

MICHIGAN STATE UNIVERSITY
SCIENCE
FESTIVAL

APRIL 15 – 19, 2015

On the campus of Michigan State University and beyond

All events are FREE and open to the public!



**expect the
unexpected!**

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WELCOME

TO THE THIRD ANNUAL
MSU SCIENCE FESTIVAL!

If you enjoyed last year's festival,
I know you've been looking forward
to it. And, if you're not quite sure what
a science festival is, then brace yourself.



It is a great honor to be part of this year's science festival at Michigan State University. My first passion as a kid was magic. I loved watching magicians perform, and I aspired to become a magician myself someday—and I did. In fact, it is because of magic that I am especially excited to be back here in Michigan.

When I was 19, I was a finalist in a national competition for young magicians held in Colon. Among the other three finalists, one of them is now an eminent particle physicist at Oxford, and another continues to perform large scale illusions and once even made the NASA space shuttle disappear! What is it about magic and science that attracts the same audience? For me, they are both about solving mysteries:

- How does the magician do that trick?
- Why does this mathematical pattern seem to work?
- What is the simplest explanation for this biological or physical phenomenon?
- How can we make the impossible seem possible?

In science, mathematics, and magic, it takes logic, cleverness, and hard work to find solutions.

At this year's festival you will discover the secrets revealed by fossils in the ground and stars in the sky, and how we learn through the games that we play and music we create. You will also see how you can get involved in science to help your community and understand our world, regardless of your age or education level. I look forward to sharing my mathematics and magic with you!

Mathemagically,

Dr. Arthur Benjamin

Professor of Mathematics
Harvey Mudd College

**Join Arthur Benjamin for his
Mathmagical presentation on
Sunday, April 19, for math like
you've never experienced before!**

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PLEASE NOTE: The Science Festival website will have the most up to date information. Please visit the website at: sciencefestival.msu.edu

The Lansing State Journal Expo Arena!

Most hands-on Expo activities will be located in the halls of the BioMedical Physical Sciences building (BPS) and Chemistry building. Additional Expo activities will also be found in Abrams Planetarium, the Cyclotron, MSU Museum, Bug House, and Broad Museum. Expo activities will be open Saturday, April 18 and Sunday, April 19. See map on page 28, and a listing of Expo presentations on page 33.

Delta Dental's Early Childhood Zone

Hands on activities for children 6 yrs and younger will be located in the Atrium of the Plant and Soil Sciences building (PSS), a 2 minute walk across the street from the LSJ Expo Zone. Activities will be open Saturday, April 18 and Sunday, April 19. See page 30 for full schedule.

Information Locations

Information tents will be located in two locations; one in Benefactors Plaza and one on the south side of Abrams Planetarium.

Information tables will be located in the Chemistry and BPS buildings. Information HQ will be located in BPS Rm 1300.

These locations will have attendants available to answer questions and

provide program booklets, maps, and T-shirt sales information to visitors.

Transportation and Parking

Please see page 3 for details on parking and local buses.

Accessibility

All buildings where festival events take place are wheelchair accessible.

Restrooms

All buildings where festival events take place have restrooms available to the public.

Eating

There are several state-of-the-art cafeterias located around campus. Please see page 28 for map locations and hours. Meal purchase prices: children (ages 2–9 yrs) \$4.99 plus tax for all meals; adults \$5.99 plus tax for breakfast, and \$9.49 plus tax for lunch and dinner.

Allergies

Dining halls offer a variety of options to meet special dietary needs. For more information visit eatatstate.com/faq/otherneeds.

Lost Children

Before starting out each day to enjoy the festival events, if you are bringing children please designate a location where you will meet if you

get separated. If you are a parent looking for your lost child, go to the Festival Headquarters, BPS Rm 1300 in the BPS building. If at an event on North campus please check in at the information tent in Benefactor's Plaza.

Registration for Events

A small number of festival events require pre-registration due to limited seating and/or the need to prepare supplies in advance. To register for events that require pre-registration, please go to the Science Festival website, select Schedule, and navigate to the appropriate event: sciencefestival.msu.edu. If you do not pre-register and seats are full, you may not be able to attend.

You do not need to register each person in your group separately. You may

indicate the total number in your group on one form.

Age Recommendations

Age ranges have been specified for each event. These are simply recommendations, except when noted as "required."

Donations

If you would like to support the MSU Science Festival for next year, please visit the Science Festival website at sciencefestival.msu.edu.

Media

All media that come to the festival should report to the Information tent located at Benefactors Plaza. You can also contact Carla Hills directly at hillsc@msu.edu or (517) 355-5059.

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ABOUT TRANSPORTATION

PLEASE NOTE: The Science Festival website will have the most up to date information. Please visit the website at: sciencefestival.msu.edu

Parking on the MSU campus during the day on weekdays is tricky. We encourage visitors to take a bus or, weather permitting, travel by bicycle. MSU's Parking Office is waiving bicycle registration and will not impound unregistered bicycles during the week of the festival as long as bicycles are parked and locked to a bicycle rack and in working order.

Bus Service

Need transportation to the festival activities? CATA will provide **free rides** to those traveling to the MSU Science Festival **between 5 PM and 10 PM April 15–17 and between 9 AM and 5 PM, April 18 and 19**. Just board any CATA route in service during these periods and tell the bus operator you are going to or returning from the festival. No ticket is needed for this free service. Routes 1, 20, and 22–26 are the

primary routes that travel to the MSU campus. Routes 22 and 23 do not operate on Sunday.

Thank you CATA!

Parking

Weekdays Before 6 PM

Festival visitors may park in the visitor pay-to-exit lots (cash only) and meters (note hours of operation – ramp meters are U.S. coin operated only; most others accept credit cards and U.S. coins). In addition, during the week of the festival, **Lots 89 and 91** have been designated free for festival visitors.

Go to maps.msu.edu or the enclosed map on page 28 for further detail on lot numbers and locations. ***Due to heavy traffic and use of campus meters and pay-to-exit lots on central campus, the areas below are more likely to have available parking:***

- **Lot 89** – northwest corner of Farm Lane and Mt. Hope Road
- **Lot 91** – northwest corner of Service and Hagadorn Roads
- Visitor pay-to-exit lots: **62W, 79, 100 and Ramp 3** (Wharton Center off Shaw Lane) – (all cash only at 80 cents per ½ hour or portion thereof)
- **Meters in Ramp 5** – at Trowbridge and Red Cedar Roads
- **Meters in Ramp 6** – off Grand River Avenue, west of Olin Health Center

Weekdays After 6 PM and Weekends

We have consolidated evening events in buildings with easy access to parking ramps and lots. You may park in general spaces or at meters in the following parking ramps after 6:00 PM on weekdays or during the weekend. Park in pay-to-exit lots (there is no charge to

park in them on weekends IF there are no special events).

Consider the following for April 15 and 16 evening events:

- **Ramp 1** (Shaw Lane Ramp)
- **Lot 46** (south of BPS, near Plant Biology Labs)

Consider the Kellogg Center's parking ramp for our keynote presentation on the evening of **April 17. There is a fee.**

Event parking for **April 18 and 19** is best determined by location of the events you attend. Consider the following locations:

- **Ramp 1** (Shaw Lane Ramp)
- **Lot 41** (west of the Planetarium)
- **Lot 46** (south of BPS, near Plant Biology Labs)
- **Ramp 5** (Trowbridge Road Ramp)
- **Ramp 6** (Grand River Avenue Ramp)
- **Lot 7** (by Natural Science and Old Horticulture buildings)

Please note:

There may be spaces within these lots that are designated for other use (i.e. leased spaces, university vehicle spaces). Do not park in them as a violation may be written and you may be towed. Park only as described above.

Concurrent special events on campus may require a fee to enter a lot (one is currently scheduled during the festival at the Breslin Center). Handicap spaces require a valid placard or plate.

If you have questions about accessible parking, please contact:

MSU Parking Office
(517) 355-8440
Monday–Friday, 7:30 AM–4:45 PM

PROGRAM DETAILS

**discover
something new**

PLEASE NOTE: The Science Festival website will have the most up to date information. Please visit the website at:
sciencefestival.msu.edu/schedule

Wednesday, April 15, 2015

The Applied Science Behind Producing Exhibitions

Brian Kirschensteiner, Preparator (The Eli and Edythe Broad Art Museum)

Time: 5:00 PM – 8:00 PM

Location: The Eli and Edythe Broad Art Museum

Come join us to get a glimpse of some of the science, tools, and methods used to produce exhibitions at the Eli and Edythe Broad Art Museum.

Event Type

Exhibit or Open house

Scientific Discipline

Arts, Culture, and Design

Recommended Age Range

All ages (kids to adults)

“Boot” Camp

Department of Radiology: Jerrod Braman, Research Assistant 1; Feng Wei, Assistant Professor; Roger Haut, University Distinguished Professor

Time: 6:30 PM – 7:15 PM

Location: East Fee Hall, Room A423

Explore the science of footwear! Learn about plantar pressure and thermal and humidity measures that relate to comfort through demonstrations.

Event Type

Talk or Demonstration

Scientific Discipline

Engineering and Technology

Recommended Age Range

All ages (kids to adults)

From Cholera to Ebola Epidemiology and Popular Culture

Stephen Rachman, Associate Professor (English)

Time: 6:30 PM – 7:15 PM

Location: Biomedical Physical Sciences Building, Room 1415

This talk will examine the public image of epidemiology in popular culture (books, films, TV) over the last decade.

Event Type

Talk or Demonstration

Scientific Discipline

Arts, Culture, and Design

Recommended Age Range

Age 14 (9th Grade) and up

Exotic Animals

Nikki Mitchell, Education Coordinator (Preuss Pets)

Time: 6:30 PM – 7:15 PM

Location: Preuss Pets, 1127 N. Cedar St., Lansing

A presentation on exotic animals and their habitats.

Event Type

Interactive Presentation

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Age 6 (1st Grade) and up

Fun with Fisheries and Wildlife Local Animal Species

Sarah Plantrich, Undergraduate Student (Fisheries and Wildlife)

Time: 6:30 PM – 7:15 PM

Location: Natural Resources Building, Polar Bear Room

Have you ever wondered what animals might be living in your backyard? Come to “Fun with Fisheries and Wildlife” to find out!

Event Type

Interactive Presentation

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Ages 5–12 (Kindergarten–7th Grade)

Looking at Science Through New Lenses How Parents and Teachers Can Cultivate Curiosity, Creativity, and Excitement

Deborah Peek-Brown, Education Outreach Specialist (CREATE for STEM Institute)

Time: 6:30 PM – 7:15 PM

Location: Chemistry Building, Room 109

What do geckos and stain resistant pants have in common? Learn how to cultivate curiosity and prepare our youth to explore advances in science.

Event Type

Talk or Demonstration

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

PhotosynQ A Global Plant and Environmental Health Initiative

Plant Research Laboratory: Geoff Rhodes, Research Technician; Greg Austic, Project Lead; Robert Zegarac; Sebastian Kuhlert, Research Associate; Dave Kramer, Principal Investigator

Time: 6:30 PM – 7:15 PM

Location: Chemistry Building, Room 110

Join the PhotosynQ team in collecting real world data to answer questions about plant health in the MSU gardens.

Event Type

Interactive Presentation

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Age 8 (3rd Grade) and up

Stress Less with Mindfulness Begin with a Breath

MSU Extension Educators: Gail Innis; Suzanne Pish; Carolyn Penniman;
Terry Clark-Jones; Holly Tired

Time: 6:30 PM – 7:15 PM

Location: Biomedical Physical Sciences Building, Room 1420

Mindfulness gives you some techniques you can use to reduce your stress.

