amateur hobbyist to experts. It also gives a community a basis for expertise on issues dealing with local laws, ordinances, and conservation.



### **RUTH DAVIS DESIGN GALLERY | PRIMATE CENTER | 1210 NANCY NICHOLAS HALL | 12:00 - 4:00 PM**

Center for Design and Material Culture

The Ruth Davis Design Gallery hosts the exhibition "Whirling Return of the Ancestors," a dynamic, multi-sensorial exhibition of sights, sounds, motions ... and emotions. The exhibition presents the rich and varied artistry of Egúngún masquerades and other arts inspired by a tradition that honors and celebrates the power and eternal presence of ancestors among Yorùbá peoples of West Africa. Egúngún masquerades are collaborative family and community creations involving reflection, remembrance, and renewal. Such masquerade pageantry celebrates the spirits of ancestral hunters and warriors, legendary heroes and heroines, founding fathers and mothers, and a pantheon of uncountable deified ancestors (òrìṣà) – all of whom influence and guide the living.

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**SATURDAY, APRIL 7, 2018**



**SAY WHAT? HOW HEARING WORKS AND HOW TO KEEP YOUR EARS HEALTHY**

Department of Communication Sciences and Disorders- Audiology

Take an interactive journey through the human hearing system. Discover how sound travels through different parts of the ear to the brain, build a cochlear hair cell out of candy, and learn how to protect your delicate auditory system from dangerous noise levels.



**SCRIBBLE BOTS**

Edgewood College Office of Science Outreach

At this station participants will experience the engineering cycle while building their own drawing robots!



**SOIL SAFARI AND CRITTER QUEST**

Dept. of Soil Science

Come join us as we dive into the vast and fascinating world of soils! We will have several activities where you can experience the diversity of microfauna and the ways of life in the world beneath our feet. You will have the chance to prepare your own slide to look at bacteria, fungi, and nematodes underneath a microscope, see how to extract small organisms from soil using a Berlese-Tullgren funnel, and more!



**STUDENTS PARTICIPATING IN CHEMICAL EDUCATION**

Students Participating in Chemical Education (SPICE)

Students Participating in Chemical Education (SPICE) is a student organization at UW-Madison who loves everything and anything science! Join us as we look into a few different properties of some special chemicals and get your hands a little dirty while learning all about the hydrophobic effect!!



**THE DYNAMIC SPEECH MACHINE**

Communication Sciences & Disorders

Children will be lead through 3 main components of speech: 1) the brain, 2) the respiratory system, 3) and the larynx, commonly known as the "voice box". Participants will leave we fun replications of the speech machine!



**THE ENGINEERING OF NANOPARTICLES EXPLAINED WITH MAGFORMERS**

Department of Chemical and Biological Engineering

In a first instance the concept of nanoparticles will be illustrated by letting the participants build them themselves using various sizes of blocks that way getting across "the-idea-of-scale". Secondly the engineering of these nanoparticles is then illustrated by further "construction" typically using different color blocks for different chemical elements.

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**THE GILROY ASTRO-BOTANY LAB: PLANTS IN SPACE**

UW Botany

We will have a microscope, random positioning machine, slow speed plant centrifuge, interactive computer demo (touch screen monitor needed), FlashLapse and the VEGGIE growth demo



**THE SCIENCE OF CHOCOLATE!**

UW-Madison Food Science Club

Come learn about the science of chocolate from the UW-Madison Food Science Club! There is so much to learn! After you have learned all you need to know about the wonderful treat, reward yourself for all your hard work by sampling some amazing chocolate from our chocolate fountain.



**THE SCIENCE OF PAIN AND HOW TO STOP IT LIKE A SUPER HERO**

Pediatric Pain Team

We will teach people (kids) the science behind pain and how to prevent/treat it.



