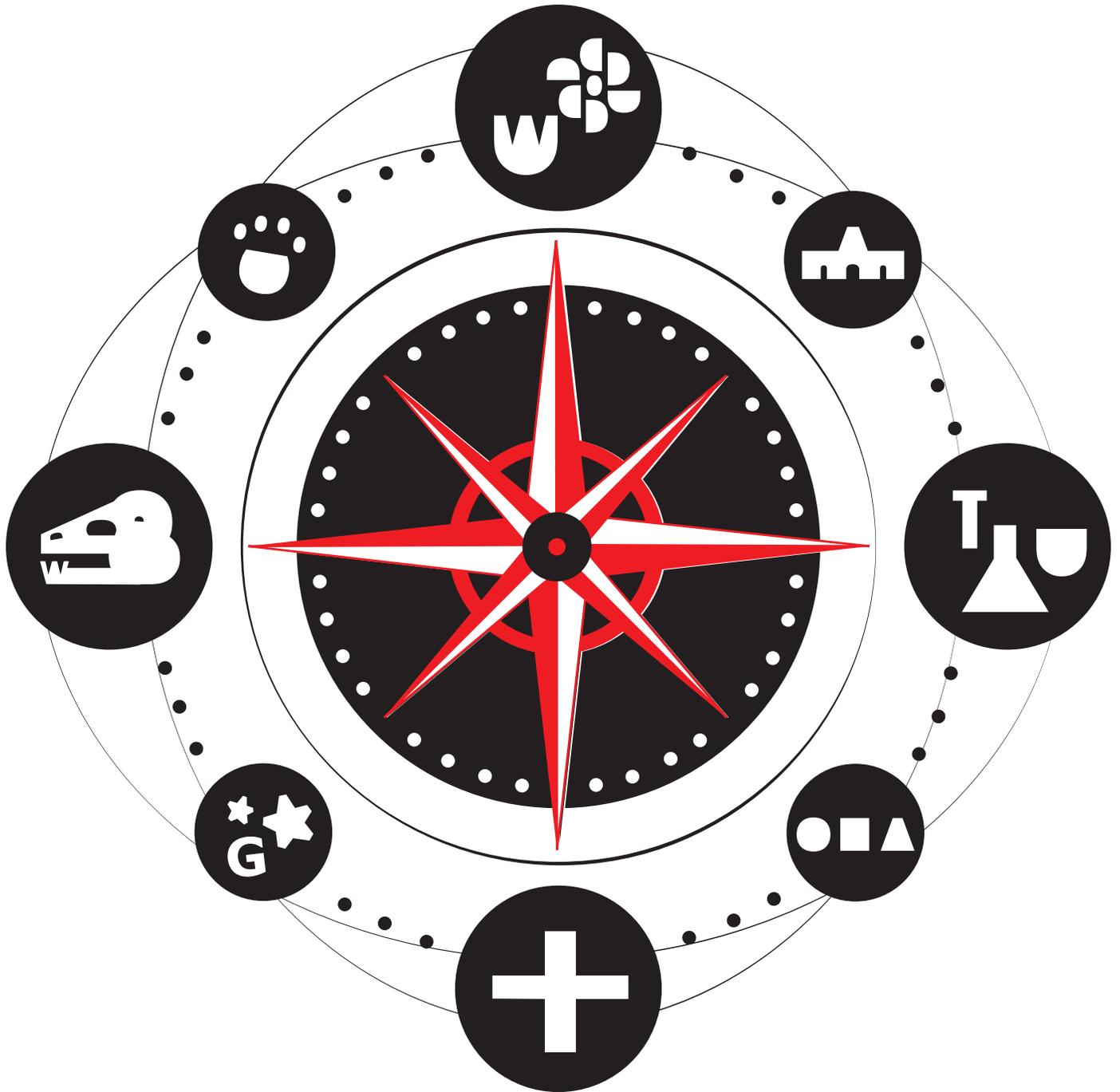


April 1, 2, 3, 2016



SCIENCE EXPEDITIONS

exhibit guide

FRIDAY, APRIL 1, 2016



HISTORIC & HOMETOWN: MASTODONS OF THE UW GEOLOGY MUSEUM, CARRIE EATON ROOM 1111 GENETICS/BIOTECH, 425 HENRY MALL 7:00 - 9:00 PM

UW Geology Museum

For more than 3 million years, American mastodons — prehistoric relatives of elephants — roamed North America during what we commonly call the Ice Age. In the late 19th century, two such mastodons were unearthed in southwestern Wisconsin and were purchased for the UW Geology Museum's permanent collection.

Over the course of a century, one mastodon find became Wisconsin's most famous fossil, while the other was virtually forgotten. In late 2015, this composite skeleton celebrated its 100th year of display in the Geology Museum, and Carrie Eaton unveiled some exciting discoveries regarding its history. Eaton will talk about the rediscovery of a historic specimen, new developments since the story broke, and why its extinction shouldn't prevent us from learning to love the mastodon.



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

UW Space Place

Visit historic Washburn Observatory for public observing, weather permitting. Check Washburn Twitter Feed for updated weather information the evening of the event.



Explorations
Stations



Destinations
for Exploration



Science
Spectaculars

1.



