

# Cool Science Festival Carnival Day!

## 1. WEST LAWN

**US Army 749th OD CO (EOD)**  
Drive a real Explosive Ordnance Disposal (EOD) robot and meet the soldiers who use them.

**Cheyenne Mountain Zoo**  
Meet some of your favorite zoo animals. (10am to 2pm only)

**The Mobile Earth and Space Observatory**  
An Earth and space science center on wheels with telescopes, augmented reality sandbox and more!

**USAFA 94th Flying Training Squadron**  
Climb into a real glider and experience a simulated glider flight.

**Civil Air Patrol Colorado Springs Cadet Squadron**  
Build a paper rocket and launch it 300 feet with compressed air!

**CaveSim**  
Gear up to crawl through 60 feet of artificial cave tunnels and practice vertical caving techniques.

**Denver Museum of Nature and Science**  
Explore the Curiosity Cruiser - DMNS's "Museum on Wheels"

## 2. EL POMAR PLAZA

**Rocky Mountain Robotics**  
Meet ASD-20's 2023 First Robotics Competition robot.

**Aerospace Radio Club Colorado Springs**  
Go on the air with amateur radio in our communication trailer.

**Top Ladies of Distinction Inc./ Top Teens of America**  
Make humongous soap bubbles - or just pop them!

**Pikes Peak Permaculture**  
Roll your own Seed Balls or Earth Dumplings to grow native plants for pollinators.

**Southeastern Colorado Renewable Energy Society**  
Cook S'mores cooked in a solar oven and learn about renewable energy technologies.

**ARKA**  
Use parabolic microphones to simulate how satellites send information from space to Earth.

**Kelly Bull Permaculture Design**  
Dig into vermiculture and hold a worm in your hand to see how they turn trash into treasure.



## 3. OSBORNE CENTER (OCSE)

### OUTSIDE OCSE ENTRANCE

**American Institute of Aeronautics and Astronautics**  
Rocket propulsion with Alka-Seltzer tablets.

**UCCS Dept of Mechanical & Aerospace Engineering**  
Launch a CO2-powered rocket.

**League of Women Voters**  
Paint a rock and learn why it's important to vote.

### OUTSIDE OCSE - A PATIO

**Minerals Education Coalition**  
Pan for gold while learning how valuable mineral resources are recovered.

### OUTSIDE OCSE - B PATIO

**Space Foundation Discovery Center**  
Create an alien, launch puff rockets and blow dry ice soap bubbles.

### OCSE 2ND FLOOR

**Pikes Peak Regional Science and Engineering Fair**  
Learn how to make an awesome science fair presentation from winning students.

**Pikes Peak Library District**  
Create a Penny Spinner to explore force, motion and visual effects!

**UCCS Dept of Physics & Energy Science** Learn how the giant pendulum works and what it tells us about the Earth. Plus demos of magnetism, aerodynamics, and other spectacular physics.

**The Colorado Springs School**  
Observe, model and experiment with roly-poly (pill) bugs.

### OCSE A210

**UCCS Computer Science Bioinformatics Lab**  
**When Artificial Intelligence Meets Biology** - Learn how scientists harness the power of AI algorithms and leverage genomic data to address pertinent biological problems. 40-min presentations at 11 am, Noon and 1 pm. *(Best for high school students and adults)*

### OCSE A214

**UCCS Engineering & Applied Physics**  
Use sound waves to trap microbubbles and make fire dance! *(Best for older kids)*

### OCSE A218

**UCCS Engineering & Applied Physics**  
Play a game steering your tiny ship thru blood vessels to deliver life-saving medicine!

### OCSE B213

**Nature and Wildlife Discovery Center**  
Meet a live bird of prey and explore skins and skulls.

### OCSE B215

**U.S. Air Force Academy - Dept of Computer & Cyber Sciences**  
Crack secret message codes, explore deep learning and AI, and program Arduino robots.

### OCSE B216

**Pikes Peak Composite Squadron**  
Learn about Bernoulli's Principle with paper airplanes, mask making drone demonstrations.

### OCSE 3RD FLOOR

**American Numismatic Association**  
Learn how real money is made and guess which coin is heaviest.

**Colorado Springs Pioneers Museum**  
You're a History Detective, using invisible ink, decoder, and magnifying glass to solve puzzles.