**THE SCOPE ON CALS | STOCK PAVILION | 1675 LINDEN DR | 12:00-3:00PM**

College of Agricultural and Life Sciences

To showcase the impressive history of research in the College of Agriculture and Life Sciences (CALS), various CALS student organizations have developed interactive stations to present the importance of research and the diverse models used to accomplish these phenomenal discoveries.



**UNMANNED ARIAL VEHICLES IN AGRICULTURE | STOCK PAVILION | 1675 LINDEN DR | 9:00AM- 4:00PM**

University of Wisconsin Postdoc Association

Unmanned Aerial Vehicles or drones, as they are sometimes called, are increasingly used to monitor agricultural crops. Special cameras can detect and assess nutrient deficits, disease, and pests based on the temperature and color of plants. This technology allows for farmers to precisely monitor large areas and target only those areas that need attention. Learn how these cameras work and see examples of their application.

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**SATURDAY, APRIL 7, 2018**



**UW GEOLOGY MUSEUM | 1215 DAYTON ST | 9:00AM-4:00PM**

UW Geology Museum

Explore the Geology Museum and take a peek into Wisconsin's deep history! On your visit you can touch rocks from a time when there were volcanoes in Wisconsin; see corals, jellyfish and other sea creatures that used to live and swim where we now walk; and stand under the tusks of a mastodon while imagining yourself in the Ice Age. Also on display at the Geology Museum are rocks and minerals that glow, a model of a Wisconsin cave, dinosaurs and meteorites. Our mineral, rock and fossil collections have the power to educate and inspire visitors of all ages. Come see for yourself!



**WASHBURN OBSERVATORY OPEN HOUSE | 1401 OBSERVATORY DRIVE | 8:00PM-10:00PM**

UW Space Place

Tour of the observatory; observing with the telescope (weather permitting)



**WHAT FACTORS INFLUENCE ALGINATE HYDROGEL FINAL PRODUCT STRUCTURE?**

Biomedical Engineering Department

Different concentrations of alginate added to calcium chloride produce different hydrogel sphere properties. The kids will form the hydrogels by pipetting the alginate into the calcium chloride solution and watch their hydrogels form. The proper technique of the procedure will be outlined by us before the children form their hydrogels. Also, the medical applications of the hydrogels will be explained. Each kid will be able to keep their hydrogel. Hydrogel is very safe.



**WHAT IS A BATTERY?**

UW-Madison Chemistry

What do you need to make a battery? This station will explore the different parts of batteries and how they generate electricity when you put them together. We will show what the inside of a normal battery cell looks like, how to make batteries from pennies, potatoes, and lemons!



**WHAT SHOULD I DO WITH MY OLD ELECTRONICS? E-CYCLE!**

Wisconsin DNR

Come and learn all about electronics recycling! In Wisconsin, electronics are banned from landfills. Staff from E-Cycle Wisconsin have fun e-cycle activities and handouts to help everyone learn where they can take old electronics.

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**WHEN YOU SAY WISCONSIN**

Department of Horticulture / USDA-ARS

Did you know Wisconsin is the largest producer of cranberries in the United States and the world? Using genomic science, we aim to keep Wisconsin #1 and make this amazing fruit even better for future generations. Have you ever seen DNA? At our station you can extract the DNA from cranberries and even take it home with you! Also, come take our taste test to see if real cranberry juice tastes how you think it does!



**WHERE DO BACTERIA LIVE?**

Integrated Program in Biochemistry

There are bacteria on just about everything we come in contact with. Although bacteria are extremely tiny, our station will let you see the bacteria that grows on common objects with your eyes.



**WHERE THE WILD THINGS GROW**

USDA/ARS; UW-Madison Horticulture

Can you imagine a time when an ear of corn could only feed a field mouse, or when Italians had never heard of tomato sauce? Can you picture Szechwan without hot peppers, Belgium without chocolate, Germany without beer, or Georgia without peaches? It wasn't long ago that the culinary world was very different from what it is today. Most of the fruits and vegetables that we enjoy were unknown or didn't exist! For centuries people around the world have used genetics to develop crops from wild plants, often making dramatic changes to taste, texture and appearance in the process. Find out where the wild ancestors of our fruits and vegetables are found, and discover how their domesticated descendants traveled throughout the globe to enrich our lives. Explore with us the fascinating origin of the food you eat and how scientific advancements ensure a never-ending supply of healthy fruits and vegetables for your dinner table.