SATURDAY, APRIL 2, 2016



A JOURNEY THROUGH THE AUDITORY SYSTEM

Department of Communication Sciences and Disorders - Audiology

This exploration station includes an interactive journey through the human auditory system. You will discover how sound travels through the different parts of the ear through a hands-on experience. You will also be able to build an inner ear hair cell out of candy, listen to sounds with a hearing loss, and learn how to protect your hearing from damaging noise.



ALLEN CENTENNIAL GARDENS OPEN HOUSE | 620 BABCOCK DR. | DAWN - DUSK

UW-Madison Horticulture Dept.

Allen Centennial Garden is the artful living laboratory and public botanical garden of the Horticulture Department at the University of Wisconsin-Madison. The Garden serves as an outdoor classroom for UW-Madison students and the surrounding communities, providing meaningful learning opportunities for visitors of all ages.



ASK A GEOLOGIST - IS YOUR WATER SAFE TO DRINK?

Wisconsin Geological Survey - UWEX

What does geology have to do with your drinking water? Where does your drinking water come from? How do you know if it's clean? In most of Wisconsin, our drinking water comes from the ground. It is in the rocks beneath our feet and it moves through the cracks and pore spaces in those rocks. Come look at a dazzling display of those rocks and try your hand at a model of groundwater flow.....and ask our geologists about YOUR water.



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

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

Did you know that Madison is the birthplace of satellite meteorology? Come to the building where it all started! Visitors can view real-time imagery of the earth and its atmosphere on a 3-D globe, investigate weather phenomena such as tornadoes and hurricanes via interactive computer activities, and get a birds-eye view of Madison from the roof of our 16-story building where (iconic) satellite dishes download data from all over the world. www.ssec.wisc.edu/outreach/science-expeditions/

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



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SATURDAY, APRIL 2, 2016



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. Complementary 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.



BIOMEDICAL RESEARCH AND YOU!

Research Animal Resources Center (RARC)

The Research Animal Resources Center (RARC) Trainers provide instruction to over 7000 biomedical researchers on the UW-Madison campus. Through hands on interaction and discussion the Trainers will provide visitors with a better understanding of animal models, the role of animals and the many benefits they provide to both humans and animals alike.



BONE DETECTIVES

Biocore Outreach Ambassadors

Step into the shoes of a zoologist and learn to identify an animal by measuring its bones. We will have the skeletons of different animals such as house cats, dogs, wolves, and coyotes generously provided by the UW Zoology Museum.



BOTANY PLANT GROWTH FACILITIES | BIRGE HALL | 10:00 AM - 2:00 PM 430 LINCOLN DR

Botany

The facilities feature more than 1,000 species and aquatic, desert and tropical communities. Botany and other UW departments make extensive use of this working facility, permitting faculty and students to undertake a variety of research projects in plant geography, physiology, anatomy, ecology, taxonomy and other related areas. In addition to meeting essential teaching and research interests, the greenhouses and garden are an aesthetic resource for students and the community. Botany staff assist visitors seeking advice on plants for their homes and gardens, and touring school children gather the seeds of environmental stewardship.

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



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SATURDAY, APRIL 2, 2016



BRAIN GAMES

Delta Informal Science Education Course

Have you ever wondered how your brain processes visual information in your surroundings and translates them into motor function? In this exhibit, visitors will explore what happens when visual perception is altered. Can the brain still perform simple tasks such as hitting a target? Come and find out!



BREATHE IN, BREATHE OUT: IRON AND OXYGEN TRANSPORT

UW Department of Chemistry

Proteins are essential for our body's day to day functions. Proteins come in many shapes and sizes. Some proteins have metals in them, we call those metalloproteins. Metals like iron help hemoglobin, an important protein, to function but what happens if hemoglobin does not have iron? How do we get those necessary metals into our bodies, so we can be healthy? How do scientist detect these important metals? Come learn the answers to all these questions and more at "Breathe In, Breathe Out: Iron and Oxygen Transport".



BUILD YOUR OWN FLY!

Pharmaceutical Sciences

Our exploration station introduces the public to the principles of genetic model organism research and basic genetics using hands-on activities with the fruit fly, *Drosophila melanogaster*. Students are introduced to the many genetic tools in the fruit fly as they build their own paper fly that they can take home with them. The students customize their fly by choosing specific traits that can be modified in a real organism, such as eye color, wing shape, and bristle type. Students also learn about the difference between genotype, or the genetic sequence, and phenotype, or the externally visible trait. They can then observe real, living fruit flies under a microscope, allowing them to see what their paper fly would look like as an actual organism. Altogether, this exploration station introduces both students and adults to the power and importance of genetic model organism research.



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.

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



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SATURDAY, APRIL 2, 2016



**CHASING THE GHOST PARTICLE | STERLING HALL PLANETARIUM,
475 CHARTER ST. | 10:00 AM - 2:00 PM**

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.



CLONING: WHO NEEDS A SEED?

Delta Informal Science Education Course

Cloning, the generation of two or more similar copies of an organism, is a natural process used by many plants, bacteria, fungus, and some animals to reproduce. Our exploration station will showcase a variety of organisms that use this method to propagate. Visitors will get to clone a plant to bring home with them.



COWS TURN GRASS INTO MILK

Center for Integrated Agricultural Systems

Take a quiz comparing grassfed and conventional cheese and butter (including cheese tasting) and take part in a hands-on activity designing managed grazing systems using miniature electric fence segments, cows, a dairy barn, and a pasture. Students will be encouraged to draw cows, pastures and grazing systems (we'll encourage more complex drawing projects for older kids), and their artwork will be posted. Students can take a grazing activity sheet and we will have a Fun Grazing Facts Fortune Teller craft to make at the exhibit or take home, as well as take-home information on the properties of grassfed dairy products and recipes for parents.