Event Type

Talk or Demonstration

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

History and Science of Archery



Glen Bennett, MSU Archery Coach
(Demmer Center)

Time: 6:30 PM – 8:30 PM

Location: Demmer Center,
4830 E. Jolly Rd., Okemos

The MSU Archery Team Coach and team members will lead a discussion on the history and science of archery.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

Age 6 (1st Grade) and up

Bouncing Back from Mistakes in the Brain

Hans Schroder, Doctoral Student (Psychology)

Time: 8:00 PM – 8:45 PM

Location: Biomedical Physical Sciences Building, Room 1410

Everybody makes mistakes. This presentation will discuss why some people are quick to bounce back, whereas others continue to feel stuck.

Event Type

Talk or Demonstration

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Exotic Animals

Nikki Mitchell, Education Coordinator (Preuss Pets)

Time: 8:00 PM – 8:45 PM

Location: Preuss Pets, 1127 N. Cedar St., Lansing

A presentation on exotic animals and their habitats.

Event Type

Interactive Presentation

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Age 6 (1st Grade) and up

It's All About Chemistry!

Department of Chemistry: James Geiger, Associate Professor;
Chrysoula Vasileiou, Academic Specialist

Time: 8:00 PM – 8:45 PM

Location: Chemistry Building, Room 138

A chemical demonstration full of colors and noises that will blow you away!

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy,
and Chemistry

Recommended Age Range

All ages (kids to adults)

Stress Less with Mindfulness: Begin with a Breath

MSU Extension Educators: Gail Innis; Suzanne Pish; Carolyn Penniman;
Terry Clark-Jones; Holly Tired

Time: 8:00 PM – 8:45 PM

Location: Biomedical Physical Sciences Building, Room 1420

Mindfulness gives you some techniques you can use to reduce your stress.

Event Type

Talk or Demonstration

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Traditional Ecological Knowledge, Science and Ethics

Kyle Whyte, Assistant Professor (Philosophy)

Time: 8:00 PM – 8:45 PM

Location: Biomedical Physical Sciences Building, Room 1415

Join Dr. Whyte as he discusses ethical issues involved in knowledge exchanges between indigenous peoples and scientists on climate change initiatives.

Event Type

Talk or Demonstration

Scientific Discipline

Science Education

Recommended Age Range

Age 14 (9th Grade) and up

Thursday, April 16, 2014

“Boot” Camp

Department of Radiology: Jerrod Braman, Research Assistant 1; Feng Wei, Assistant Professor; Roger Haut, University Distinguished Professor

Time: 6:30 PM – 7:15 PM

Location: East Fee Hall, Room A423

Explore the science of footwear! Learn about plantar pressure and thermal and humidity measures that relate to comfort through demonstrations.

Event Type

Talk or Demonstration

Scientific Discipline

Engineering and Technology

Recommended Age Range

All ages (kids to adults)

How the Brain Reads

Bethany Sussman (Communicative Sciences and Disorders)

Time: 6:30 PM – 7:15 PM

Location: Biomedical Physical Sciences Building, Room 1420

Reading is a complex visual, perceptual, cognitive, and linguistic skill. Discover how networks of regions all over the brain work together to read!

Event Type

Talk or Demonstration

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Michigan's Literary Science

Karren Reish, Library Grants Coordinator (Michigan Department of Education – Library of Michigan); Edwina Murphy, Notable Books Coordinator (Michigan e-Library)

Time: 6:30 PM – 7:15 PM

Location: Biomedical Physical Sciences Building, Room 1400

The Library of Michigan's annual Notable Books program highlights outstanding Michigan books. Come book talk with us about our great science books.

Event Type

Talk or Demonstration

Scientific Discipline

Science Education

Recommended Age Range

Age 14 (9th Grade) and up

The Magic of Chemistry

Joseph Ward, Coordinator of General Chemistry Laboratories (Chemistry)

Time: 6:30 PM – 7:15 PM

Location: Chemistry Building, Room 138

Is it magic or chemistry? Come join us as we take you behind the curtain for a number of interesting, fun, and sometimes loud examples of chemistry.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Unexpected Science!

Gabe Ording, Director (Center for Integrative Studies in the General Sciences); Maria Iliopoulou, Outreach Specialist (Veterinary Medical Center); Mark Axelrod, Associate Professor (James Madison College); Sue Nichols, Assistant Director (Center for Systems Integration and Sustainability); Stephen Thomas, Assistant Professor (Integrative Biology)



Time: 7:00 PM – 8:30 PM

Location: Biomedical Physical Sciences Building, Room 1415

Science is an integral part of our daily lives. Come discover the unexpected and creative pursuits with which science is inextricably connected.

Event Type

Interactive Presentation

Scientific Discipline

Science Education

Recommended Age Range

Age 6 (1st Grade) and up

Bouncing Back from Mistakes in the Brain

Hans Schroder, Doctoral Student (Psychology)

Time: 8:00 PM – 8:45 PM

Location: Chemistry Building, Room 110

Everybody makes mistakes. This presentation will discuss why some people are quick to bounce back, whereas others continue to feel stuck.

Event Type

Talk or Demonstration

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Michigan's Literary Science

Karren Reish, Library Grants Coordinator (Michigan Department of Education – Library of Michigan); Edwina Murphy, Notable Books Coordinator (Michigan e-Library)

Time: 8:00 PM – 8:45 PM

Location: Biomedical Physical Sciences Building, Room 1400

The Library of Michigan's annual Notable Books program highlights outstanding Michigan books. Come book talk with us about our great science books.

Event Type

Talk or Demonstration

Scientific Discipline

Science Education

Recommended Age Range

Age 14 (9th Grade) and up

Science, Fiction, and the Real Monsters of Our Imagination

Sarah Gibbons (Writing, Rhetoric and American Culture)

Time: 8:00 PM – 8:45 PM

Location: Biomedical Physical Sciences Building, Room 1410

Come explore the relationship between literary monsters and scientific realities, and learn how science and fiction inspire each other!

Event Type

Talk or Demonstration

Scientific Discipline

Arts, Culture, and Design

Recommended Age Range

All ages (kids to adults)

What You Think You Know and Why It Matters

Jason Moser, Assistant Professor (Psychology); Megan Fisher, Laboratory Manager (Psychology)

Time: 8:00 PM – 8:45 PM

Location: Biomedical Physical Sciences Building, Room 1420

Learn about how children and adults think about their own abilities, and how you can help motivate children, coworkers, and others to learn.

Event Type

Talk or Demonstration

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Why Meditate A Way Toward Self-Acceptance and Emotional Liberation

Jeff Lin, Graduate Student (Psychology); Megan Fisher, Laboratory Manager (Psychology)

Time: 8:00 PM – 8:45 PM

Location: Chemistry Building, Room 109

How does mindfulness help us manage our emotions? This interactive presentation will explore the science behind the emotional benefits of meditation.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

Age 14 (9th Grade) and up

Observing at MSU Observatory

Laura Choumiuk, Assistant Professor (Physics and Astronomy); Shannon Schmoll, Director (Abrams Planetarium)

Time: 9:30 PM – 11:00 PM

Location: MSU Observatory, 4299 Pavilion Dr., East Lansing

We will have our 24-inch reflecting telescope open for observing wonders of the night sky. Weather permitting!

Event Type

Exhibit or Open house

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Bird Banding

Jen Owen, Associate Professor (Fisheries and Wildlife)

Time: 9:00 AM – 11:00 AM

Location: Corner of Farm Lane and Trowbridge

See how researchers capture, band, and release birds. Participants will be given opportunities to release wild birds.

Event Type

Interactive Presentation

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Skeletons, Furs, Jaws, and Jars

A Behind-the-Scenes Tour of the MSU Museum's Vertebrate Collections

Laura Abraczinskas, Collections Manager (MSU Museum); Julie Fick, Education Specialist (MSU Museum)

Time: 10:00 AM – 10:45 AM

Location: MSU Museum, "Collections Connections" Room

See specimens of mammals, birds, reptiles, amphibians, fishes, and fossils. Learn how these support research and teaching at MSU and around the world.

Event Type

Tour

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Age 11 (6th Grade) and up

Requires Pre-Registration

Skeletons, Furs, Jaws, and Jars

A Behind-the-Scenes Tour of the MSU Museum's Vertebrate Collections

Laura Abraczinskas, Collections Manager (MSU Museum); Julie Fick, Education Specialist (MSU Museum)

Time: 11:00 AM – 11:45 AM

Location: MSU Museum, "Collections Connections" Room

See specimens of mammals, birds, reptiles, amphibians, fishes, and fossils. Learn how these support research and teaching at MSU and around the world.

Event Type

Tour

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Age 11 (6th Grade) and up

Requires Pre-Registration

Tour of the Center for Advanced Microscopy

Center for Advanced Microscopy: Stanley Flegler, Director; Melinda Frame, Confocal Microscopy Supervisor; Xudong Fan, Physical Sciences Transmission Electron Microscope Supervisor; Alicia Withrow, Biological Sciences Transmission Electron Microscope Supervisor; Carol Flegler, Electron Microscopist II; Abigail Vanderberg, Electron Microscopist

Time: 11:00 AM – 11:45 AM

Location: Center for Integrated Plant Systems Building, Room B-4

Experience the wonder and amazement of the world of physical and biological sciences as seen through electron microscopes and laser microscopes.

Event Type

Tour

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

PROGRAM FEATURED EVENT

MSU Science Festival is pleased
to welcome special guest speaker

Scott Sampson

Dinosaurs of the Lost Continent

Scott Sampson, Paleontologist (Discovery Channel-Dinosaur Planet;
PBS *Dinosaur Train*, Denver Museum of Nature and Science)

Time: presentation, 7:00 PM–8:00 PM;
book signing and refreshments, 8:00 PM–9:00 PM

Location: Kellogg Center, Big Ten Room

Scott Sampson, possesses the delightful ability to engage and entertain his audiences with science! Join Dr. Sampson as he shares the work and world of the dinosaur paleontologist. Paleontologists have been collecting abundant, often spectacular dinosaur fossils from the Western Interior of North America for over a century, but only recently have we learned that most of these dinosaurs existed on a lost continent known as “Laramidia.” Dr. Sampson will address such questions as how these giants co-existed, why so many are adorned with horns, crests, domes, or spikes, as well as, the lessons we can learn from the greenhouse world of the Late Cretaceous Period.

Dr. Sampson is vice president of research and collections, and chief curator at the Denver Museum of Nature & Science. He has appeared in many television documentaries, served as the primary scientific consultant and on-air host of the four-part Discovery Channel series *Dinosaur Planet*, and is most popularly known as “Dr. Scott,” host and science advisor of the Emmy-nominated PBS KIDS television series *Dinosaur Train*.



Event Type
Seminar/Demonstration

Scientific Discipline
Science Education

Recommended Age Range
All ages (families)

This event is
generously
sponsored by:



Saturday, April 18, 2015



Delta Dental's
EARLY CHILDHOOD ZONE **Time:** 10:00 AM – 4:00 PM

Primary and early elementary teachers and specialists demonstrate their best science activities within a zone designated for preschoolers! **For full details see page 30.**



Lansing State Journal
EXPO ZONE **Time:** 10:00 AM – 4:00 PM

Featuring hands-on activities for the whole family to enjoy! **For full details see page 33.**

Bird Banding

Jen Owen, Associate Professor (Fisheries and Wildlife)

Time: 9:00 AM – 11:00 AM

Location: Corner of Farm Lane and Trowbridge

See how researchers capture, band, and release birds.

Participants will be given opportunities to release wild birds.