**WISCONSIN PRE-MEDICAL SOCIETY**

Wisconsin Pre Medical Society

Come learn about humans and science from the Wisconsin Pre-Medical Society!



**WISCONSIN STATE HERBARIUM | BIRGE HALL LOBBY | 430 LINCOLN DR | 10:00AM-2:00PM**

Department of Botany

Curator tours of the UW's scientific collection of >1.3 million preserved plant, fungi, and lichen specimens, one of the largest collections of its kind in the world.

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**SUNDAY, APRIL 8, 2018**



### **BE WISE, SHADE YOUR EYES**

HSLC | McPherson Eye Research Institute

Sunglasses help prevent sun-related eye health problems, including cataracts, glaucoma, and macular degeneration. Sunglasses are especially important for children, who often spend more time outside than adults. This exploration station educates visitors about damaging ultraviolet light, which is beyond the visible light spectrum, and promotes sunglass use to combat ultraviolet light exposure in the eye. Complimentary bookmarks display the Ultraviolet Light Index and have the URL of the online Ultraviolet Light Index Forecast. Visitors will receive a few ultraviolet-light-detecting beads, and will see how the beads produce color when lighted by a UV-emitting-flashlight. Guidelines will be offered for children to use the beads to conduct investigations of ultraviolet light in their home environments.



### **BUILD YOUR OWN STEM CELL**

HSLC | Department of Cell and Regenerative Biology

Students and families will be able to build their own stem cells with construction paper and glue. Depending on the color combination of their stem cell, it will grow up to be a cardiac muscle, neuron, liver cell, or adult stem cell!



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Students Participating in Chemical Education

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### **COMMUNITY ENGAGED RESEARCH ON HEALTH DISPARITIES AND HEALTH LITERACY**

School of Pharmacy | Social and Administrative Sciences in Pharmacy

Community engaged research that focuses on health disparities in African Americans with Type II diabetes and also health literacy. The brain relies on neurons to convert and process data and experience, context, inference and bias to make

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## SUNDAY, APRIL 8, 2018



### **CRAFTERNOON: LET'S VAN GOGH**

School of Nursing

Learn about art making as a way to help control pain and other symptoms by distracting attention and expressing emotions



### **CRYSTALS GROWING LIKE FLOWERS BLOOMING**

School of Pharmacy

Do you notice how pretty flowers bloom in the summer? Crystals do the same but even in the cold winter at Wisconsin! Come check us out!



### **DO YOU WANT TO BE A PHARMACIST?**

School of Pharmacy | Badgerx Peds

Our table features two stations, drawing up oral syringes using colored water and filling a prescription order using candy as our pills. Participants will "count" out a number of pills for a prescription and fill the provided rx bottles. We will have stickers for the kids to write on to make a "medication label" to put on the rx bottles.



### **DOCTORS OUGHT TO CARE**

HSLC | UWSMPH- Doctors Ought to Care

Hands-on learning of anatomy with real human organs!



### **EBLING LIBRARY HAS THE ANSWER**

HSLC | Ebling Library for the Health Sciences

We will show you how to find authoritative health and clinical information on the web and share handouts and a skeleton "puzzle" for younger visitors.



### **EFFIGY MOUNDS IN THE ARBORETUM | UW-MADISON ARBORETUM | 1207 SEMINOLE HIGHWAY | 1:00 -3:00 PM**

UW-Madison Arboretum

Walk: Effigy Mounds in the Arboretum. The Arboretum contains rare, intact mound groups built more than 1,000 years ago. On this tour in Wingra and Gallistel woods, you'll learn about these ancient earthworks and the people who built them. Free, no registration required. Meet at the Visitor Center.