**DAIRY CATTLE CENTER TOUR AND ROAMING THROUGH THE RUMEN
EXPLORATION | DAIRY CATTLE CENTER, 1815 LINDEN DR. | 9:30
AM - 3:30 PM**

Dairy Science Dept.

A guided tour of the Dairy Cattle Center. Besides the tour, you'll have the option to view a presentation and a hands on experience of roaming through the rumen of a dairy cow.

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



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SATURDAY, APRIL 2, 2016



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

Explore the fascinating world of plants and participate in hands-on activities in the DC Smith Greenhouse.



DIFFERENT WAYS OF SEEING
McPherson Eye Research Institute

How might a person with impaired vision see the world? With different abilities and through specially prepared masks (for children) or goggles (for youth and adults), 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 such as optic nerve hypoplasia, albinism, and colorblindness. While looking through these mask and goggle simulators, participants will try activities including reading (varied print sizes), writing (varied pens and papers), telling time (using regular and large-print watches, a talking clock, regular and large-print calendars), and vision testing with a traditional eye chart.



DIVERSITY IN THE PRAIRIE: RESEARCH AT THE ARBORETUM
UW-Madison Arboretum

At our station, participants will practice being a scientist by doing a simulation of collecting field data in the prairie. Participants will also be engaged in thinking about and discussing plant species diversity, pollination, and habitat needs of animals living in the prairie.



DNA AND ITS MESSAGE
Integrated Program in Biochemistry

Making names with DNA bases and "translating" the names to candies, to teach about the process of transcription and translation and how DNA contains information.



ENGINEERING EXPO
Engineering EXPO

Engineering EXPO will be making buttons to demonstrate assembly and how parts working cohesively together as a whole is important.

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



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SATURDAY, APRIL 2, 2016



EXPLORING INSECTS

Entomology

This is the booth of the UW Madison Entomology department's Insect Ambassadors. We share insect science and beauty with interactive, hands on time with both live and preserved insects. Hold cockroaches, tarantulas, and walking sticks and take a look at the beautiful and exotic specimens collected from all corners of the world. Remember, the little things rule the world!



EXPLORING LIGHT AND OPTICS

SPIE/OSA - UW Madison

Graduate Students from SPIE/OSA - UW Madison chapter will be giving hands-on demonstrations of the properties of light. Examples of topics include fluorescence, filters, polarizers, lasers, and lenses. Come explore light with us and learn about how we use light in our lives every day!



EXPLORING RUMINANTS

Heartland Farm Sanctuary

Heartland Farm Sanctuary presents Exploring Ruminants - a hands-on exploration station that allows participants to see & explore the digestive process of ruminants (cows, sheep, goats, etc.) and follow food from start to finish as it travels through the ruminant's stomach compartments.



EXTRACTING DNA FROM FRUIT!

BME Graduate Student Association

We will be extracting DNA from strawberries which have 8 copies of their DNA, meaning that even one strawberry can provide enough DNA to see by the naked eye.



EXTREME SOUTH POLE SCIENCE

WIPAC

Come experience the world of the neutrino, often called the weirdest particle in nature. Learn about the unique properties of the so called ghost particle that can pass through the Earth undeflected, and exist in three identities at the same time. Learn about how despite being born with a single identity, they can mutate into another neutrino identity when they are detected by experiments such as IceCube, the cubic-kilometer neutrino detector at the South Pole.

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SATURDAY, APRIL 2, 2016



FUN WITH CHEMISTRY

Students Participating in Chemical Education

Come learn about chemistry through a hands-on activity with UW Madison students!



GENETICS & YOU: HOW MUCH DO YOU KNOW ABOUT DNA

UW Cytogenetics/WI State Laboratory of Hygiene

Learn more about DNA by playing a chromosome matching game and making bead bracelets representing your genetic traits. What do we inherit from our parents? What kind of genetic differences can run through a family tree? What's a genetic mutation? How do scientists look at genes and chromosomes? How do Wisconsin State Laboratory of Hygiene scientists use genetic testing to help patients and doctors?



GEOLOGICAL ENGINEERING

Geological Engineering Student Chapter

The Geological Engineering Student Chapter will be putting on an interactive exhibit, which showcases some of the key components of Geological Engineering: Soils, Rocks, and Environmental work. The exhibit will have a Liquefaction tank, where visitors will watch what happens to a toy house when they "create an earthquake." There will also be a rock sorting game where visitors learn about the difference between sedimentary, igneous and metamorphic rock. Finally the exhibit will include a landfill model to help visitors understand where their garbage goes after they leave it on the curb.



GROWING FOOD IN SPACE: USING LEDS TO OPTIMIZE PLANT GROWTH AT BIOTRON LAB

Biotron Laboratory

Light Emitting Diodes (LEDs) offer a unique opportunity to study the effects of specific colors (wavelengths) of light on plant growth. The Biotron Laboratory has LEDs installed in greenhouse rooms to encourage continued testing and development of this innovative technology. Our exploration station displays plants grown under various colors of LEDs, resulting in observable differences in growth. This interactive display challenges students to match the plants with the lighting condition that produced them. Biotron staff will prompt visitors with questions about photosynthesis and growth to encourage appreciation for complexity of plant responses to light.