Event Type

Interactive Presentation

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

“Boot” Camp

Department of Radiology: Jerrod Braman, Research Assistant 1; Feng Wei, Assistant Professor; Roger Haut, University Distinguished Professor

Time: 10:00 AM – 10:45 AM

Location: East Fee Hall, Room A423

Explore the science of footwear! Learn about plantar pressure and thermal and humidity measures that relate to comfort through demonstrations.

Event Type

Talk or Demonstration

Scientific Discipline

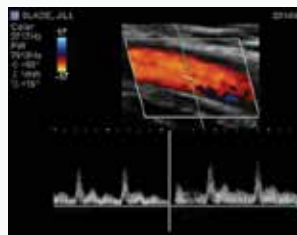
Engineering and Technology

Recommended Age Range

All ages (kids to adults)

“RAD Research”

Using Imaging to Measure the Speed of Blood!



Jill Slade, Associate Professor (Radiology)

Time: 10:00 AM – 10:45 AM

Location: Chemistry Building, Room 110

The goal is to introduce medical imaging applications used in radiology research including interactive ultrasound.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

Age 6 (1st Grade) and up

Michigan Bird Sounds

Pamela Rasmussen, Assistant Curator (Zoology)

Time: 10:00 AM – 10:45 AM

Location: MSU Museum Auditorium

We'll explore the varied songs and calls of Michigan's birds and how you can use them to better understand your environment.

Event Type

Talk or Demonstration

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Moving Forward

The Science of Human Movement

Rajiv Ranganathan, Assistant Professor (Kinesiology); Mei-Hua Lee, Assistant Professor (Kinesiology)

Time: 10:00 AM – 10:45 AM

Location: IM Sports Circle, Room 21

Learn how researchers analyze human movement, and how this science is being applied in the rehabilitation of movement disorders.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Scientific Glassblowing Demonstrations

Scott Bankroff, Resident Scientific Glassblower (Chemistry)

Time: 10:00 AM – 10:45 AM

Location: Chemistry Building, Room 93

Come watch a live scientific glassblowing demonstration and learn about the process behind the creation of laboratory glassware.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Requires Pre-Registration

Recycling the Periodic Table

James Ives, Education Coordinator (Infrastructure, Planning and Facilities)

Time: 10:00 AM – 10:45 AM

Location: Biomedical Physical Sciences Building, Room 1400

Come and explore how all those items you recycle come from the periodic table.

Event Type

Interactive Presentation

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

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PROGRAM FEATURED EVENT

MSU Science Festival is pleased to welcome special guest speaker

Scott Sampson

Dr. Scott Talks Dinosaurs!

Scott Sampson, Paleontologist (Discovery Channel-Dinosaur Planet; PBS *Dinosaur Train*, Denver Museum of Nature and Science)

Time: 10:00 AM – 11:00 AM

Location: Chemistry Building, Room 138

Join *Dinosaur Train*'s "Dr. Scott" as he shares the ins and outs of being a dinosaur paleontologist with Junior Paleontologists; from that "Aha" moment of discovery, to digging up fossils, to preparing them back at the museum, to studying them as a scientist. What is a dinosaur and what isn't? How do we reconstruct dinosaurs? What did dinosaurs eat?

Dr. Scott Sampson, Paleontologist and host of the PBS KIDS hit series *Dinosaur Train*, will lead this lively tour and even share a BIG secret at the end.

This kid-friendly interactive presentation is tailored for 2-8 year-olds and all other dinosaur enthusiasts!



Event Type

Seminar/Demonstration

Scientific Discipline

Science Education

Recommended Age Range

Age 12 (7th Grade) and under

This event is generously sponsored by:



History and Science of Air Rifle Shooting Sports

Glen Bennett, MSU Archery Coach (Demmer Center)

Time: 10:00 AM – 12:00 PM

Location: Demmer Center, 4830 E. Jolly Rd., Okemos

Participants will be given hands-on demonstrations of research equipment used to study human motor control.

Event Type

Interactive Presentation

Scientific Discipline

Energy and Environment

Recommended Age Range

Age 6 (1st Grade) and up

Bug House Open House

Gary Parsons, Academic Specialist (Entomology)

Time: 10:00 AM – 4:00 PM

Location: Natural Science Building, Room 146

Come visit the Bug House and learn about the amazing world of insects and other arthropods.

Event Type

Exhibit or Open house

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

“RAD Research”

Using Imaging to Measure the Speed of Blood!

Jill Slade, Associate Professor (Radiology)

Time: 11:00 AM – 11:45 AM

Location: Chemistry Building, Room 110

The goal is to introduce medical imaging applications used in radiology research including interactive ultrasound.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

Age 6 (1st Grade) and up

Capital Area District Libraries Presents Wacky Science with Scheer Genius

Doug Scheer, (Performer Extraordinaire!); Jolee Hamlin, Associate Director of Public Service (Capital Area District Libraries)

Time: 11:00 AM – 11:45 AM

Location: Biomedical Physical Sciences Building, Room 1410

More than just whiz, bang, poof, and pop, this show puts science in the hands of more than a dozen onstage volunteers!

Event Type

Talk or Demonstration

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Moving Forward

The Science of Human Movement

Rajiv Ranganathan, Assistant Professor (Kinesiology); Mei-Hua Lee, Assistant Professor (Kinesiology)

Time: 11:00 AM – 11:45 AM

Location: IM Sports Circle, Room 21

Learn how researchers analyze human movement and how this science is being applied in the rehabilitation of movement disorders.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Science in State Government Your Tax Dollars at Work

Diane Donham, Reference Librarian (State of Michigan)

Time: 11:00 AM – 11:45 AM

Location: Chemistry Building, Room 109

From preparing for public health emergencies to designing more pothole resistant roads, science is at work in Michigan's government agencies.

Event Type

Talk or Demonstration

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Uniting Veterinary Medicine and Social Science

Ruben Martinez, Director (Julian Samora Research Institute); Andres Contreras Bravo, Assistant Professor (College of Veterinary Medicine)

Time: 11:00 AM – 11:45 AM

Location: Biomedical Physical Sciences Building, Room 1420

Learn how researchers from veterinary medicine and social science collaborate on improving the quality of milk on dairy farms.

Event Type

Talk or Demonstration

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Age 14 (9th Grade) and up

Citizen Science!

How Curious Citizens Contribute to Research Around the World

Casey O'Donnell, Assistant Professor (Media and Information); Pat Soranno, Professor (Fisheries and Wildlife); Kara Haas, Science Education and Outreach Coordinator (Kellogg Biological Station); Darren Bagley, Environment and Outdoor Educator (MSU Extension)

Time: 11:00 AM – 12:30 PM

Location: Biomedical Physical Sciences Building, Room 1415

Join our panel of researchers to discuss their work and discover ways you can contribute as a citizen scientist!

Event Type

Panel

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Explore the Herbarium

Kim Ferguson (MSU Herbarium)

Time: 11:00 AM – 2:00 PM

Location: MSU Herbarium, Plant Biology Laboratories, Room 151

Learn how to preserve plants, observe lichens with a microscope, identify plants of Michigan, and see strange and exotic plants from around the world!

Event Type

Exhibit or Open house

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Chemistry and the Human Senses

Department of Chemistry: Chrysoula Vasileiou, Academic Specialist; Babak Borhan, Professor; Elizabeth Santos, Doctoral Student; Ipek Yapici, Doctoral Student; Wei Sheng, Doctoral Student

Time: 11:00 AM – 4:00 PM

Location: Chemistry Building, Room 581

During this hands-on presentation, the chemistry associated with the human senses will be discussed and demonstrated.

Event Type

Exhibit or Open house

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Bio-Mechanics

Understanding Human Movement

Peter Reeves (Osteopathic Surgical Specialties)

Time: 12:00 PM – 12:45 PM

Location: Chemistry Building, Room 109

Discover how the body is controlled to produce movement through hands-on demonstrations of research equipment used to study human motor control.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Fire, Water, and Ice

Michigan's Geological Story

Danita Brandt (Geological Sciences)

Time: 12:00 PM – 12:45 PM

Location: MSU Museum Auditorium

Learn what a Petoskey stone tells us about Michigan's ancient environment and discover Michigan's geologic history through fire, water, and ice.

Event Type

Interactive Presentation

Scientific Discipline

Geology

Recommended Age Range

All ages (kids to adults)

If You Can Dream It, You Can D.O. It!

Floyd Hardin, Manager of Outreach and Inclusion (College of Osteopathic Medicine Admissions)

Time: 12:00 PM – 12:45 PM

Location: Chemistry Building, Room 110

MSUCOM's outreach programs are designed to help students gain exposure to osteopathic medicine through fun and interactive workshops.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

Age 14 (9th Grade) and up

Moving Forward

The Science of Human Movement

Rajiv Ranganathan, Assistant Professor (Kinesiology); Mei-Hua Lee, Assistant Professor (Kinesiology)

Time: 12:00 PM – 12:45 PM

Location: IM Sports Circle, Room 21

Learn how researchers analyze human movement and how this science is being applied in the rehabilitation of movement disorders.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Plants and Pollination Around the World

Tour of MSU's Plant Biology Teaching Conservatory

Lisa Stelzner, Doctoral Student (Plant Biology)

Time: 12:00 PM – 12:45 PM

Location: MSU Plant Science Greenhouses

Tour MSU's teaching greenhouse and learn about plant adaptations for pollination and defense from desert and rainforest ecosystems around the world.

Event Type

Tour

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Recycling the Periodic Table

James Ives, Education Coordinator (Infrastructure, Planning and Facilities)

Time: 12:00 PM – 12:45 PM

Location: Biomedical Physical Sciences Building, Room 1400

Come and explore how all those items you recycle come from the periodic table.

Event Type

Interactive Presentation

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Electricity and Electrochemistry

Johnson Controls Power Solutions Engineering Team

Time: 1:00 PM

Location: Biomedical Physical Sciences Building, Room 1400

Demystify electricity and understand electrochemistry by exploring the anatomy of a battery. Discover what makes electrons move to power everyday devices.

Event Type

Talk or Demonstration

Scientific Discipline

Engineering and Technology

Recommended Age Range

13 and up

Bats of the World

Eric Tans, Librarian I (Library); Theresa Moore, Graphic Artist II (Library)

Time: 1:00 PM – 1:45 PM

Location: MSU Main Library, North Conference Room, Room W449

Explore the unique roles bats play in our world. Meet live bats and get inspired to protect these misunderstood creatures.

Event Type

Talk or Demonstration

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

Age 5 (Kindergarten) and up

Moving Forward

The Science of Human Movement

Rajiv Ranganathan, Assistant Professor (Kinesiology); Mei-Hua Lee, Assistant Professor (Kinesiology)

Time: 1:00 PM – 1:45 PM

Location: IM Sports Circle, Room 21

Learn how researchers analyze human movement, and how this science is being applied in the rehabilitation of movement disorders.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

All ages (kids to adults)

Physics is Fun!

Tibor Nagy, Instructor (Physics and Astronomy)

Time: 1:00 PM – 1:45 PM

Location: Biomedical Physical Sciences Building, Room 1410

Come and see exciting physics demonstrations about the most important physical laws from mechanics to electromagnetism, from light to thermodynamics.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Plants and Pollination Around the World

Tour of MSU's Plant Biology Teaching Conservatory

Lisa Stelzner, Doctoral Student (Plant Biology)

Time: 1:00 PM – 1:45 PM

Location: MSU Plant Science Greenhouses

Tour MSU's teaching greenhouse and learn about plant adaptations for pollination and defense from desert and rainforest ecosystems around the world.