### **ELECTRIC EARS & HOW WE HEAR**

HSLC | Binaural Hearing & Speech Lab

Learn how science and hearing go together, then listen to demos of hearing loss and electric hearing. This hands-on exhibit will demonstrate how the sense of

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**SUNDAY, APRIL 8, 2018**



**EXERCISE AND THE BRAIN**

HSLC | Wisconsin Alzheimer's Disease Research Center

Come get moving and learn why exercise is one of the brain's best friends! Have fun showing off your memory and thinking skills while you blast through activities that'll get your heart pumping. Check out videos about how the brain gets the nutrients it needs to thrive. Then, find out what scientists at UW-Madison are doing to discover how the brain changes as people grow up.



**EXPLORING THE BRAIN!**

School of Pharmacy

Learn about how the brain works! See real brains and try out fun activities that trick your brain and show you how this complex organ works!



**GENERATION RX: HELP US STOP MEDICATION MISUSE AND ABUSE!**

School of Pharmacy | Wisconsin Society of Pharmacy Students

Generation Rx is an operation committed to reducing medication misuse and abuse in our society. Generally, we present to students of any age to educate on the dangers of misuse and abuse of prescription medication. Please stop by our booth to learn more!



**HAVE YOU EVER WONDERED HOW YOUR MEDICATIONS ARE MADE?**

School of Pharmacy

Stop by our Pharmacy Compounding Lab for demonstrations on making pills, cough drops, and preparation of IV products. You may even get a chance to help!



**HEALTHY HEART MATCHING BOARD**

School of Pharmacy | Wisconsin Society of Pharmacy Students

Have you ever wanted to hear your own heartbeat? Stop by our station for an opportunity to! We also have a matching activity about healthy and unhealthy activities.



**HOW DOES YOUR BRAIN WORK?**

HSLC | Neuroscience Training Program

NTP Outreach will be bringing human brains, along with other neuroscience related activities so that participants can get hands on and learn more about how their brain works!

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### INFECTION PREVENTION AND YOU

HSLC | Division of Infectious Disease, Madison VA Hospital

Common ways infections are transmitted in the hospital and the evidenced-based practices implemented and/or being studied to prevent these infections from occurring. Another important goal of our work is to prevent these infectious germs from spreading to the communities where people live.



### IT'S ELECTRIC!

HSLC | Women in Science and Engineering (WISE) Residential Learning Community

Check out our exhibit for a hands on experience with circuits and current! Draw a circuit with silver ink, play a banana piano, and control a video game with



### MEDDROP

School of Pharmacy | Wisconsin Society of Pharmacy Students

Teaming up with Safe Communities, MedDrop is dedicated to educating and providing services to the community on safe medication disposal and poison control. MedDrop and Safe Communities offers an environmentally friendly method of disposing of unused or expired medications in an effort to prevent accidental ingestion and drug abuse. Students educate the community about why proper medication disposal is so important and promote the use of the permanent collection boxes in their community.



### MISSION NUTRITION

School of Nursing

Your mission is to learn about health nutrition and how to make smart food choices at home and on the go.



### MODEL ORGANISMS

HSLC | Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)

This exploration station will highlight some of the amazing model organism used in research. Discoveries about biology and human disease come from studying genes in plants and animals that you wouldn't think are all that similar to us. Come

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**MY BRAIN & ME: THE IMPACT OF TRAUMATIC BRAIN INJURY (TBI) ON SENSORY PERCEPTION AND VICE-VERSA | HSLC ROOM 1222 | 750 HIGHLAND AVE | VARIOUS TIMES**

Medicine

This session will consist of a brief introduction to Dr. Ras (the TBI Guy) Geddes and his life and career path to researching age-dependent neurological diseases, such as chronic traumatic encephalopathy (CTE), perinatal hypoxia-ischemia (perinatal H/I) or strokes and temporal lobe epilepsy (TLE) or hippocampal seizures in the laboratory. This will be followed by fun facts about the 5 senses and the Brain, and several interactive games and activities to demonstrate, how important the Brain is and how the Brain and our Perception may impact each other. The session will conclude with information about ongoing UW TBI research and local research opportunities for all ages.