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



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SATURDAY, APRIL 2, 2016



HEALTH SYSTEMS ENGINEERING SURGERY PROCESS IMPROVEMENT SIMULATION

QSI Lab (UW Health and Industrial Engineering)

The Quality Safety and Innovation Lab Interns want to show you what Health Systems Engineers do. The paper patient needs you to figure out the most efficient and fastest way to perform the surgery, so you can save its life and have time to save more lives! You will have multiple trials to determine the best method and use health systems engineering principles along the way. It's a beautiful day to save lives!



HOW ARE GREENHOUSE GASES CHANGING OUR CLIMATE AND WHAT ARE THE IMPACTS?

Delta Informal Science Education Course

Greenhouse gases (GHGs), especially those emitted by human activities, are warming the Earth's atmosphere and change the climate. What are the GHGs and how do they affect our climate? A simple hands-on experiment will show the greenhouse effect of carbon dioxide (CO₂) in plastic bottles, along with computer or poster presentations of GHGs. The global warming caused by CO₂ and other GHGs is not the end, but rather the start of the anthropogenic (human-induced) climate change, which will have profound and extensive impacts on our Earth system as a whole, as well as the daily life of people around the world. Some possible impacts of anthropogenic climate change include the melting of land and sea ice sheets and the resulting sea level rise, increase and intensification of hurricanes and tropical storms, extreme weather events increasing in numbers and expanding to new regions. Exhibits will be set up to show these impacts and how they are related to global warming and climate change. In particular, a model will be used to demonstrate how much the melting glaciers and ice sheets (of Greenland, for example) will raise the sea level and how this will impact the coastal regions around the world.



HOW WE WORK: ORGANS OF THE BODY

WMS Pre-Med

Hands-on models of the heart, kidneys, stomach, and lungs will be used to explain the general functions of each.



HYDROPHOBIC AND HYDROPHILIC

Institute for Chemical Education-UW-Madison

Participants will discover the difference between hydrophobic and hydrophilic materials. They will also learn about biomimicry and how scientists try to imitate nature when creating man made products.

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



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SATURDAY, APRIL 2, 2016



INSECT RESEARCH COLLECTION | ROOM 147 RUSSELL LABS, 1630 LINDEN DR. | 12:00 - 4:00 PM

UW-Madison Dept. of Entomology



L.R. INGERSOLL PHYSICS MUSEUM | ROOM 2130 CHAMBERLIN HALL, 1150 UNIVERSITY AVE. | 9:00 AM - 4:00 PM

Department of Physics

The Ingersoll museum is free to public and runs on donations. 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 museum consists of over 60 exhibits with some rotating in and out each year. In conjunction to our museum, you can find historical instruments and photos of the Nobel Prize Winners in Physics from 1901-1993 on display along the corridors of Chamberlin Hall.



LEAFCUTTER ANT DISPLAY COLONY | GROUND FLOOR/ATRIUM MICROBIAL SCIENCES, 1550 LINDEN DR. | 10:00 AM - 2:00 PM

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.



LEARN ABOUT YOUR BRAIN AND HOW IT WORKS WITH NTP OUTREACH!

Neuroscience Training Program Outreach

Visit our booths to learn about the brain and field of neuroscience! You'll get to meet neuroscience researchers, hold a real human brain and participate in activities to challenge your mind and learn how it works!



MARMOSETS IN OUR MIDST LEARNING LOBBY | PRIMATE CENTER, 1220 CAPITOL CT. | 12:00 - 4:00 PM

Primate Center

Visit the Wisconsin National Primate Research Center's learning lobby just three blocks south of the Wisconsin Institutes for Discovery on Capitol Court off Orchard Street. View a lively family of marmoset monkeys, try hands-on activities, and learn about research, animal care and careers.

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



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SATURDAY, APRIL 2, 2016



MICROFLUIDICS

Discovery Outreach/STEM Fellows/Beebe Lab

We will explore basic principles of fluid dynamics using LEGO-like blocks that have microfluidic channels integrated into them. These blocks can move fluid around and do basic fluidic operations like mixing and splitting, laminar flow, trapping fluid, etc. It's all open to the air and doesn't require any special equipment to use it, just an eye dropper and some colored water. Participants will be able to manipulate blocks to investigate various properties of water on a small scale.



OIL AND WATER: HOW CRUDE MOVES IN THE GREAT LAKES REGION

UW Sea Grant Institute

Crude oil can move by pipeline, rail, ship and barge, and truck. Industries in the Great Lakes Region are dependent on it, but potential oil spills anywhere within the Great Lakes watershed pose risks to the environment and communities. Experience some properties of oil and water while exploring some of the issues surrounding moving crude oil in the Great Lakes Region.



PEEPS JOUSTING AND THE IDEAL GAS LAW

UW-Madison Food Science Club

Our hands-on experiment will demonstrate how the ideal gas law impacts Peeps candy under different pressures and temperatures. Be on the look out for the Peeps jousting in the microwaves at our table!



PLANTS AND THEIR POLLINATORS

J.F. Crow Institute for the Study of Evolution; Botany

This activity consists of a fun memory matching game where participants will try to link plants to their correct pollinators. There will be displays of plants with interesting pollinator interactions and discussion of co-evolution in some cases.



