

VIRGINIA TECH



SCIENCE FESTIVAL

October 8, 2016
Exhibitor Catalog

Moss Arts Center, Alumni Mall, Henderson Lawn, College
Avenue, and Newman Library

www.vt.edu/sciencefestival

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Welcome

Welcome to the Virginia Tech Science Festival. Science is bigger than you think.

Science is a way of knowing about everything -- people, trends, living things, rocks, economics, how things move, what people buy, probabilities, stars, animals, history, memory, physics, and so much more. You might even say that science is universal.

The Virginia Tech Science Festival is your opportunity to get hands on and minds on with science as a way of thinking. Science is about collecting information to answer questions and solve big problems like water quality, feeding the people, transportation, and education.

The Virginia Tech Science Festival is produced at the Institute for Creativity, Arts, and Technology and is a collaboration with the Science Museum of Western Virginia, 4-H, Carilion Clinic, Newman Library, and Virginia Tech's College Access Collaborative. The festival is one of several events that make up Virginia Tech's Week of Science, which also includes the Southwest Virginia STEM Summit, the National Capitol Region Maker Festival, and School Preview Day at the Science Museum of Western Virginia.

The event is free and open to the public. We hope to improve attitudes toward science, attract children to college, build networks among science educators, and identify exhibits that could be redesigned for a museum environment. We hope you have a great time and expand your universe of science.

Phyllis Newbill

Festival Chair

Outreach and Engagement Coordinator, Institute for Creativity, Arts, and Technology

Virginia Tech's Institute for Creativity, Arts, and Technology (ICAT) and the Science Museum of Western Virginia have forged a unique relationship. For ICAT and Virginia Tech, the partnership supports the pathway of university research to public engagement. For the museum, the partnership provides programming, exhibits, expertise, and interns. Dr. Phyllis Newbill, a jointly supported researcher in informal education, facilitates faculty, students, and staff from both organizations to catalyze and sustain this collaboration. The partnership includes the joint production of the Virginia Tech Science Festival, as well as exhibits, workshops, and camps.

Institute for Creativity, Arts, & Technology Studios at the Moss Arts Center

Learning Studio

First Appalachian Robotics

www.facebook.com/FirstAppalachianRobotics/
We are a FIRST Tech Challenge team from Bristol, VA, and will launch, track, and recover a high altitude balloon. See the launch at 11:00 AM on Henderson Lawn. Track the balloon in the Learning Studio at the Moss Arts Center.

Build and Program Lego Robots with the Tuxedo Pandas

New River Robotics Association / Tuxedo Pandas FTC Team 4924
www.TuxedoPandas.org / www.RBFLL.org
Visit the Tuxedo Pandas robot team! Ages 8-18 can build and program a line following robot in our robot parade. Youngsters will enjoy our Lego pit, and learn about Junior teams. Check out our world competition videos and our life-sized Butler robot. See about joining or starting your own robot team.

Robotics with Virginia Tech Integrative STEM Education

Virginia Tech Integrative STEM Education
<http://www.soe.vt.edu/istemed/>
Test your robotic skills! Control a robotic arm to investigate the most effective methods for moving various objects.

Steam-powered Production of Olive Oil using Digital Games and Virtual Environments

Center for Human-Computer Interaction
www.hci.vt.edu
Have you ever wondered how much work it takes to produce something as delicious as olive oil? Were you curious about how engineering has helped the industrialization of food production? If yes, then come and play together with your peers our unique large-group, digital 3D game: C-OLiVE!

Integrated Computational Thinking and Chemistry Learning

Center for Human-Computer Interaction
CHEM+C Project
hci.vt.edu
Participants can interact with a series of animated simulations that provide opportunities for both chemistry learning and computational thinking--designed originally for innovative classroom learning.

Observation Studio

Mirror Worlds

Institute for Creativity, Arts, and Technology
icat.vt.edu
Mirror Worlds project creates a shared space, with portals between the physical and virtual, where people can interact with each other and explore the Moss Arts Center.