Event Type
Tour

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

Scientific Glassblowing Demonstrations

Scott Bankroff, Resident Scientific Glassblower (Chemistry)

Time: 1:00 PM – 1:45 PM

Location: Chemistry Building, Room 93

Come watch a live scientific glassblowing demonstration and learn about the process behind the creation of laboratory glassware.

Event Type
Talk or Demonstration

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

Requires Pre-Registration

Spring Ephemerals

Peter Carrington, Assistant Curator (Beal Botanical Garden)

Time: 1:00 PM – 1:45 PM

Location: W.J. Beal Botanical Garden

Join Peter Carrington of the the W. J. Beal Botanical Garden on a tour of the earliest spring flowers.

Event Type
Tour

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

The Science of Beer Brewing

Matt Jason, CEO (Sleepwalker Spirits & Ale)

Time: 1:00 PM – 1:45 PM

Location: Biomedical Physical Sciences Building, Room 1420

From yeasts to bacteria and mold, learn how microorganisms are critical in the creation of wine, beer, and a multitude of other alcoholic beverages.

Event Type
Talk or Demonstration

Scientific Discipline
Arts, Culture, and Design

Recommended Age Range
All ages (kids to adults)

Make Your Own Map!

Exploring Geographic Information Science

Kathleen Weessies, Geosciences Librarian (Library)

Time: 1:00 PM – 2:00 PM

Location: MSU Main Library, Map Library

Make your own custom map with ArcGIS Online, and learn about the science behind geographic information systems.

Event Type
Interactive Presentation

Scientific Discipline
Engineering and Technology

Recommended Age Range
Age 10 (5th Grade) and up

Blue Sky Science

"What is the Role of Curiosity in Science?"

Richard Lenski, Hannah Distinguished Professor (Plant Soil and Microbial Sciences); Richard Bellon, Assistant Professor (Lyman Briggs College); Zachary Kohley, Assistant Professor (National Superconducting Cyclotron Laboratory); Hans Schroder, Doctoral Student (Psychology); Wendy Johnson, Doctoral Student (Curriculum, Instruction and Teacher Education)



Time: 1:00 PM – 2:30 PM

Location: Biomedical Physical Sciences Building, Room 1415

A panel of MSU researchers will discuss the role of curiosity in science from multiple different perspectives.

Event Type
Panel

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Haiku Hike

Linnea Jimison, Assistant Director (RCAH Center for Poetry)

Time: 1:00 PM – 2:30 PM

Location: Chemistry Building, Room 109

Haiku, a traditional form of Japanese poetry, focuses on an instant in nature. Join us for a nature walk around campus where we write our own haiku!

Event Type
Interactive Presentation

Scientific Discipline
Arts, Culture, and Design

Recommended Age Range
All ages (kids to adults)

Night Skies and Light Pollution

Shannon Schmoll, Director (Abrams Planetarium); Mary Stewart Adams, Program Director (Dark Sky Park); Karen Wight, Observatory Project Coordinator (Detroit Observatory at University of Michigan); Kenneth Beach, Engineer/Architect (IPF and Architectural Services)

Time: 1:00 PM – 2:30 PM

Location: Abrams Planetarium

Join astronomers, storytellers, and lighting industry experts to discuss the past, present and future of artificial light and natural darkness.

Event Type
Panel

Scientific Discipline
Physics, Astronomy, and Chemistry

Recommended Age Range
Age 6 (1st Grade) and up

Architectural Tour of the Eli and Edythe Broad Art Museum

Lana Stigura, Education Department (The Eli and Edythe Broad Art Museum)

Time: 2:00 PM – 2:45 PM

Location: The Eli and Edythe Broad Art Museum

Learn how Zaha Hadid's innovative design used materials, geometry, and the manipulation of light to create spaces for art viewing.

Event Type
Tour

Scientific Discipline
Arts, Culture, and Design

Recommended Age Range
All ages (kids to adults)

Moving Beyond a Shotgun Approach Addressing Invasive Species in Michigan

Phyllis Higman (Michigan Natural Features Inventory)

Time: 2:00 PM – 2:45 PM

Location: Biomedical Physical Sciences Building, Room 1400

Participants will learn about key invasive species to be on the lookout for and what they can do to be part of the solution.

Event Type

Interactive Presentation

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

The Effects of Anticancer Spices on Liver Cancer Cells

Purva Shanker, High School Research Assistant (Chemical Engineering and Materials Science)

Time: 2:00 PM – 2:45 PM

Location: Chemistry Building, Room 110

Purva Shanker, a senior at Okemos High School, will present her research on the effects of anticancer spices on specific parts of liver cancer cells.

Event Type

Talk or Demonstration

Scientific Discipline

Engineering and Technology

Recommended Age Range

Age 14 (9th Grade) and up

The Magic of Chemistry

Joseph Ward, Coordinator of General Chemistry Laboratories (Chemistry)

Time: 2:00 PM – 2:45 PM

Location: Chemistry Building, Room 138

Is it magic or chemistry? Come join us as we take you behind the curtain for a number of interesting, fun, and sometimes loud examples of chemistry.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

The Geography and Evolution of Sand Dunes Along the Eastern Shore of Lake Michigan

Alan Arbogast, Chairperson (Geography)

Time: 3:00 PM – 3:45 PM

Location: Biomedical Physical Sciences Building, Room 1420

Did you know that the largest body of coastal sand dunes in the world is found along the eastern shore of Lake Michigan? Learn more in this session.

Event Type

Talk or Demonstration

Scientific Discipline

Archaeology and Geology

Recommended Age Range

All ages (kids to adults)

Botanical Illustration Workshop

Peter Carrington, Assistant Curator (Beal Botanical Garden)

Time: 3:00 PM – 5:00 PM

Location: W.J. Beal Botanical Garden

Join Peter Carrington for a hands-on introduction to botanical drawing in the W. J. Beal Botanical Garden.

Event Type

Interactive Presentation

Scientific Discipline

Arts, Culture, and Design

Recommended Age Range

All ages (kids to adults)

Requires Pre-Registration

PROGRAM FEATURED EVENT

A Full Evening of Astronomy!

A great family night out!



Explore our universe with a series of astronomy presentations and activities Saturday night! Take in a seminar on the myths and stories of the constellations with Director of the International Dark Sky Park, Mary Stewart Adams.

Sit back and enjoy a free show at Abrams Planetarium, courtesy of new state of the art technology.

Stop by the Observatory and explore the night sky with professionals and hobbyists alike! (clear skies permitting!)

Free Planetarium Show!

Abrams Planetarium: Shannon Schmoll, Director; John French, Production Coordinator; Shane Horvatin, Education Coordinator

Time: 6:30 PM – 7:30 PM or 8:00 pm – 9:00 pm

Location: Abrams Planetarium, MSU Campus, 755 Science Rd.

Astronomy night includes a special free viewing of our weekend show. Come join the fun and make an evening of it!

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

The Storyteller's Guide to the Night Sky

Mary Stewart Adams, Program Director (Dark Sky Park)

Time: 8:00 PM – 8:45 PM

Location: Chemistry Building, Room 138

Approaching the starry night sky through the lens of the storyteller awakens the imaginations in science with a human-centered quality.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Observing at MSU Observatory

Laura Choumiuk, Assistant Professor (Physics and Astronomy); Shannon Schmoll, Director (Abrams Planetarium)

Time: 9:30 PM – 11:00 PM

Location: MSU Observatory, 4299 Pavilion Dr., East Lansing

We will have our 24-inch reflecting telescope open for observing wonders of the night sky. Weather permitting!

Event Type

Exhibit or Open house

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Sunday, April 19, 2015



Delta Dental's

EARLY CHILDHOOD ZONE

Time: 11:00 AM – 4:00 PM

Primary and early elementary teachers and specialists demonstrate their best science activities within a zone designated for preschoolers! **For full details see page 30.**



Lansing State Journal

EXPO ZONE

Time: 11:00 AM – 4:00 PM

Featuring hands-on activities for the whole family to enjoy! **For full details see page 33.**

Music, Math, and Science

Mark Sullivan, Associate Professor of Composition (Music)

Time: 11:00 AM – 11:45 AM

Location: Music Building, Cook Recital Hall

Discover the scientific and mathematical basis of sound and music events; from sound waves to the secrets of an unpressed piano key.

Event Type

Talk or Demonstration

Scientific Discipline

Arts, Culture, and Design

Recommended Age Range

All ages (kids to adults)

Scientific Glassblowing Demonstrations

Scott Bankroff, Resident Scientific Glassblower (Chemistry)

Time: 11:00 AM – 11:45 AM

Location: Chemistry Building, Room 93

Come watch a live scientific glassblowing demonstration and learn about the process behind the creation of laboratory glassware.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Requires Pre-Registration

Why Meditate

A Way Toward Self-Acceptance and Emotional Liberation

Jeff Lin, Graduate Student (Psychology); Megan Fisher, Laboratory Manager (Psychology)

Time: 11:00 AM – 11:45 AM

Location: Biomedical Physical Sciences Building, Room 1420

How does mindfulness help us manage our emotions? This interactive presentation will explore the science behind the emotional benefits of meditation.

Event Type

Interactive Presentation

Scientific Discipline

Health and Human Services

Recommended Age Range

Age 14 (9th Grade) and up

Science and the Movies

What They Get Right and Wrong!

Shannon Schmoll, Director (Abrams Planetarium); Norm Lownds, Associate Professor (Horticulture); Ellen Jesmock, Graduate Student (Forensic Biology)

Time: 11:00 AM – 12:30 PM

Location: Abrams Planetarium

Movies entertain us, but when do they stray from facts to amp up the drama? Join Dr. Schmoll, Dr. Lownds, and guests for this fun and informative talk!

Event Type

Panel

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Bug House Open House

Gary Parsons, Academic Specialist (Entomology)

Time: 11:00 AM – 4:00 PM

Location: Natural Science Building, Room 146

Come visit the Bug House and learn about the amazing world of insects and other arthropods.

Event Type

Exhibit or Open house

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

The Tree Doctor

Diagnosing and Managing Michigan Tree Maladies

David Roberts, Senior Academic Specialist (Agriculture and Natural Resources)

Time: 12:00 PM – 12:45 PM

Location: Biomedical Physical Sciences Building, Room 1415

Michigan's major tree problems will be discussed with reference to diagnostic and management procedures that will maintain good tree health.

Event Type

Talk or Demonstration

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Burgdorf's Winery Tour and Tasting

Dave and Deb Burgdorf, (Burgdorf Winery)

Time: 12:00 PM – 5:00 PM

Location: Burgdorf's Winery, 5635 Shoeman Rd., Haslett

Burgdorf's Winery opens its doors for a special tour of the production facility.

Event Type

Tour

Scientific Discipline

Science Education

Recommended Age Range

Adults (age 18 and up, post-12th Grade)

Building Sustainable Communities in Michigan

Igor Vojnovic, Associate Professor (Geography)

Time: 1:00 PM – 1:45 PM

Location: Biomedical Physical Sciences Building, Room 1415

This presentation will explore how sustainable communities can be built in Michigan.

Event Type

Talk or Demonstration

Scientific Discipline

Energy and Environment

Recommended Age Range

Age 14 (9th Grade) and up

Plants and Pollination Around the World

Tour of MSU's Plant Biology Teaching Conservatory

Lisa Stelzner, Doctoral Student (Plant Biology)

Time: 1:00 PM – 1:45 PM

Location: MSU Plant Science Greenhouses

Tour MSU's teaching greenhouse and learn about plant adaptations for pollination and defense from desert and rainforest ecosystems around the world.

Event Type

Tour

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Plants Toxic to People and Pets

Peter Carrington, Assistant Curator (Beal Botanical Garden)

Time: 1:00 PM – 1:45 PM

Location: W. J. Beal Botanical Garden

Join Peter Carrington on a tour of the Beal Garden to learn about plant species that can injure both human inhabitants and their pets.