PLASMA PHYSICS AND FUSION POWER

UW Dept of Physics

Interact with amazing plasma displays! Collect free Exotic Plasmas of the Universe trading cards. Learn about plasma physics and fusion power research at UW Madison through colorful pictures and hands on demonstrations.

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



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SATURDAY, APRIL 2, 2016



REPTILES & AMPHIBIANS!

Madison Area Herpetological Society

A 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.



ROOFTOP GREENHOUSE AT LEOPOLD RESIDENCE HALL | LEOPOLD RESIDENCE HALL, 1635 KRONSHAGE DR. | 10:00 AM - 2:00 PM

UW Housing - Residence Life

Join undergraduate residents and UW Housing Staff in a rare open-house of the rooftop greenhouse at Leopold Residence Hall. Open to the public only for Science Expeditions, Leopold Hall is the newest residence hall on the UW-Madison campus. The hall is home to GreenHouse Learning Community and features green building techniques. Most prominent is the greenhouse on the roof. Come visit us and our plants in the Lakeshore Neighborhood!



SCIENCE IS FUN!

Chemistry/WISL

Join Professor Bassam Shkhashiri's SCIENCE IS FUN student presentation group for hands-on activities that showcase fascinating scientific phenomena. Explore items that sink, float, shrink, expand, change color, and more! You can explore at home as well, by visiting www.scifun.org



SCIENTIFIC GLASSBLOWING TOUR | ROOM B-201 CHEMISTRY BLDG., 1101 UNIVERSITY AVE. | 10:00 AM - 2:00 PM

Department of Chemistry

The chemistry department has the only scientific glassblowing laboratory on the UW-Madison campus. Many of the glass instruments are custom built by hand to aid scientists in their research. Come learn about glass and watch as fire is used to create these practical and beautiful glass tools.



SERIOUS FUN: HOW WE LEARN ABOUT CHILDREN'S THINKING BY PLAYING GAMES

Psychology Department

Come learn about research from the Psychology Department exploring how children's thinking changes over development. Members of the SPACE (Spatial Perception, Action, Cognition, and Embodiment) Lab will demonstrate some of the topics we study, looking at how young children use visual information for different purposes. We ask research questions such as: How do children learn to keep track of objects that are out of sight? What features help children recognize animals and objects? How do developing language skills support memory for visual features and locations? What role does attention play in limitations in children's memory?

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SATURDAY, APRIL 2, 2016



SOLVING PROBLEMS WITH SCIENCE! THE BABCOCK BUTTERFAT TEST

Madison Science Museum

Our Exploration Station will let visitors conduct a Babcock Butterfat test. We will simulate the technique for measuring butterfat in milk using the original Babcock centrifuge!



STUDENTS PARTICIPATING IN CHEMICAL EDUCATION CHEMISTRY DEMONSTRATION | ROOM 1351 CHEMISTRY BLDG., 1101 UNIVERSITY AVE. | 11:00 AM & 2:00 PM

Students Participating in Chemical Education

Come watch UW Madison students perform chemistry experiments! There will be fire, explosions, and more!



THE BIOMECHANICS LAB | ROOM 1081 NATATORIUM, 2000 OBSERVATORY DR. | 10:00 AM - 2:00 PM

Dept of Kinesiology

Experience how researchers explore the mechanics of motion, strength and balance in the human body.



THE INCREDIBLE SURFACE OF WATER

UW-Madison, Chemistry

The high surface tension of water makes its surface unusually strong. Come explore its unique properties by participating in hands-on demonstrations. Make a soap-propelled boat, create your own lava lamp, learn about the shapes of soap bubbles and films, or step inside a human-sized bubble.



THE MAGICAL WORLD OF MICROBES

Delta Informal Science Education Course

Did you know that there are more microbes on a person's hand than there are people in the world? Luckily for us, not all microbes are bad. At our booth you can test out how well you wash your hands to combat the bad microbes, as well as learn some fun facts about the different types of microbes and how they can be beneficial or even essential for our survival!

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



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SATURDAY, APRIL 2, 2016



THE PHYSICAL ACTIVITY EPIDEMIOLOGY LAB OPEN HOUSE | ROOM 2057 NATATORIUM, 2000 OBSERVATORY DR. | 10:00 AM - 2:00 PM

Kinesiology

From old-school pedometers to Fitbits & beyond, validating the measurement of physical activity is a powerful way to explore the interplay between a physically active lifestyle and health. The Lab probes associations between activity and outcomes such as cancer, recurrence of cancer, functional status in the elderly, and various health behaviors.



THE WORLD OF BEES AND OTHER POLLINATORS

Entomology and USDA-ARS

Can you distinguish a bee from a wasp? Do you know the differences in the life history between bumble bees and honey bees or solitary bees? Do you know which food/crop requires bees, other insects, birds or bats for pollination? Want to find ways to help preserve pollinators? Our booth on the World of bees and other pollinators will help you answer these questions and more.



TOILETS TO TOMATOES: BIOSOLIDS REUSE

Civil and Environmental Engineering; Soil Science; Wisconsin State Lab of Hygiene

Learn about the treatment of wastewater solids for reuse as a fertilizer. Includes a hands-on water treatment activity and free biosolids samples.



UW GEOLOGY MUSEUM | 1ST FLOOR WEEKS HALL, 1215 W. DAYTON ST. | 10:00 AM - 4:00 PM

UW Geology Museum

Come explore the colors of geology! From red-hot lava to pearly, iridescent shells you'll dig to new depths learning about rocks, minerals and fossils.