Cube

Visualizing subatomic physics in the Belle II detector

Institute for Creativity, Arts, and Technology
icat.vt.edu
Experience 360-degree visualization in the Cube. Watch the collision of an electron with an anti-electron create a particle shower of elementary subatomic particles flying through time and space in the Belle II detector. See Einstein's famous formula $E = mc^2$ come to life!

Experience Studio

Plasma - Hand Tracking, Particle Physics, & Projection Mapping

Institute for Creativity, Arts and Technology
icat.vt.edu

Plasma is a physics controlled orb of particles that participants can control and manipulate through the use of a LEAP Motion digital tracking camera. Calling on the imagery of the iconic Plasma Ball, the popular 1980's science toy, Plasma elates spectators and lets them control physics simulations.

Perform Studio

Krinkle Cube

Center for Human-Computer Interaction 3DI group
research.cs.vt.edu/3di/

Krinkle Cube is a Virtual Reality game where you play as a powerful mage. Your mission is to defend a castle against hungry and funny creatures by casting fire spells. Join us in this medieval virtual world created by the latest technology.

Roving

501st Legion's Garrison Tyranus Star Wars costuming organization

Garrison Tyranus
501st Legion
www.garrisontyranus.com
www.501st.com

We are a worldwide, charity based Star Wars costuming organization that does local community events like these to help draw attention to the event. We have movie quality costumes, and are always a huge hit with everyone. We will mingle with the crowd and pose for as many pictures as folks will take.

Moss Arts Center Grand Lobby

Science is bigger than you think

Science Museum of Western Virginia
www.smwv.org

See what the Science Museum of Western Virginia has to offer. Play a Dancing Fruit Basket Piano, explore insects from the museum's collection, dig in the sand pit of science, and program your own robot-drawn picture with Dash the Robot.

Science Festival Photobooth

Virginia 4-H
www.ext.vt.edu/topics/4h-youth/index.html
Guests can have their photo taken at the iPad Photobooth! All pictures can later be retrieved from the Virginia Tech Science Festival Facebook page.

Classic Tech Toys

Craig County 4-H
Giles County 4-H
www.facebook.com/Giles4H
www.facebook.com/va4Hcraig

Classic toys which demonstrate basic science principles in fun and engaging ways! Come be mystified by how these toys work and learn the science behind them. Stop by for playtime with us and make your own toy to take home!

Drone Discovery: 4-H National Youth Science Day

Virginia 4-H
www.ext.vt.edu/topics/4h-youth/index.html
Join Virginia 4-H as we explore flight principles of drones through engaging hands-on engineering activities.

Virus Tracker

Biocomplexity Institute of Virginia Tech
bi.vt.edu

Virus Tracker is an educational game that can transform any event into a full-blown zombie epidemic. Score points by passing on your zombie virus to other players or curing them with the latest vaccine. As you play, the game creates a map of all your interactions - information that helps scientists.

3D Printing with the Virginia Tech DREAMS Lab

DREAMS Lab
www.me.vt.edu/dreams/

Come and learn about 3D printing with the Virginia Tech DREAMS Lab! Visitors can interact with 3D printed objects, learn about different kinds of 3D printers, and see first hand our small-scale machines!

Blue Ridge Chapter American Meteorology Society/National Weather Association

gobblerconnect.vt.edu/organization/MeteorologyClubVT

Various activities for children of all ages to enjoy to learn how weather works. Others can get an inside look at how meteorologists use weather stations to forecast.

WDBJ7 Meteorologists teach the Science Behind Weather

www.wdbj7.com

WDBJ7 Meteorologists, led by Robin Reed, teach the science behind weather. They will showcase hands-on experiments and be available to answer all your weather-related questions!

Moss Arts Center

artscenter.vt.edu

See videos of behind the scenes in the performance hall from 10 AM to 1 PM.

Build Unusual Structures using Uncommon Structural Elements

Dan Warren Woodworking
www.danwarrenwoodworking.heliohost.org

Build and explore tensegrity structures which use tension and compression elements. Use geometric building shapes to build crystal like objects. Weave a floor using a network of short wood blocks.

Kids get to program robots that scurry around the floor and shoot alien ships with real lasers!