Event Type
Tour

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

Tour the National Superconducting Cyclotron Laboratory



Zach Constan, Outreach Coordinator
(National Superconducting
Cyclotron Laboratory)

Time: 1:00 PM – 2:00 PM

Location: Cyclotron, Room 1200

A guided tour through the vaults to see the experimental equipment up close.

Event Type
Tour

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

Requires Pre-Registration

Innovations in Renewable Energy

Phillip Duxbury, Chairperson (Physics and Astronomy); Dana Kirk, Assistant Professor (Biosystems and Agricultural Engineering); Jennifer Battle, Director (Office of Campus Sustainability); Thomas Hamann, Associate Professor (Chemistry)

Time: 1:00 PM – 2:30 PM

Location: Chemistry Building, Room 138

Join our panel of experts as they share and discuss the latest innovations in renewable resources.

Event Type
Panel

Scientific Discipline
Energy and Environment

Recommended Age Range
Age 6 (1st Grade) and up

Architectural Tour of the Eli and Edythe Broad Art Museum

Lana Stigura, Education Department (The Eli and Edythe Broad Art Museum)

Time: 2:00 PM – 2:45 PM

Location: The Eli and Edythe Broad Art Museum

Learn how Zaha Hadid's innovative design used materials, geometry, and the manipulation of light to create spaces for art viewing.

Event Type
Tour

Scientific Discipline
Arts, Culture, and Design

Recommended Age Range
All ages (kids to adults)

Fire, Water, and Ice Michigan's Geological Story

Danita Brandt, (Geological Sciences)

Time: 2:00 PM – 2:45 PM

Location: MSU Museum Auditorium

Learn what a Petoskey stone tells us about Michigan's ancient environment and discover Michigan's geologic history through fire, water, and ice.

Event Type
Interactive Presentation

Scientific Discipline
Geology

Recommended Age Range
All ages (kids to adults)

Plants and Pollination Around the World

Tour of MSU's Plant Biology

Teaching Conservatory

Lisa Stelzner, Doctoral Student (Plant Biology)

Time: 2:00 PM – 2:45 PM

Location: MSU Plant Science Greenhouses

Tour MSU's teaching greenhouse and learn about plant adaptations for pollination and defense from desert and rainforest ecosystems around the world.

Event Type

Tour

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Scientific Glassblowing Demonstrations

Scott Bankroff, Resident Scientific Glassblower (Chemistry)

Time: 2:00 PM – 2:45 PM

Location: Chemistry Building, Room 93

Come watch a live scientific glassblowing demonstration and learn about the process behind the creation of laboratory glassware.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Requires Pre-Registration

Spring Discovery Walk

Kit Rich, Nature Center Coordinator (Harris Nature Center); Kati Adams, Park Naturalist (Harris Nature Center)

Time: 2:00 PM – 2:45 PM

Location: Harris Nature Center, 3998 Van Atta Rd., Okemos

Tree buds are popping and wildflowers are stirring; it's time to discover nature! Visit the Harris Nature Center for a guided nature walk.

Event Type

Tour

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Tour the National Superconducting Cyclotron Laboratory

Zach Constan, Outreach Coordinator (National Superconducting Cyclotron Laboratory)

Time: 2:00 PM – 3:00 PM

Location: Cyclotron, Room 1200

A guided tour through the vaults to see the experimental equipment up close.

Event Type

Tour

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Requires Pre-Registration

Edible Michigan—We're Number One!

Gregory Lang, Professor (Horticulture); Mary Hausbeck, Professor and Extension Specialist; (Plant, Soil and Microbial Sciences) George W. Sundin, Professor (Plant, Soil and Microbial Sciences)

Time: 2:00 PM – 3:30 PM

Location: Biomedical Physical Sciences Building, Room 1415

Did you know Michigan is the leading U.S. producer of pickling cucumbers and tart cherries? Learn the latest research! Enjoy samples and recipes.

Event Type

Panel

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

PROGRAM FEATURED EVENT

Mathemagics!

An Afternoon of Math and Magic
with Art Benjamin!



Time: 3:30 PM – 4:30 PM, followed by a book/DVD signing and refreshments

Location: Chemistry Building Room 138

Passionate about sharing the beauty and wonder of his two favorite things: math and magic! Combining the two he has created a dynamic presentation that will entertain the whole family!

Dr. Benjamin has appeared on many television and radio programs in America, Australia, and Britain, including the *Today Show*, CNN, *The Colbert Report*, and National Public Radio. He has been profiled in the *New York Times*, *USA Today*, *Scientific American*, *Discover*, and *People* magazine. Dr. Benjamin has presented three TED talks, one of which has been viewed over five million times! Following his presentation, Dr. Benjamin will sign his books and DVD's; *Secrets of Mental Math*, *Mathemagics*, and *The Great Courses: Science and Mathematics* seminars.

Event Type

Talk or Demonstration

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

The Craft and Chemistry of Brewing

Pat Riley, Owner-Operator (Harper's Restaurant & Brewpub)

Time: 5:00 PM – 7:00 PM

Location: Harper's Restaurant & Brew Pub, 131 Albert Ave., East Lansing

Join brewmaster experts for a frothy look at the chemistry, process, types, and tastes behind your favorite craft beers.

Event Type

Talk or Demonstration

Scientific Discipline

Physics, Astronomy,
and Chemistry

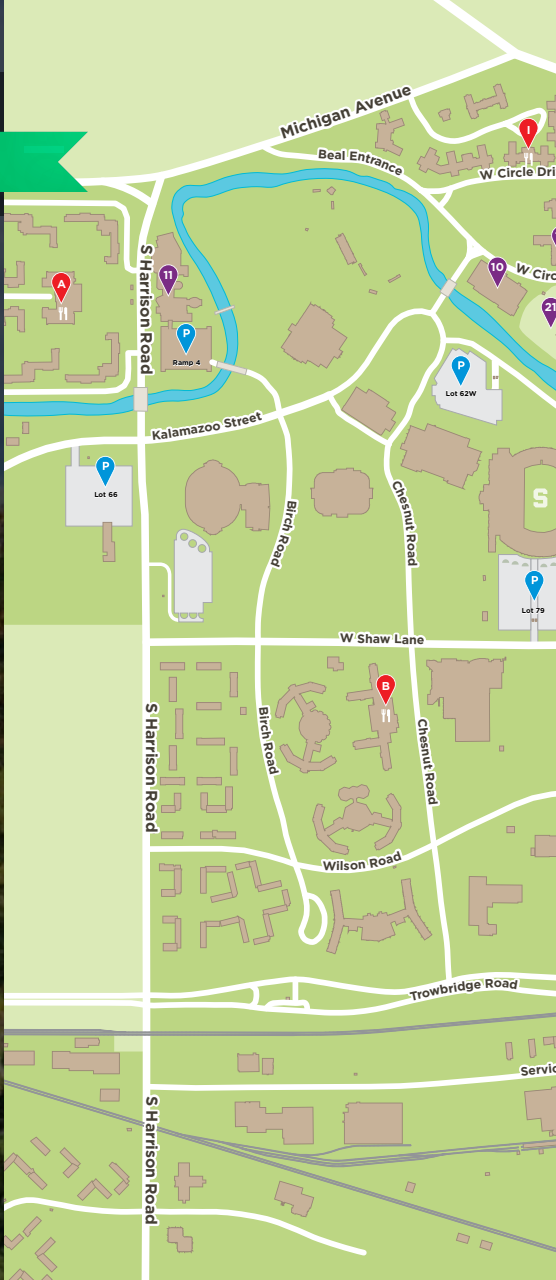
Recommended Age Range

Age 14 (9th Grade) and up

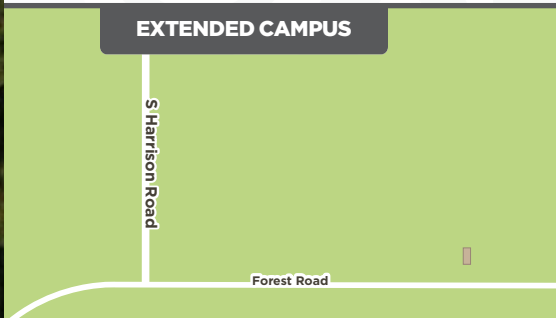
PLEASE NOTE: The Science Festival website will have the most up to date information. Please visit the website at: sciencefestival.msu.edu/schedule



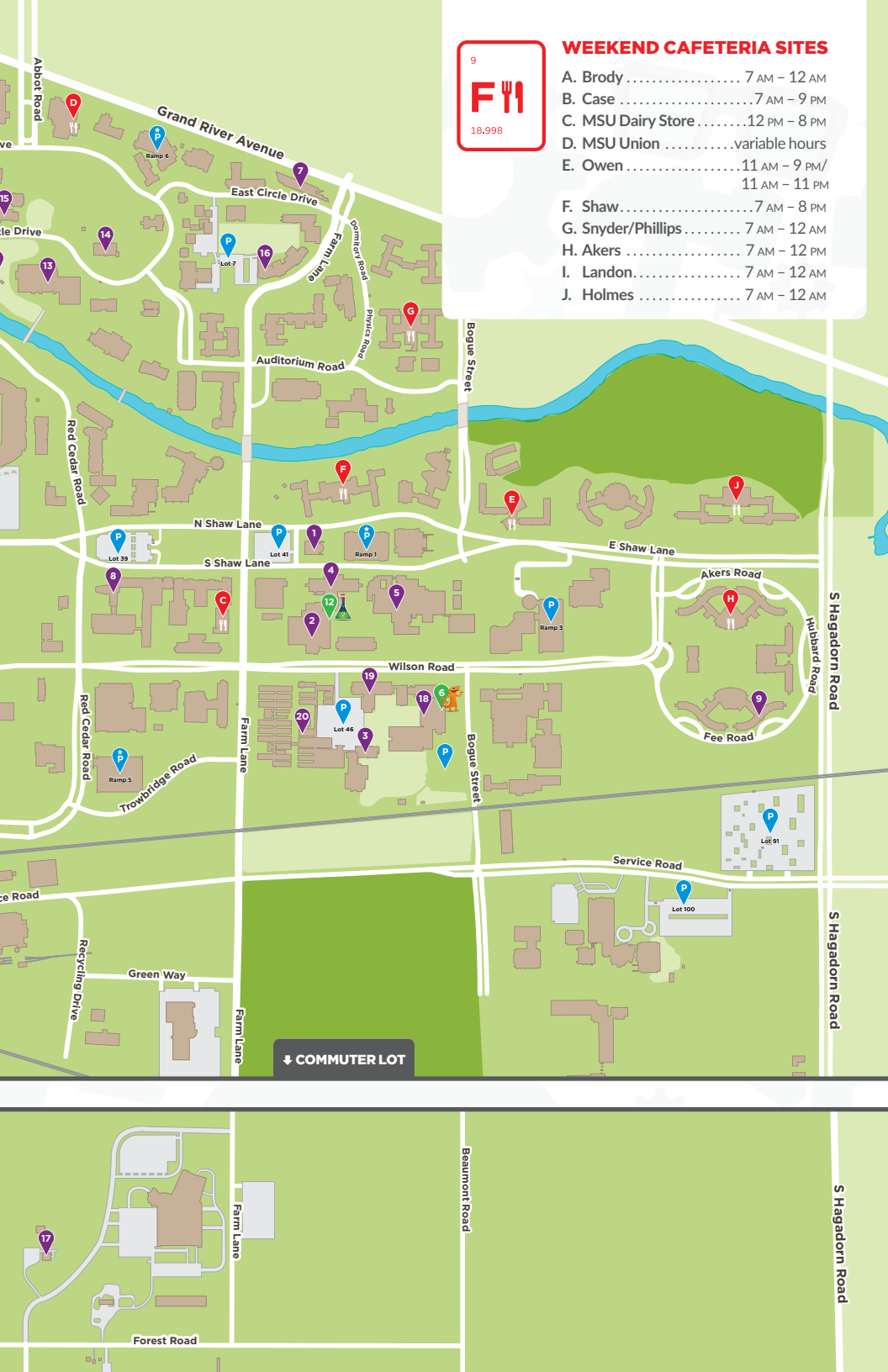
Tell us what you think! Visit an information booth to fill out an evaluation and enter to win!