UW MADISON PRE-DENTAL SOCIETY

Pre-Dental Society

The UW-Madison Pre-Dental Society provides kids and families trivia facts about teeth and oral hygiene. In addition, we have hand-on activities for brushing and flossing teeth, followed by goodie bags for our participants.

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



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14.



SATURDAY, APRIL 2, 2016



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

UW Space Place

Visit historic Washburn Observatory for public observing, weather permitting. Check Washburn Twitter Feed for updated weather information the evening of the event.



WHAT IS COMPARATIVE PSYCHOLOGY?

Developmental Psychobiology Lab

The Comparative Psychology Outreach program is intended to teach students about primates, specifically focusing on diet, habitat, cognition, life cycle and life in a research lab. Each focus of the program includes a hands-on activity, most of which are based off of activities that Rhesus Macaques at the Harlow Primate Center also complete.



WHEN YOU SAY WISCRANSIN

Department of Horticulture

Did you know that 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 THE WILD THINGS GROW

USDA/ARS; Dept. of 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.

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



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SATURDAY, APRIL 2, 2016



WISCWIND

WiscWind, Wisconsin Energy Institute

WiscWind will display our prototype competition wind turbine as well as educational wind power activities for all ages.



**WONDERS OF PHYSICS "THE PHYSICS OF PLASMA" | ROOM 2103
CHAMBERLIN HALL, 1150 UNIVERSITY AVE | 10:00 AM, 12:00 PM, &
2:00PM**

Come see The Wonders of Physics 30-minute show called "The Physics of Plasma." The goal of the program is to educate people about plasmas: what they are, where they can be found, and what we can do with them. Audience members will be entertained and amazed by fun, fast-paced demonstrations of various plasma devices, including: plasma globes, Van de Graaff generator, Jacobs ladder, Tesla coil, and two new musical Tesla coils!

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



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SUNDAY, APRIL 3, 2016



A MARTIAN'S MEAL: GARDENING IN SPACE AND ON OTHER PLANETS

HSLC | Department of Botany

People living on the International Space Station (ISS) rely on packaged foods supplied from Earth. However, where will food come from for longer missions and ultimately for human survival on another planet? Plant research in the Gilroy Lab at UW-Madison addresses this question and we are discovering answers which turn science fiction into science fact. Living plants provide astronauts with nutrition and are a key component of bioregenerative life support. In addition, the sight, smell, and taste of fresh leafy greens provides psychological benefits to astronauts. Find out about growing plants in microgravity on the ISS, including lighting, watering, and the challenges plants face as they adapt to an environment that is out of this world.



ASK A GEOLOGIST - IS YOUR WATER SAFE TO DRINK?

HSLC | Wisconsin Geological Survey - UWEX

What does geology have to do with your drinking water? Where does your drinking water come from? How do you know if it's clean?



BONE DETECTIVES

HSLC | Biocore Outreach Ambassadors

Step into the shoes of a zoologist and learn to identify an animal by measuring its bones. We will have the skeletons of different animals such as house cats, dogs, wolves, and coyotes generously provided by the UW Zoology Museum.



DOCTORS OUGHT TO CARE (DOC) ORGAN STATION

HSLC | Doctors Ought to Care (DOC)

UW medical students presenting a variety of human organ specimens.



EBLING LIBRARY-ASK US (ALMOST) ANYTHING

HSLC | Ebling Library for the Health Sciences

Whether you need authoritative online health information, need to know how to use the UW Library catalog & databases, or would like to know about Ebling itself, we will have graduate library students available to show you the ropes. Knowledge is power!

*** Sunday Exploration Stations are at the Health Sciences Learning Center and School of Nursing's Signe Skott Cooper Hall 10 am - 2 pm**



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SUNDAY, APRIL 3, 2016



ENGINEERING EXPO
HSLC | Engineering EXPO

Engineering EXPO will be making buttons to demonstrate assembly and how parts working cohesively together as a whole is important.



FUN WITH CHEMISTRY
HSLC | Students Participating in Chemical Education

Come learn about chemistry through a hands-on activity with UW Madison students!



GEOLOGICAL ENGINEERING
HSLC | Geological Engineering Student Chapter

The Geological Engineering Student Chapter will be putting on an interactive exhibit, which showcases some of the key components of Geological Engineering: Soils, Rocks, and Environmental work. The exhibit will have a Liquefaction tank, where visitors will watch what happens to a toy house when they “create an earthquake.” There will also be a rock sorting game where visitors learn about the difference between sedimentary, igneous and metamorphic rock. Finally the exhibit will include a landfill model to help visitors understand where their garbage goes after they leave it on the curb.



GLASSBLOWING FOR SCIENTIFIC RESEARCH WITH THE WISCONSIN FIREWAGON
HSLC | Chemistry

Scientific glassblowers provide the glass tools and instruments for today's cutting edge research. Learn about glass, glass science, and watch as a torch and fire is used to manipulate glass into a variety of shapes and forms.



GROWING FOOD IN SPACE: USING LEDS TO OPTIMIZE PLANT GROWTH AT BIOTRON LAB
HSLC | Biotron Laboratory

Light Emitting Diodes (LEDs) offer a unique opportunity to study the effects of specific colors (wavelengths) of light on plant growth. The Biotron Laboratory has LEDs installed in greenhouse rooms to encourage continued testing and development of this innovative technology. Our exploration station displays plants grown under various colors of LEDs, resulting in observable differences in growth. This interactive display challenges students to match the plants with the lighting condition that produced them. Biotron staff will prompt visitors with questions about photosynthesis and growth to encourage appreciation for complexity of plant responses to light.