Rackspace
rackspace.com

Robots, Aliens and Robots! Come to the Rackspace booth and get to program a real robotic-rover to navigate a Martian terrain, find the alien armada and blow them away before they can attack earth! You get to program a real robot (in the C++ language) and shoot a real, 5,000 μ Watt laser cannon! Wow!

New River Valley Rocketry

nrvr.org

Come see hobby rockets from 3" to over 12' tall. Learn how a rocket motor and altimeters work in hobby rockets.

High Power Rocketry at Virginia Tech

Rocketry@VT
vtrocketry.aoe.vt.edu/

Talk with students about rocketry at Virginia Tech. See examples and footage of past rockets and launches.

The Secret Lives and Many Talents of Good Bacteria

Novozymes Biologicals Inc.
www.novozymes.com/en

What are bacteria? Where are they and how do they play a role in our lives? Please visit us to learn more about the ways that bacteria play a part in your life and participate in a hands-on activity to grow some microscopic friends of your own.

Moss Arts Center Orchestra Lobby

Improving ergonomics with 3D Printing

Formy

formygrips.com

Virginia Tech startup Formy uses 3D scanning and 3D printing to make bike grips more durable, more comfortable, and more customizable. Try out custom-fit grips and learn how to support innovation!

Musical Robots

Institute for Creativity, Arts, and Technology

icat.vt.edu

Touch a musical robot, examine the different components of the robot, and understand how the components fit together. Command a musical robot using a wii remote controller (wiimote).

Carilion Children's Teddy Bear Clinic

Carilion Clinic

www.carilionclinic.org

Come to our virtual clinic where you can view simulated X-rays of body areas, take vital signs, listen to the heart and lungs with a stethoscope, and make a hospital-type bracelet to wear.

Glo Germ: The Glo Germ "kit" shows kids where germs hide on their hands... even when they look clean.

Carilion Clinic

Carilion New River Valley Medical Center

www.carilionclinic.org

This interactive demonstration allows you to see the sticking power of germs, how they spread, and the necessity of good hand washing techniques!

Sun Damage Viewer: DermaScan electronic ultraviolet light source for viewing damage to facial skin

Carilion Clinic

Carilion New River Valley Medical Center

www.carilionclinic.org

Sun Damage Viewer is a DermaScan electronic ultraviolet light source that enables you to view damaged skin on the face and neck area. This is not a diagnostic tool, but is used to promote preventative skin care, sun screen use, and regular skin check ups.

You are More than a Number on a Scale

Carilion Wellness

www.carilionclinic.org

www.carilionwellness.com

See how a view of body composition/balance with this technology can provide a full assessment of health and wellness. The scan demo shows body composition of water, proteins, minerals, body fat, and other elements.

Carilion Home Health Care: Featuring Telehealth, Monitoring patient care at home through technology

Carilion Clinic Home Health Care

Carilion Clinic Hospice

CarilionClinic.org/homecare

CarilionClinic.org/hospice

Come learn how we're using the newest health care technology to improve patients' health through electronic communications.

Carilion Children's: Virus Tracker

Carilion Clinic

How fast can germs spread? Through interactive technology, event goers can see just how fast a virus can spread. Our staff will be on the scene to help "vaccinate" Science Festival attendees from the "zombie virus."

Moss Arts Center Mezzanine Lobby

Bug Talk

VT Biological Sciences and Entomology
Departments
www.biol.vt.edu
www.ento.vt.edu

The offensive smell of stink bugs is produced to deter predators and forewarn others, but these smelly bugs use other odors to communicate that humans rarely detect. Stop by this exhibit to learn what a team of molecular and field biologists are doing to break the code of "bug talk" in stink bugs.

NanoEarth Demonstrates Nanotechnology in the Environment

www.nanoearth.org

Our exhibit will have hands on activities to give visitors the entry level knowledge on what nanotechnology is, where we can find these applications in our life, how to differentiate them, how they relate to the Earth & environment, and what VT NanoEarth is.