EXTENDED CAMPUS



| | |
|--------------------|--------------------------------|
| A. Brody | 7 AM - 12 AM |
| B. Case | 7 AM - 9 PM |
| C. MSU Dairy Store | 12 PM - 8 PM |
| D. MSU Union | variable hours |
| E. Owen | 11 AM - 9 PM/ 11 AM - 11 PM |
| F. Shaw | 7 AM - 8 PM |
| G. Snyder/Phillips | 7 AM - 12 AM |
| H. Akers | 7 AM - 12 PM |
| I. Landon | 7 AM - 12 AM |
| J. Holmes | 7 AM - 12 AM |





Delta Dental's EARLY CHILDHOOD ZONE



The Early Childhood Zone is generously sponsored by **Delta Dental**

Primary and early elementary teachers and specialists demonstrate their best science activities within a zone designated for preschoolers!

Located at Plant and Soil Sciences Atrium (See map on page 28)

Saturday, April 18: 10:00 AM – 4:00 PM • **Sunday, April 19:** 11:00 PM – 4:00 PM

PLEASE NOTE: The Science Festival website will have the most up to date information. Please visit the website at:
sciencefestival.msu.edu/schedule

Chromatography Butterflies

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Chromatography is the scientific process of separating mixtures. Test this out for yourself and make a colorful butterfly to take home.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Dancing Kernels

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

This activity gives children an opportunity to participate in a fascinating mini-experiment and highlights major steps of inquiry for preschoolers.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Hydration and Dehydration

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Using giant water beads, children can observe and experiment to learn about hydration and dehydration.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Inquiring Minds Want to Know

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

This station will provide parents with information they can share with their children at home to promote and encourage inquiry skills.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Launching

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Build your own launcher and see how far you can launch a marshmallow and a cotton ball.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Learning About Science the Montessori Way

Susie Hyatt, Administrator (Montessori Radmoor School);
Mo Newton, Administrator (Montessori Children's House of Lansing)

Time: Saturday, 10:00 AM – 4:00 PM

Explore learning through your senses with wonderful hands on materials. Next, travel our world and discover how fun learning about continents can be!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Make and Take Lava Lamps

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Sunday, 11:00 PM – 4:00 PM

Make your own lava lamp and discover whether water or oil is more dense!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Ramp up Science

Attracting Young Scientists with Ramps, Tunnels and Magnets

Sally Mowers, Head Teacher (Human Development and Family Studies: Child Development Lab); Lillian McFarlin, Assistant Director (Human Development and Family Studies: Child Development Lab)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Using everyday materials, such as recycled tubes, children will use science process skills to explore the forces of magnetism and gravity.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Ramps and Things that Roll

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Learn simple practices of physical science and engineering by playing with ramps and things that roll.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Science Play!

Meredith Lammers, Young Child Programs Coordinator (Impression 5)

Time: Saturday, 10:00 AM – 4:00 PM

Come explore science with hands-on science sensory tables and science activities geared to our youngest scientists.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Simple Plant Science Activities for Kids

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Saturday, 10:00 AM – 4:00 PM

Learn more about plants and seeds and what they need to grow with these make and take plant activities!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Soil Scramble

Theresa Silm, Senior Educator (MSU Extension: Early Childhood Education)

Time: Sunday, 11:00 PM – 4:00 PM

We know that warm water and soap cleans dirt, but did you know that dirt cleans water? Experiment with soils to find which purify water better.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

STEAM Storytime

Lauren Douglass, Head of Technology Services (East Lansing Public Library)

Time: Sunday, 11:00 PM – 4:00 PM

Location: Molecular Plant Sciences Building, Room 1200

Join staff from the East Lansing Public Library for stories, science, and fun!

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)



Lansing State Journal EXPO ZONE

The Expo Zone is generously sponsored by **Lansing State Journal**

Featuring hands-on activities for the whole family to enjoy!

Located in the Chemistry and Biomedical Physical Sciences Buildings,
between Shaw Lane and Wilson Rd. (See map on page 28)

Saturday, April 18: 10:00 AM – 4:00 PM • **Sunday, April 19:** 11:00 PM – 4:00 PM

PLEASE NOTE: The Science Festival website will have the most up to
date information. Please visit the website at:
sciencefestival.msu.edu/schedule

Exploring Careers In Natural Science

Career Specialists, College of Natural Sciences

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Curious about careers in natural science? Stop by and
explore the wide range of options available!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

3D Printing—What's in Your Maker Space?

Jerry Fahner, (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

What would you make? By depositing layers of plastic, 3D
printers can make almost anything! Come see for yourself.

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

A Smashing Time with Nuclei

Zach Constan, Outreach Coordinator (National Superconducting
Cyclotron Laboratory)

Time: Saturday, 10:00 AM – 4:00 PM

Location: Cyclotron Building North Entrance facing Shaw Lane

Get hands-on with a model nucleus that you can accelerate
and smash to make isotopes that don't exist on Earth, but
might be made in stars.

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

Auditory Illusions and Confusions

William Hartmann, Professor; Eric Macaulay, Graduate Student (Physics and Astronomy)

Time: Sunday, 11:00 PM – 4:00 PM

Discover the abilities and limitations of our perception of sound. Three auditory effects will be demonstrated to reveal how we are sometimes tricked.

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

Age 14 (9th Grade) and up

Birds and Climate Change

Kara Haas, Science Education and Outreach Coordinator (Kellogg Biological Station); Sara Griffith, Education Intern (Kellogg Biological Station)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Will climate change affect local birds? Learn about climate change research at Kellogg Biological Station and how the Michigan landscape is changing.

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Capital Area District Libraries

Science Fun

Jolee Hamlin, Associate Director of Public Service (Capital Area District Libraries)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Come to the Capital Area District Libraries' expo booth to enjoy an exciting science experiment and other science fun!

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Crafting Scientific Explanations

How Using Yarn, Pipecleaners, and Beads Can Help You Think Like a Scientist

Terri McElhinny, Assistant Professor (Integrative Biology)

Time: Sunday, 11:00 PM – 4:00 PM

Location: Biomedical Physical Sciences Building, BEACON Lounge

Come interact with biologists and crafters, and use handcrafts to extend your understanding of science!

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Creative Creatures

Insights into Insects Through Maggot Art and Aquatic Invertebrate Puzzles

Department of Entomology: Courtney Larson, Doctoral Student; Jennifer Pechal, Post-Doctoral Research Associate; Eric Benbow, Assistant Professor; Courtney Weatherbee, Master's Student

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Use maggots as paint brushes to create a one of a kind painting, and assemble an aquatic insect using structures that relate to its ecosystem roles.

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Delicious Bacteria

Food Fermentation

Department of Cell and Molecular Biology: Siobhan Cusack, Graduate Assistant;
Department of Microbiology and Molecular Genetics: Jackson Sorensen,
Graduate Assistant; Keara Towery, Research Assistant; Enya deFeijter,
Undergraduate Assistant



Time: Saturday, 10:00 AM – 4:00 PM
Sunday, 11:00 PM – 4:00 PM

Bacteria can be friendly!
Through fermentation, they
help make some of our favorite
foods. We will have samples and
explanations about this process.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Electrifying!

Michael Flaga, Board Member (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Ride an exercise bicycle that has been re-purposed to
create lightning, and create a circuit with a hands-on
electronic train.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Evolution in Action

BEACON: Louise Mead, Education Director; Emily Dolson, Doctoral Student;
Josh Nahum, Postdoc; Jay Bundy, Doctoral Student; Kevin McCormick,
Doctoral Student

Time: Saturday, 10:00 AM – 4:00 PM

Location: Biomedical Physical Sciences Building, BEACON Lounge

Evolution isn't just biological. Come check out how
evolutionary processes can even solve engineering problems.

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

Explore! Discover! Observe!

Beany Tomber, Education Coordinator (Broadcasting Services);
ShaDonna Crosby, Assistant Development Director (Broadcasting Services)

Time: Sunday, 11:00 PM – 4:00 PM

This event features hands-on science activities based on PBS
children's programs, including The Cat in the Hat, Sid the
Science Kid, and more.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Extract Your Own DNA

Biochemistry and Molecular Biology Club: Mackenzie Fountain, President;
Noel Samsum, Treasurer; Mirna Kaafarani, Secretary; Jack Chiu, Vice-President;
Jean-Yves Azar, Publicist

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

In this quick experiment, you can find your own DNA from
your cheek cells. This experiment will take around 5 minutes
and you can leave with DNA.

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

Extract Your Own DNA!

Kari Storm, Outreach Coordinator (Veterinary Medicine)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

DNA is the blueprint of life. Participants can extract their own cheek cell DNA and discover where it is found and what it looks like!

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Forces and Levers

Shelley Davis Mielock and Heather Pacheco, Local Development Managers (K12, Inc.)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Learn about force using a balance to discover how levers change the amount of force needed to lift an object.

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Frozen Fun with Dry Ice

Cranbrook Institute of Science: John Maddox, Educator; Sarah Schleicher, Educator; Katherine Finneran, SOG Coordinator

Time: Sunday, 11:00 PM – 4:00 PM

Come learn about the science behind dry ice. Stop by to experience frozen fun with experiments, demonstrations, and hands-on activities.

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Fun with Electronics

Michael Flaga, Board Member (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Learn about circuits and build basic electronics!

Scientific Discipline

Science Education

Recommended Age Range

All ages (kids to adults)

Going Green

Plant Science at MSU

Department of Biochemistry: Sean Weise, Assistant Professor; Department of Plant Biology: Joe Uebler, Student; Elena Michel, Student; Tyler Karty, Student; Lauren Selweski, Student

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Join us to get a hands-on look at some unusual plants, including some that move, using actual research instruments.

Scientific Discipline

Plant and Animal Sciences

Recommended Age Range

All ages (kids to adults)

Green Chemistry!

Making Molecules Better and Faster

Monya Ruffin, CCHF Director of Education, Outreach, Diversity (Emory University)

Time: Saturday, 10:00 AM – 4:00 PM

Green chemistry comes to life! Use the LED interactive touch screen; see, touch, and build large 3-D molecules; and much more!

Scientific Discipline

Physics, Astronomy, and Chemistry

Recommended Age Range

All ages (kids to adults)

Homopolar Motors

Carl Raymond, (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Electric motors are everywhere, from cell phones to locomotives! Learn how a simple motor can be made with just a battery, a magnet, and wire.

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

How Do Species Interact Within Forest Ecosystems?

Kileigh Browning and Katherine Wood, Doctoral Students (Forestry)

Time: Saturday, 10:00 AM – 4:00 PM

This exhibit shows how species interact in forests and how food chain levels influence one another.

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

LCC Immersive Science Exploration

Mindy Wilson, Science Department (Lansing Community College)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Join Lansing Community College science faculty and students as they present a variety of hands-on activities!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Life on a Mobius Strip

Ashley Ahlin, Outreach Coordinator (Mathematics)

Time: Saturday, 10:00 AM – 4:00 PM

Can you imagine life on a surface where a short walk could turn a “d” into a “b”?