*** Sunday Exploration Stations are at the Health Sciences Learning Center and School of Nursing's Signe Skott Cooper Hall 10 am - 2 pm**



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SUNDAY, APRIL 3, 2016



GUIDED EXPLORATION OF PICNIC POINT | LOT 129, 2004 UNIVERSITY BAY DR. | 2:00 -3:30 PM

Friends of the Lakeshore Nature Preserve

Learn the natural and cultural history of Picnic Point, Sunday April 3, 2pm, with Friends of the Lakeshore Nature Preserve. Gather at the stone gate entrance to Picnic Point a few meters north of Lot 129, 2004 University Bay Drive. Friendly guides will accompany small groups of visitors to four different stations in the Preserve, where guests can learn from experts in geology, Native American mounds, trees and beach ecology, and children can engage in related activities.



HEARTS, LIVERS, AND BRAINS, OH MY!

School of Nursing

Did you know that there are 5 vital organs in each human body that are essential to our survival? Join us to learn what these organs look like, feel like, and what jobs they do.



LEARN ABOUT YOUR BRAIN AND HOW IT WORKS WITH NTP OUTREACH!

HSLC | Neuroscience Training Program Outreach

Visit our booths to learn about the brain and field of neuroscience! You'll get to meet neuroscience researchers, hold a real human brain and participate in activities to challenge your mind and learn how it works!



LET'S BREATHE

School of Nursing

Do you know how breathing feels for someone with asthma? Use real stethoscopes on life-like manikins and listen for yourself.



MICROFLUIDICS

HSLC | Discovery Outreach/STEM Fellows/Beebe Lab

We will explore basic principles of fluid dynamics using LEGO-like blocks that have microfluidic channels integrated into them. These blocks can move fluid around and do basic fluidic operations like mixing and splitting, laminar flow, trapping fluid, etc. It's all open to the air and doesn't require any special equipment to use it, just an eye dropper and some colored water. Participants will be able to manipulate blocks to investigate various properties of water on a small scale.

*** Sunday Exploration Stations are at the Health Sciences Learning Center and School of Nursing's Signe Skott Cooper Hall 10 am - 2 pm**



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SUNDAY, APRIL 3, 2016



MIND GAMES

School of Nursing

Is your mind playing tricks on you? Come see what your mind can do!



OPERATION AIRWAYS

HSLC | Wisconsin Society of Pharmacy Students

Operation Airways is a community outreach organization run by students from the UW School of Pharmacy. Operation Airways focuses on increasing awareness of respiratory diseases such as asthma and COPD and their risk factors throughout the community. Additionally, they promote smoking cessation education and support. Join us today to learn about asthma and smoking prevention through interactive games, lung models, and Iggy the Inhaler comic books!



OPERATION DIABETES

HSLC | Wisconsin Society of Pharmacy Students

Operation Diabetes is a community outreach organization run by students from the UW School of Pharmacy. Operation Diabetes focuses on increasing awareness of diabetes and its risk factors throughout the community. Additionally, they promote diabetes education through elementary and middle school presentations about the disease and healthy habits of prevention. Join us to learn more about carbohydrates and healthy snacking through an interactive game, and don't forget to try some healthy fruits and vegetables!



OPERATION SELF-CARE OVER-THE-COUNTER MEDICATION SAFETY

HSLC | Wisconsin Society of Pharmacy Students

Come join UW-Madison School of Pharmacy student volunteers in educating both children and parents of safety concerns regarding the use of over-the-counter medications. We will be educating on proper dosing techniques, medication safety and hanging out appropriate dosing devices.



ORCHARDS - OREGON CHILD ABSENTEEISM DUE TO RESPIRATORY DISEASE STUDY. WHAT CAN ABSENT KIDS TELL US ABOUT INFLUENZA?

HSLC | Department of Family Medicine and Community Health

We will provide the following: (1) information on influenza and other respiratory viruses that cause the "flu" and "common colds" (2) how viruses move through schools and communities (3) how influenza and other viruses can be detected using laboratory tests (4) what you can do to help prevent the spread of influenza and colds

*** Sunday Exploration Stations are at the Health Sciences Learning Center and School of Nursing's Signe Skott Cooper Hall 10 am - 2 pm**



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

School of Nursing

These aren't head games! Learn how properly fitted helmets protect your brain.



SEEING THROUGH YOUR EYES

School of Nursing

Try out our vision goggles and experience what it's like to see through the eyes of someone with vision loss.



SERIOUS FUN: HOW WE LEARN ABOUT CHILDREN'S THINKING BY PLAYING GAMES

HSLC | Psychology Department

Come learn about research from the Psychology Department exploring how children's thinking changes over development. Members of the SPACE (Spatial Perception, Action, Cognition, and Embodiment) Lab will demonstrate some of the topics we study, looking at how young children use visual information for different purposes. We ask research questions such as: How do children learn to keep track of objects that are out of sight? What features help children recognize animals and objects? How do developing language skills support memory for visual features and locations? What role does attention play in limitations in children's memory?



SPORTS RECOVERY DRINKS

HSLC | UW Athletics

My station will offer samples and supporting nutritional information regarding a few sports recovery drinks created using several UW resources. One will be a product created by Dairy Science using cherry juice and whey protein. The other two will be dairy based post workout drinks made by a Wisconsin based company, Organic Valley.