**MY BRAIN IS BETTER THAN YOURS!**

HSLC | Institute on Aging

Test your memory with a fun brain teaser, and learn about the brain cells that are responsible! Attendees will get the chance to look at neural cells under a microscope, as well as representational models of the brain.



**OOPS! DID I DO THAT? UNDERSTANDING HUMAN FACTORS TO DESIGN SAFE HEALTH TECHNOLOGY**

School of Nursing

Learn about the field of human factors engineering--how understanding things like human memory and multi-tasking help us to design better health technologies.



**OPERATION AIRWAYS**

School of Pharmacy | Wisconsin Society of Pharmacy Students

We are a community outreach group from the Wisconsin Society of Pharmacy Students and we will be providing asthma education and educational games on airway health.



**OPERATION DIABETES**

School of Pharmacy | Wisconsin Society of Pharmacy Students

Come visit our station to play a sugar counting game, do My Plate activities, and see a demonstration of how much sugar is in the prepackaged drinks that we all love!



**OPERATION IMMUNIZATION**

School of Pharmacy | Wisconsin Society of Pharmacy Students

Our game helps children differentiate between diseases that are vaccine preventable and learn fun facts about the organisms that cause diseases.

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**ORCHARDS (OREGON CHILD ABSENTEEISM DUE TO RESPIRATORY DISEASE STUDY)**

HSLC | UW Department of Family Medicine and Community Health

ORCHARDS is a community-based influenza surveillance study aimed at detecting influenza in schools and surrounding communities early and effectively. At our station, you'll get to try out our influenza rapid-testing machine, which can detect influenza in 15 minutes with a simple nasal swab using fluorescent immunoassay technology!



**ORIGAMI AND SCIENCE**

School of Nursing

Origami is therapeutic and educational. We can learn mathematics, geometry and more. Let's have fun making Origami!



**OVER-THE-COUNTER MEDICATION SAFETY**

School of Pharmacy | Wisconsin Society of Pharmacy Students

This station aims to educate children and parents about the safe usage of over-the-counter medications.



**PICNIC POINT | 2000 UNIVERSITY BAY DR | 2:00-3:30 PM**

Friends of the Lakeshore Nature Preserve

At the Rock Wall, Emeritus Geology Professor Dave Mickelson will introduce visitors to the origins of the rocks in the stone wall. Dr. Carol McCartney, of the WI Geological & Natural History Survey, will introduce guests to even more rocks and fossils in a Dazzling Display of Wisconsin rocks. Science Olympiad coach Scott Moss will assist Dave Mickelson and Carol McCartney at this station. On the hillside inside the stone wall, a Birding Station will be hosted by gifted naturalists Carolyn Byers and Paul Noeldner. They will provide strategies for identifying birds, and binoculars and a spotting scope for guests to look into the spring sky and across the lake. At the Tree Station visitors identify leafless trees by their shape, bark, buds and twigs. At Fire Circle #2, anthropologists will talk about the effigy mounds and the native people who created the earthen mounds on Picnic Point and nearby areas. At each station, children can engage in related activities.



**PLAQUE ATTACK!**

School of Nursing

Learn ways to combat plaque and take care of your teeth. Interactive activities for children of all ages.

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**SUNDAY, APRIL 8, 2018**



**PROTECT YOU BRAIN...IT'S THE ONLY ONE YOU'LL EVER HAVE!**

School of Nursing

Explore how properly fitted helmets protect your brain.