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

Lung Function

Janice Schwartz, Assistant Professor (Physiology)

Time: Sunday, 11:00 PM – 4:00 PM

Build your own lung model and explore lung and respiratory system functions through hands-on demonstrations!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Meet the Grand Slam of Michigan Turtles

Nature Discovery: Carol McGrath, Jim McGrath; Andrew Nowicki

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Location: Biomedical Physical Sciences Building, Room 1425

Live specimens of Michigan’s ten species of turtles will be exhibited in various pools and aquariums for close-up inspection.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Mega-Operation

Michael Flaga, Board Member (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Familiarize yourself with the human body by playing this giant-sized Operation table game.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Mega-Tetris

Michael Flaga, Board Member (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Studies have shown that playing Tetris may lead to increased brain efficiency! Test this out with an over-sized version of this classic game.

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Michigan State Geology Club Rocks Rock!

Jeremy Rapp and Alex Pink, Undergraduate Students (Geology)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Come explore the many rocks and minerals all around us with the Michigan State Geology Club!

Scientific Discipline
Archaeology and Geology

Recommended Age Range
All ages (kids to adults)

Mindboggling! Explore How Your Nervous System Operates

Jennifer Taylor, Academic Specialist (Neuroscience)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Examine real human and animal brains up close and try some activities that challenge your brain!

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

MSU Science Theatre

MSU Science Theatre: Sarah Mundwiler, Director; David Pastula; Monique Daignault; Megan O'Donovan; Elissa Jensen; Travis Lange; Katie Ryan; Machel Herzinger,

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Discover the wonders of science through demonstrations with the MSU Science Theatre!

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

MSU Vermicomposting Composting with Worms!

Eamon Devlin and Jake Brekke, (MSU Vermicomposting)

Time: Sunday, 11:00 PM – 4:00 PM

Learn how worms can be used to turn food scraps into fertile soil. The system is simple to make and maintain. Stop on by to learn some more!

Scientific Discipline
Energy and Environment

Recommended Age Range
All ages (kids to adults)

Paint the Stars and Draw the Planets

Shannon Schmoll, Director (Abrams Planetarium)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Location: Abrams Planetarium

Paint constellations with glow-in-the-dark paint or draw out planets in a scale model of the solar system that fits in your pocket!

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

RepRap 3D Printers

Randy Schott, (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Come see a 3D printer in action, learn how they work, and how you can build your very own.

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

Robotic Fish

Xiaobo Tan, Associate Professor (Electrical and Computer Engineering)

Time: Saturday, 10:00 AM – 4:00 PM

Come see the MSU robotic fish in a tank and learn how these robots can be used in monitoring our aquatic environments.

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

Science Studio!

Laura Zeller, External Relations Supervisor (Impression 5); Sandy Ely, Operations Coordinator (Impression 5)

Time: Saturday, 10:00 AM – 4:00 PM

Come and explore a science challenge with a hands-on activity. We provide the tools; you provide the rules!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Sparkling Spuds and Powerful Pennies!

Johnson Controls Power Solutions Engineering Team

Time: Saturday, 10:00 am – 4:00 pm • Sunday, 11:00 pm – 4:00 pm

Location: Biomedical Physical Sciences Building, Room 1400

Learn how the chemical reactions that take place between two dissimilar metals and liquids contained in fruits or potatoes can generate electricity to power a very small device.

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

STEM Genius Underwater Robotics

Yul Allen, Founder (STEM Genius)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

As we explore underwater robotics we will demonstrate how to design, build, and operate underwater remotely operated vehicles, or ROV's.

Scientific Discipline
Engineering and
Technology

Recommended Age Range
All ages (kids to adults)

Studying How The Brain Reads

Bethany Sussman, (Communicative Sciences and Disorders)

Time: Sunday, 11:00 PM – 4:00 PM

Discover hands-on how we study the neural basis of language and reading—from how we test reading and language to how we investigate the brain!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

Take-A-Part

Nick Kwiatkowski, (Lansing Makers Network)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Come to our deconstruction lab sponsored by Lansing Makers Network and take apart discarded electronics destined for recycling!

Scientific Discipline
Engineering and Technology

Recommended Age Range
All ages (kids to adults)

Telescope Buying Guide

John French, Production Coordinator (Abrams Planetarium)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Location: Abrams Planetarium

Ever wonder which is the best telescope to buy? Join us at our table to get all your questions answered.

Scientific Discipline
Physics, Astronomy, and Chemistry

Recommended Age Range
All ages (kids to adults)

The Power in Produce

Michigan Science Center: Charles Gibson, Outreach Coordinator; Michael Mroz, Outreach Educator; Jennifer Kanyo, Educator

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Harness the chemical energy within different types of produce to power up a light bulb, turn on a calculator, or make a buzzer buzz!

Scientific Discipline
Science Education

Recommended Age Range
All ages (kids to adults)

The Science of Imagination

Joy Baldwin, Program Director (REACH Studio Art Center)

Time: Saturday, 10:00 AM – 4:00 PM

Visit REACH Studio Art Center and learn how art is integral to applied science, expands scientific thinking, and makes science even more fun!

Scientific Discipline
Arts, Culture, and Design

Recommended Age Range
All ages (kids to adults)

The Southern Astrophysical Research (SOAR) Telescope MSU's Window to the Universe

Edwin Loh, Professor (Physics and Astronomy)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Location: Biomedical Physical Sciences Building, Room 1404

Stop by and view images from the Southern Astrophysical Research (SOAR) telescope, MSU's window to the Universe.

Scientific Discipline
Physics, Astronomy, and Chemistry

Recommended Age Range
All ages (kids to adults)

TREES

Making a World of Difference One Planting at a Time

Sahar Haghighat, Doctoral Student (Forestry)

Time: Saturday, 10:00 AM – 4:00 PM

Trees are important to many different aspects of our lives and nature. Come roll up your sleeves and make a difference when you plant your own tree!

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

University of Michigan Museum of Natural History Mini-Dome

Matt Linke, Planetarium Manager (University of Michigan Natural History Museum)

Time: Saturday, 10:00 AM – 4:00 PM

Location: Abrams Planetarium

Explore the Universe up close and personal with a mini-planetarium dome in the Abrams Planetarium Lobby.

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

Water Bugs and Water Quality

Darren Bagley, 4-H Youth Development Programs (MSU Extension)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Observe the creatures that might be living in a stream near you and find out how they help you determine if the water is clean or polluted!

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

What's Poppin' with Corn?

Agro-Culture Liquid Fertilizers: Rebecca Gulliver, Outreach and Education Intern; Burt Henry, Outreach and Education Manager



Time: Saturday, 10:00 AM – 4:00 PM
Sunday, 11:00 PM – 4:00 PM

Participants will gain a range of knowledge about corn, including different types, corn uses, and corn production.

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

Why Do Some Things Stick Together While Others Don't?

Reenee Bayer, Associate Director for Engagement (CREATE for STEM Institute); Angie Kolonich, Graduate Student (Curriculum, Instruction, and Teacher Education); Chris Hannaford, Graduate Student (Educational Psychology); Li Ke, Graduate Student (Teacher Education); Nancy Duchesneau, Graduate Student (CREATE for STEM Institute)

Time: Sunday, 11:00 PM – 4:00 PM

Objects interact with each other over distances if one is “charged.” Use various materials to find out how charged and neutral objects interrelate.

Scientific Discipline
Physics, Astronomy,
and Chemistry

Recommended Age Range
All ages (kids to adults)

Wild Woldumar

Kevin Wernet, Program Director (Woldumar Nature Center)

Time: Saturday, 10:00 AM – 4:00 PM • Sunday, 11:00 PM – 4:00 PM

Can you name all five vertebrate animal groups? Get hands on with animal skins, skulls, and shells to explore these native Michigan animals.

Scientific Discipline
Plant and Animal Sciences

Recommended Age Range
All ages (kids to adults)

PROGRAM SPECIAL NOTE

AMAZING Discussion Panels! A group of experts at one time!

Unexpected Science!

Thursday, April 16, 7:00 PM – 8:30 PM
Location: BPS Rm 1415

Citizen Science!: How Curious Citizens Contribute to Research Around the World

Saturday, April 18, 11:00 AM – 12:30 PM
BPS, Rm 1415

Blue Sky Science: What is the Role of Curiosity in Science?

Saturday, April 18, 1:00 PM – 2:30 PM
BPS Rm 1415

Night Skies and Light Pollution

Saturday, April 18, 1:00 PM – 2:30 PM
Abrams Planetarium Dome

Science and the Movies

Sunday, April 19, 11:00 AM – 12:30 PM
Abrams Planetarium

Innovations in Renewable Energy

Sunday, April 19, 1:00 PM – 2:30 PM
Chemistry Building, Rm 138

Edible Michigan—We're Number 1!

Sunday, April 19, 2:00 PM – 3:30 PM
BPS Rm 1415

Science of Michigan Presentations!

Michigan Bird Sounds

Saturday, April 18, 10:00 AM – 10:45 AM
MSU Museum Auditorium

Grand Slam of Michigan Turtles

Saturday, April 18, 10:00 AM – 4:00 PM,
Sunday, April 19, 11:00 AM – 4:00 PM
BPS, Rm 1425

Science in State Government: Your Tax Dollars at Work!

Saturday, April 18, 11:00 AM – 11:45 AM
Chemistry Building, Rm 109

Fire, Water, and Ice:

Michigan's Geological History

Saturday, April 18, 12:00 PM – 12:45 PM,
Sunday, April 19, 2:00 PM – 2:45 PM
MSU Museum Auditorium

Spring Ephemerals

Saturday, April 18, 1:00 PM – 1:45 PM
W.J. Beal Botanical Garden, max group size of 40

Moving Beyond a Shotgun Approach: Addressing Invasive Species in Michigan

Saturday, April 18, 2:00 PM – 2:45 PM
BPS, Rm 1400

The Geography and Evolution of Sand Dunes Along the Eastern Shore of Lake Michigan

Saturday, April 18, 3:00 PM – 3:45 PM
Biomedical Physical Sciences Building, Rm 1420

Building Sustainable Communities in Michigan

Sunday, April 19, 1:00 PM – 1:45 PM
Biomedical Physical Sciences Building, Rm 1415

Spring Discovery Walk

Sunday, April 19, 2:00 PM – 2:45 PM
Harris Nature Center,
3998 Van Atta Rd., Okemos

The Tree Doctor: Diagnosing and Managing Michigan Trees Maladies

Sunday, April 19, 12:00 – 12:45 PM
Biomedical Physical Sciences Building, Rm 1415

MSU SCIENCE FESTIVAL DETROIT DAY

Discover the Science of Our Everyday Lives!

Date: Sunday, April 19, 2015

Time: 12:00 PM – 5:00 PM

Visit sciencefestival.msu.edu for location information and updates!

Andrew Humphrey's Wonderful World of Weather and Science

Learn about meteorology and forecasting weather from WDIV's own Andrew Humphrey.

Discover the Fascinating Geology of Michigan!

Dr. Charles Barker of Oakland Community College Dept. of Natural Science, talk, demonstration and book signing.

Do It Yourself Science: Research Opportunities in Magnetic Resonance

DO Science with the SMART Center and Dr. Reef Morse.

Genomics: Why Are We the Way We Are?

Presented by CREATE for Stem.

Hands On Engineering

Presented by DAPCEP (Detroit Area Pre-College Engineering Program)

Inspiring Minds: African Americans in Science and Technology

Special Exhibit, Free admission during the MSU Science Festival Detroit Day only!