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 neat devices and equipment!!

*** Sunday Exploration Stations are at the Health Sciences Learning Center and School of Nursing's Signe Skott Cooper Hall 10 am - 2 pm**



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THE SPLICE SITE IS RIGHT

HSLC | Graduate Women in Science

Gene splicing is essential in all eukaryotes (especially humans!). This process is an important step in gene expression, and it's done by a tiny macromolecular machine in your cells called the spliceosome. The spliceosome is important during the process where the genetic code from DNA is turned into instructions for your body. Come see our hands-on explanation of how the genetic code gets turned into the instructions for your body to make the proteins it needs, and how splicing affects this process. We'll explain what happens when splicing goes wrong and genes are "mis-spliced".



TRANSITIONS ARBORETUM WALK | VISITOR CENTER UW-MADISON ARBORETUM, 1207 SEMINOLE HIGHWAY | 1:00 - 2:30 PM

UW-Madison Arboretum

Early spring can have variable weather, influencing plant awakenings and animal behavior. Walk with the naturalist to areas where changes are most evident.



TRIP-IT -- ARE YOU SAFER IN VIRTUAL REALITY THAN IN YOUR HOUSE?

School of Nursing

Surprising safety hazards lurk all over your house! Come tour the School of Nursing's apartment and see if you are the best in locating safety hazards -- Then walk through a house of the future using the Oculus Rift and see if you can find even more hazards.



TRULY REMARKABLE LOON | SCHOOL OF NURSING'S SIGNE SKOTT COOPER HALL, 701 HIGHLAND AVE. | 2:00 - 3:00 PM

Truly Remarkable Loon

Get a glimpse of Truly Remarkable Loon--a fixture on fair and festival stages across America--as he juggles giant bean-bag chairs, spins plates and tosses dreaded implements of death during a special performance at Signe Skott Cooper Hall. Join the juggling workshop from 12:00 - 1:30 PM in the lobby.



UW HEALTH CLINICAL SIMULATION PROGRAM | ATRIUM HEALTH SCIENCES LEARNING CENTER, 750 HIGHLAND AVE | 10:00 AM - 2:00 PM

HSLC | UW Health Clinical Simulation Program

Participants will tour the brand new, state-of-the-art Clinical Simulation Program. During the tour, participants will have the opportunity for some hands-on experiences in simulated healthcare rooms as well as interacting with high-fidelity human patient simulators

*** Sunday Exploration Stations are at the Health Sciences Learning Center and School of Nursing's Signe Skott Cooper Hall 10 am - 2 pm**



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VOICE & SWALLOW LABORATORY

HSLC | UW Department of Surgery

An interactive exhibit with video, audio, games and activities teaching about the larynx. Participants will watch videos of the human body during voice and swallowing, and participate in hands-on activities to learn about the structure and function of the larynx during swallowing and voicing.



WIRING OF THE BRAIN

HSLC | Neuroscience

This exploration station will discuss experiments scientists perform to study how neurons develop and how the nervous system becomes connected into a network. The human nervous system (brain, spinal cord and peripheral nervous system) contains 100,000,000,000 (100 billion) neurons and 10,000,000,000,000 (10 trillion) connections called synapses. How such a complicated network forms normally during development is poorly understood and why errors occur in developmental diseases, such as autism spectrum disorders, is not known. Scientists are using various animal model systems and human neurons from induced pluripotent stem cells to answer these questions.



WOMEN IN SCIENCE AND ENGINEERING: EXPLORE CONDUCTIVITY

HSLC | WISE: Women in Science and Engineering

We are the Women in Science and Engineering. At our station, we will explore what materials work and don't work in producing heat and electricity through MaKey MaKey.



YOU GOTTA MOVE TO GROOVE

School of Nursing

Laying around makes your muscles weak! At this station you will learn how hard your legs have to work if you don't exercise. Do you know how many steps it takes to go around the atrium of Cooper Hall? Find out!



YOU, THE DOCTOR!

HSLC | University of Wisconsin Medical Scientist Training Program

Listen to heart and lung sounds, learn to take reflexes and blood pressure, and much more at this hands on health station, run by UW's MD/PhD dual degree students.

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YOUR ELECTRICALLY EXCITABLE HEART AND YOUR PERFECTLY PALPABLE PULSE

HSLC | Neuroscience

The electrocardiogram (ECG) is a tool for evaluating the electrical events within the heart. During a heartbeat, currents are conducted through the body fluids around the heart and can be detected by recording electrodes at the surface of the skin. The shapes and timing of the waves on an ECG recording show how well the heart is working electrically in order to produce a normal heartbeat. Much like a fingerprint is different for every individual, an ECG recording will look a little different in every person because no two hearts are exactly the same in terms of cell number, size, shape, and position within the body.

Most of us have experienced getting our blood pressure taken at a visit to the doctor, and we may have even seen our blood pressure recorded as two different numbers in our medical chart. Blood pressure can be different from person to person, but there is a range that indicates good cardiovascular function.

Come to our Exploration Station to get a personalized ECG recording and/or a blood pressure measurement and learn more about your heart health from one of our future cardiologists.

*** Sunday Exploration Stations are at the Health Sciences Learning Center and School of Nursing's Signe Skott Cooper Hall 10 am - 2 pm**



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