**El Paso County Nature Centers**  
Meet some of the tiny creatures that live in the Fountain Creek Watershed.

### OUTSIDE OCSE - 3RD FLOOR PATIO

**Colorado Springs Astronomical Society**  
Observe Earth's closest star (our dynamic sun) with special high power solar telescopes.

### OCSE A302

**UCCS Dept. of Mechanical & Aerospace Engineering**  
Experiment with airfoil/wing aerodynamics in a real wind tunnel.

### OCSE A304 - OCSE A306

**UCCS American Institute of Aeronautics and Astronautics**  
Space Science demonstrations with Cubesats and a rocket engine.

### OCSE A306

**UCCS Latinx Student Union**  
Watch robots that dance, do sit-ups, push-ups, and other cool movements.

### OCSE A327 (3K ON MAP)

**Colorado Springs Rocket Society**  
Build a real Estes model rocket with help from our rocket scientists.

## OCSE B310

### UCCSTeach

**The Wonders of Water!** - Chill out with an ice balloon and explore unique properties that make water essential for life on Earth. 40-min lab sessions 10 & 11 am, Noon, 1, 2, 3 pm. *(All ages)*

## OCSE B314

### UCCS Bug Club

Insectapalooza! Meet live and preserved spiders, bugs and other critters and feed them.

## OCSE 4TH FLOOR

### Cave of the Winds

Learn how some caves and rocks form and the cave ecosystem.

### Schriever Space Force Base

Hold a satellite and see what space looks like through our Delta 8 virtual headset.

**Davidson Technologies** Make your own mini Star Wars light saber.

### Missile Defense Agency

Design, build and launch your own inflatable ballistic missile.

## OCSE B402

### UCCS Natural History Museum

800 specimens of mammal skins, skulls and skeletons and dissect owl pellets.

## ENGR 230 (via OCSE 4th Floor Bridge)

**UCCS Electrical & Computer Engineering Dept.** UCCS student Arduino and robotics projects.

## 4. UNIVERSITY CENTER (UC)

### UC LOWER PLAZA

**Royal Crest Dairy, Palmer High School and Cool Science** Make your own ice cream with liquid nitrogen.

### Macaroni KID Colorado Springs

Crafts, games, prizes, bubbles, temporary tattoos and pose as a scientist in our photo booth.

### UC UPPER PLAZA

### Theatre Across Borders Project 206:

**A Great Bones Adventure** There are 206 bones in the human body, and Gavin the Explorer will need every last one to complete a daring rescue mission. You'll love this quirky, adventurous science play written with kids, for kids. 20-min shows at 10:40 am, 1:30, 2:15 & 3 pm. *(All ages)*

## UCCS Physics Rock & Roll Band

Enjoy a group of UCCS faculty (mainly physics faculty) performing classic rock and roll music. Performances at 11:30am and 12:30pm. *(All ages)*

### Pikes Peak Soap Box Derby

Let gravity take you for a ride in a real Soap Box Derby car.

### Colorado Parks and Wildlife

Meet live fish from Fountain Creek in our aquariums

### Rocky Mountain Vibes Baseball

Demonstrate how principles of flight and air resistance affect the trajectory of baseball pitches.

## UC 1ST FLOOR

### UCCS CK - Kiwanis

Make water dance, a bowl sing and tap a spoon that will blow your mind!

## UC 2ND FLOOR

### USAFA iGEM Team

Lyme Disease Detection & Tick Check

### UCCS Cognitive Development Lab

Learn why we think the way we think by playing a memory game.

### Pikes Peak Children's Museum

Bird Beak Buffet - try to eat like a bird with different beak shapes.

### Pikes Peak Mycological Society

Learn how fungi are farmed on a magnificent mushroom adventure in a fungus habitat.

### Donor Alliance

Learn about organ and tissue donation by playing a life-sized Operation game!

### Rocky Mountain Dinosaur Resource Center

Experience the Amazing Prehistoric Seas.

### UCCS PERCH Research Lab

Create a model of a brain with clay while learning about the different parts and their functions.