Recycle-tastic in Detroit!

Discover how easy it is to practice the three R's: Reduce, Reuse, Recycle! With Green Living Science.

Reginald Punnett, Chicken Investigator

Learn about the first genetic studies with live chickens from MSU Extension experts.

Research on Belle Isle

Presented by research students from the Henry Ford Academy: School for Creative Studies.

Salt: The Science and History of Detroit Salt!

Presented by The Detroit Salt Company.

Science at the Michigan Science Center!

4:00 PM – 6:00 PM admission is free with a Festival flyer.

The 48217 Project

Presented by research students from the Henry Ford Academy: School for Creative Studies.

What's in YOUR Water?

Unraveling the Great Blue Mystery

See what's hidden in our water by using biology and chemistry with Michigan's Department of Natural Resources.

Where Words Fail...How Music Speaks!

Dr. Jody Stark explains how music impacts our brains and behavior.

Vehicle Technology

Students from Heroes Alliance demonstrate electric and solar vehicle technologies.

These events are generously sponsored by:



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Free entry for specific
times with festival flyer

THERE'S MORE!

Check out this Calendar of Science Events—A Short List!

Wonderful science related programming is available year round.

Here are just a few free or low cost opportunities you might like to check out!

Presentation Schedule

Vet-A-Visit

Saturday, March 28, 9:00 AM – 3:00 PM
MSU College of Veterinary Medicine

Soda Science

Saturday, April 11

Michigan Historical Center,
(museum admission: \$2-\$6)

After the end of the Civil War, Detroit pharmacist James Vernor concocted a new drink—the ginger ale that still bears his name. Find out what makes soda so delicious and create your own taste sensation.

Butterflies in the Garden

Wednesday, April 15, Thursday, April 16
& Friday, April 17, 2:00 PM – 4:00 PM,
Saturday, April 18 & Sunday, 19,
10:00 AM – 4:00 PM
C102 Plant & Soil Sciences

Small Animal Day

Saturday, April 18, 9:00 AM – 1:00 PM
MSU Pavilion
(\$3) Milk a cow, watch horse races, hold a baby chick and meet other animals!

Spring Plant Sale

Saturday, April 18, 9:00 AM – 4:00 PM &
Sunday, April 19, 10:00 AM – 3:00 PM
Horticulture Greenhouses

Combinatorial Trigonometry (and a method to DIE for)

Saturday, April 18, 4:10 PM – 5:00 PM
B122 Wells Hall
Enjoy advanced mathematics? You may want to check out this special seminar. A minimum of high school calculus is recommended.

MSU Engineering Design Day

Friday, May 1
See website for details.

Science Olympiad

Saturday, May 2
See website for public hours.

Deep-Play: Creativity in Math and Art Through Visual Word Play

Through June 30 (visit website for hours)
MSU Museum

Stand at the intersection of math, science, art, and fun! Visit the MSU Museum website for more information.

Evolution in Action gallery

A long-term exhibit (visit website for hours)
MSU Museum

Discover evolution research happening right here at MSU, from bacteria to hyenas, even digital evolution!

The Hall of Animal Diversity and Habitat Hall

A long-term exhibit (visit website for hours)
MSU Museum

Long-term displays of a wide variety of animals and their habitats from around the world, including those extinct favorites—dinosaurs!

Hall of Evolution

A long-term exhibit (visit website for hours)
MSU Museum

Take a journey back in time to explore ancient plant and animal life through fossils and illustration.

Howl at the Moon (\$3)

Spring Discovery Walks (Free), Bird Watching in Our Parks (Free), Weekday Wildflower Walks (\$3), For more information visit the Harris Nature Center website.

FESTIVAL ACKNOWLEDGEMENTS

SCIENCE FESTIVAL TEAM

Renee Leone

Co-founder and Coordinator

Katherine Hagman

Science Festival Assistant

Roxanne Truhn Witcher

Science Festival Assistant

CORE CONSULTING TEAM

Hiram E. Fitzgerald

University Distinguished Professor, Psychology;
Associate Provost for University Outreach and
Engagement, Co-Founder, MSU Science Festival

Jena Baker-Calloway

Director, MSU Detroit Center and Lead
Organizer for Science Festival Detroit Day
University Outreach and Engagement

Burton A. Bargerstock

Director, Communication and Information
Technology; Director, National Collaborative
for the Study of University Engagement
University Outreach and Engagement

Carl Bussema

Information Technologist
Communication and Information Technology
University Outreach and Engagement

Mike Davis

Graphic Artist
Communication and Information Technology
University Outreach and Engagement

Ghada Georgis

Associate Director
Communication and Information Technology
University Outreach and Engagement

Carla Hills

Communications Manager
Communication and Information Technology
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ADVISORY TEAM

Jerrod Bramen

Research Assistant
Radiology Osteopathic Medicine

Teresa Clark

Graduate Student
Plant Biology

Zachary Constan

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Julie Crowgey

Event Coordinator
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Julie Ann Fick

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James Ives

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UNIVERSITY OUTREACH AND ENGAGEMENT

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Editor

Communication and Information Technology

Julie Crowgey

Event Coordinator

Communication and Information Technology

Mike Davis

Graphic Artist

Communication and Information Technology

Lynne Devereaux

Operations Manager

Outreach Administration

JoDee Fortino

Administrative Assistant

Outreach Administration

Matthew Forster

Editor

Communication and Information Technology

Glenda Gatewood

Administrative Assistant

Outreach Administration

Kelly Hansen

Graphic Artist

Communication and Information Technology

Cindy Helms

Administrative Assistant

Communication and Information Technology

Carla Hills

Communications Manager

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Linda Chapel Jackson

Senior Editor

Communication and Information Technology

Paul Phipps

Information Technology Professional

Communication and Information Technology

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DETROIT DAY:

Charles Wright
Museum of African
American History
CREATE For STEM
Detroit Area
Pre-College
Engineering Program

Detroit Salt Company
DNR Outdoor
Adventure Center
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Henry Ford Academy
Heroes Alliance

Meteorologist
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PARTICIPATING MSU UNITS

- Abrams Planetarium
- Andrew Humphrey
- Anthropology Department
- BEACON
- Beal Botanical Garden
- Biochemistry and Molecular Biology Club
- Biosystems and Agricultural Engineering
- Broadcasting Services
- Cell and Molecular Biology
- Center for Advanced Microscopy
- Center for Integrative Studies in the General Sciences
- Center for Systems Integration and Sustainability
- Chemical Engineering and Materials Science Department
- Chemistry Department
- College of Agriculture and Natural Resources
- College of Osteopathic Medicine
- College of Osteopathic Medicine Admissions
- College of Veterinary Medicine
- Communicative Sciences and Disorders Department
- Counseling, Educational Psychology, and Special Education Department
- CREATE for STEM Institute
- Curriculum, Instruction and Teacher Education Program
- Diagnostic Center for Population and Animal Health
- Electrical and Computer Engineering Department
- The Eli and Edythe Broad Art Museum
- English Department
- Entomology Department
- Fisheries and Wildlife Department
- Forensic Biology Program
- Forestry Department
- Geography Department
- Geological Sciences Department
- Human Development and Family Studies: Child Development Lab
- Infrastructure, Planning and Facilities
- Institute for Cyber-Enabled Research
- Institute of Water Research
- Integrative Biology
- IPF and Architectural Service
- James Madison College
- Julian Samora Research Institute
- Kellogg Biological Station
- Kinesiology Department
- Lyman Briggs College
- Mathematics Department
- Media and Information Department
- Media and Information Department
- Microbiology and Molecular Genetics Department
- MSU Demmer Center
- MSU Extension Michigan Natural Features Inventory
- MSU Extension: Early Childhood Education
- MSU Geology Club
- MSU Herbarium
- MSU Library
- MSU Museum
- MSU Science Theatre
- MSU Vermicomposting
- Music Department
- National Superconducting Cyclotron Laboratory
- Neuroscience Department
- Office of Campus Sustainability
- Osteopathic Surgical Specialties
- Philosophy Department
- Physics and Astronomy Department
- Physiology Department
- Plant Biology Department
- Plant Research Laboratory
- Plant Soil and Microbial Sciences
- Radiology Department
- RCAH Center for Poetry
- Writing, Rhetoric, and American Culture
- Zoology Department



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- Lansing, E. Lansing and Detroit Area Community Centers
- Lansing Regional Chamber of Commerce
- Science Festival Alliance
- United Way
- Wayne State University Press
- WILX
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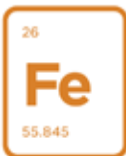
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- Department of Kinesiology—Ryan Moran
- East Lansing Public Library—Lauren Douglass
- MSU Abrams Planetarium—Shannon Schmoll, John French, and Shane Hovatin
- MSU Bug House—Gary Parsons, Bernice DeMarco
- MSU College of Communication Arts and Sciences—Amanda Krueger
- MSU College of Veterinary Medicine—Maria Iliopoulou, Kari Storm, SAMY,
- MSU Dairy Club, MSU Equine Club
- MSU Department of Anthropology and Campus Archaeology—Kate Frederick
- MSU Department of Fisheries and Wildlife—Sarah Plantrich
- MSU Department of Forestry—Richard Kobe and Scott Stark
- MSU Department of Physiology—Anthony Paganini
- MSU Diagnostic Center for Population and Animal Health—Kristy Mietelka
- MSU Edythe and Eli Broad Art Museum—Lana Stigura
- MSU Institute for Cyber-Enabled Research—Taylor Lundgren and Kelly Osborn
- MSU Museum—Julie Fick and Abigail Gray
- MSU National Super Conducting Laboratories—Zach Constan
- MSU Surplus Store and Recycling Center—James Ives and Emily Wilson
- MSU Tree Research Center—Paul Bloese and Randy Klevickas
- PhotosynQ—Geoff Rhodes, Greg Austic, Robert Zegarac, Sebastian Kuhlert, Dave Kramer
- Preuss Pets—Nikki Mitchell
- U.S. Fisheries and Wildlife Service—Paul Charland
- Woldumar Nature Center—Kevin Wernet

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A poster for Spartan Engineering Summer Camps. It features a cartoon Spartan character in a green helmet and armor. The background shows a building and a car. Text includes "MICHIGAN STATE UNIVERSITY", "Can't Get Enough Science?", "Kick it into High Gear!", "Spartan Engineering Summer Camps", "Camps for Grade School, Middle School and High School students", "Commuter & Residential Options", "Explore all areas of Engineering, including: LEGO Robotics, Computers, Robotics Engineering, RADAR ... and more!", "Learn More at: www.egr.msu.edu/future-engineer". There are also icons for "Sc" (Science) and "Fe" (Engineering) and a gear icon.

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- Computers
- Robotics Engineering
- RADAR ... and more!

Learn More at:

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A poster for MSU Forestry. It features a photograph of a waterfall cascading over a rocky cliff into a lake, surrounded by dense green trees. The text "MSU FORESTRY" is in large green and white letters, with a small tree icon. Below, it says "MSU Forestry is Proud to Sponsor the 2015 MSU Science Festival". At the bottom, it lists "MICHIGAN STATE UNIVERSITY" and "Department of Forestry" with the website "www.for.msu.edu".

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¹ U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General—Executive Summary. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

² Ostrow School of Dentistry of USC. Poor Oral Health Can Mean Missed School, Lower Grades. August 2012.

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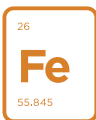
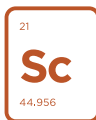
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<http://create4stem.msu.edu>

Wednesday, 6:30 p.m.

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Location: Chemistry Building

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Location: Expo Arena

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