**RUTH DAVIS DESIGN GALLERY | PRIMATE CENTER | 1210 NANCY NICHOLAS HALL | 12:00 - 4:00 PM**

Center for Design and Material Culture

The Ruth Davis Design Gallery hosts the exhibition "Whirling Return of the Ancestors," a dynamic, multi-sensorial exhibition of sights, sounds, motions ... and emotions. The exhibition presents the rich and varied artistry of Egúngún masquerades and other arts inspired by a tradition that honors and celebrates the power and eternal presence of ancestors among Yorùbá peoples of West Africa. Egúngún masquerades are collaborative family and community creations involving reflection, remembrance, and renewal. Such masquerade pageantry celebrates the spirits of ancestral hunters and warriors, legendary heroes and heroines, founding fathers and mothers, and a pantheon of uncountable deified ancestors (òrìṅà) – all of whom influence and guide the living.



**SCIENTIFIC GLASSBLOWING FOR SCIENTIFIC RESEARCH**

HSLC | Chemistry

The Wisconsin FireWagon will be on-site and used to demonstrate how glass is manipulated in a flame to produce glass instruments for scientific research.



**STAYIN' ALIVE!**

HSLC | Anesthesiology

Come take a look at the world of Anesthesiology! We will get you ready for the operating room and see how a patient goes to sleep for surgery, learn cool anatomy, and take a hands-on turn trying out some of the devices and equipment!



**STUDENTS PARTICIPATING IN CHEMICAL EDUCATION**

HSLC | SPICE

Students Participating in Chemical Education (SPICE) is a student organization at UW-Madison who loves everything and anything science! Join us as we look into a few different properties of some special chemicals and get your hands a little dirty while learning all about the hydrophobic effect!!

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**SUNDAY, APRIL 8, 2018**



### **THE ENGINEERING OF NANOPARTICLES EXPLAINED WITH MAGFORMERS**

HSLC | Department of Chemical and Biological Engineering

In a first instance the concept of nanoparticles will be illustrated by letting the participants build them themselves using various sizes of blocks that way getting across "the-idea-of-scale". Secondly the engineering of these nanoparticles is then illustrated by further "construction" typically using different color blocks for different chemical elements.



### **THE WONDERS OF STEM CELLS**

HSLC | Wisconsin Stem Cell Roundtable and Student Society for Stem Cell Research

At this station visitors will learn what stem cells are, what they can be used for, and how they are grown in labs. There will be a mock cell passaging activity for visitors to get a better idea of what working with stem cells is really like!



### **TOXICOLOGY: THE LEARNING CURVE**

HSLC | Molecular and Environmental Toxicology Center

The foundational dogma for modern science of toxicology: "the dose makes the poison," was thought of by 16th century physician Paracelsus. To put it simply, the interpretation of this declaration is that dose and effect move together in a somewhat linear fashion, and lower exposures to a hazardous compound will therefore generate lower risk. As written by the father of toxicology, "All things are poison, and nothing is without poison: the dose alone makes a thing not poison." This philosophy has held true and is the core assumption underlying the system of chemical-safety testing and risk assessment.



### **TWISTY GENES**

HSLC

Beverly Hutcherson will present an exciting, interactive show about human genetics and DNA recombination and how they help shape and twist our genes to make us unique.



### **UW HEALTH CLINICAL SIMULATION PROGRAM | UNIVERSITY HOSPITAL ON FIRST FLOOR| 600 HIGHLAND AVE | 12:00-2:00PM**

UW Health Clinical Simulation Program

We will provide a tour of our facility with hands-on opportunities to be exposed to the healthcare environment.

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**UW-MADISON VOICE & SWALLOW LAB**

HSLC | Surgery

An interactive exhibit with video, audio, games and activities teaching about the larynx. Participants will be able to participate in hands-on activities



**WHY STUDY FRUIT FLIES?**

School of Pharmacy

Come learn about why scientists use fruit flies as a research model! Students can make their own paper fruit fly, choosing traits like eye color and wing shape, while learning about how alteration of these traits helps us understand the human body and how human cells work.



**YOU GOTTA MOVE TO GROOVE**

School of Nursing

Participants will experience what it is like lose muscle strength when they don't exercise!

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