## UC 3RD FLOOR

### Sustainable Educational Experience

Learn how to identify herbs and change the flavors of foods by combining different ingredients.

**Girl Scouts of Colorado** Build and launch a Girl Scouts paper rocket.

**US EPA** Play fun games to learn about protecting our environment.

### Pikes Peak State College

Launch a ping pong ball and race a mousetrap car.

## UC 302

### U.S. Air Force Academy -

**Physics is Phun (A Hair Raising Experience!)** Watch- and experience- the amazing power of physics with a variety of angular momentum and magnetic forces demonstrations. Between shows you can try out some of the equipment yourself! Shows at 11am, 12:30 and 2 pm. *(All ages)*

## UC 303

### Keysight Technologies

Build electrical circuits, "see" sound waves, explore with hands-held microscopes and program robots.

## 5. BERGER HALL

### Humane Society of the Pikes Peak Region

Test the Science of Positive Reinforcement with your Pets.

### iFLY Colorado Springs

"Fly" various shaped objects in a vertical wind tunnel.

### Bearbotics Robotics Team

Big robots, little robots, battlebots, 3D printed drones, AI art and more from D-38's team.

### UCCS Cybersecurity Programs Office

Learn about Cybersecurity through VR (Virtual Reality)!

### National Museum of World War II Aviation

Build and test fly your own foam plane to demonstrate the physics of flight.

## 6. GALLOGLY EVENTS CENTER

**Lockheed Martin** Power a rocket sled and experience virtual reality.

### U.S. Air Force Academy STEM Pop-up Planetarium

- Pop into our inflatable planetarium to watch "The Sun, Our Nearest Star". Shows every 25 mins. *(All ages)*

### Cougars Gone Wired

**D-11 FIRST Robotics Team** Play soccer and catch with robots built by D-11 high school students.

**Boys & Girls Club of the Pikes Peak Region** Learn to build and program drones to play soccer in the air.

### Slim Rail Modular Model Railroad Club

Check out an amazing scale model of Colorado narrow gauge railroad technology.

### Challenger Learning Center

Design your own Moon Medallion and program a lunar rover.

## 7. CENTENNIAL HALL

### CENTENNIAL 1ST FLOOR

#### Emerge Aquaponics

See fish, plants and microorganisms working together to create a sustainable food growing system.

**National Weather Service** Create clouds in a bottle and demonstrate the fluid motions of a tornado.

### CENTENNIAL 111

#### UCCS GES Geomorphology Research Lab

Get wet and sandy creating different types of stream channels with water.

### CENTENNIAL 2ND FLOOR

**UCCS Biochemistry** Experiment with the enzymes in your own saliva that help break down the food you eat.

**Starbase Peterson** Use paper chromatography on markers to solve a puzzle.

### CENTENNIAL 203

#### Cool Science & Air Force Academy

**Chemistry Magic Show** - Always a fan favorite, experience the wonders of chemistry with Dr. Ron Furstenuau performing his signature magic show. "Potions" change colors, explode and even freeze right before your eyes! Shows at 10:30am & Noon. *(All ages)*

#### UCCS Dept of Chemistry and Biochemistry

**Chemical Illusions: A Chemistry Magic Show** - Dr. Elise Naughton from UCCS Chemistry Dept. demonstrates the magic of chemistry with rainbow fire, flaming gummy bears, an electric pickle, a genie in a bottle & more! 1:30 & 3 pm. *(All ages)*

## 8. PARKING LOT IN FRONT OF UC

### Colorado Springs Utilities

Cathodic Protection, Heat Pumps and Solar Charging - Oh My!

### Drive Electric Colorado

Electric Vehicle Showcase - See a wide variety of electric vehicles and talk to a team of experts.

### Colorado Springs Fire Department

CSFD fire fighters will demonstrate their equipment. (11am-1pm Only)

## THANK YOU SPONSORS!

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### Festival Partners

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ppld

Find Your Family Fun!  
**Macaroni KID**  
Colorado Springs



The Cool Science Festival continues thru Oct. 15th with many more cool events and fun for all ages!

THANK YOU Sponsors, Donors, Presenters & Volunteers who make the Cool Science Festival possible!