Discovering Senses with the Neuroscience Club

Neuroscience Club at Virginia Tech
gobblerconnect.vt.edu/organization/Neuroscience_Club

Join the Neuroscience Club at the Virginia Tech Science Festival where you'll learn about the nervous system and how the body conveys sensory information, with the focus being the sensation of taste. Interact with brain models and observe real brain slices under microscopes.

Microbiology Club of Virginia Tech

Attendees will learn about the importance of microorganisms in our daily lives.

Roachzilla!

Radford University Ecophysiology Lab
<http://www.radford.edu>
[http://ru-eco-physlab .weebly.com/](http://ru-eco-physlab.weebly.com/)

Radford University's hormonally enhanced Madagascar hissing cockroaches are helping us learn more about insect physiology, ecology, and sustainable systems! These giant cockroaches will excite your curiosity and encourage you to explore their vast potential.

Smaller, faster, smarter!

Virginia Tech Biological Sciences
<https://www.biol.vt.edu/faculty/lazar/index.html>

Miniaturization has emerged as the most significant trend in bioanalytical instrumentation. At the Science Festival we will describe and demonstrate aspects related to the fabrication and application of this technology for the study of biological systems, including analysis, sensing and diagnostics.

Regenerative Medicine Across All Species

Regenerative Medicine Interdisciplinary Graduate Education Program (RM-IGEP)
<http://www.regenmed.vetmed.vt.edu/>

Regenerative medicine is all about restoring tissue structure and function following injury or disease. Visitors will see how researchers develop stem cell therapies, engineered tissues, nanotechnology, and health policies to help dogs, horses, and people alike.

A Bird in the Hand: How & Why Scientists Study Wild Birds

Virginia Tech Department of Biological Sciences
www.biol.vt.edu

Why do scientists capture and mark wild birds with colored or electronic tags? You will get to practice capturing and tagging a simulated bird. You will also learn what kind

of important information scientists gain from this process!

Mill Mountain Zoo: Conservation Station- Species Survival Depends On You!

www.mmzoo.org

Conservation issues often seem far away or beyond our control, but small actions can have a big impact. Through games, educational materials and animal artifacts, Mill Mountain Zoo will help educate people on the challenges facing animals and habitats across the globe and in our own backyard.

Genes in a Bottle

Fralin Life Science Institute

www.fralin.vt.edu

In this activity, participants employ the same real-world laboratory procedure used in a variety of biotechnology research applications to extract DNA from many different organisms. Extract genomic DNA from your own cheek cells and bottle it in a cool helix-shaped necklace. Limited to 500 visitors.

Moss Arts Center Balcony Lobby

LEWAS Lab: Be a Watershed Detective!

Virginia Tech LEWAS Lab

www.lewas.centers.vt.edu

Where does all the Blacksburg rain go? What about the salt on snowy roads or our lawn's fertilizer? Put on your citizen scientist hats and discover the answers yourselves! Find out how the LEWAS Lab uses a Raspberry Pi, Python code, and water sensors to monitor the Stroubles Creek watershed.

The Invisible Stream: Stroubles Creek

Advanced Research Computing

www.cgit.vt.edu

arc.vt.edu

Ever wonder, 'Where does that drain go?' Buried for over 100 years is an impaired stream that drains Blacksburg. Fly through a virtual 3D Blacksburg to visit Stroubles Creek and learn about ecosystem challenges related to town and campus development.

What's in your water? Virginia's groundwater and private water supplies: wells and springs

Virginia Cooperative Extension

Virginia Tech Biological Systems Engineering

www.wellwater.bse.vt.edu/

Did you know that 1 in 5 Virginians relies on a well or spring for their drinking water? Come learn about groundwater, water quality and testing, and play with our Envision groundwater models!

Looking Down is Looking Up: Why do we work with aerial photography?

Department of Geography, FREC, Virginia View

College of Natural Resources and Environment

virginiaview.cnre.vt.edu

Geospatial tools, which include geographic information systems (GIS), global positioning systems (GPS), and remote sensing, provide us with a new understanding of the earth. In this activity, participants will use GIS to identify changes on the earth's surface, and impacts upon our environment.

Shape and experience a watershed from mountains to the ocean!

Virginia Department of Environmental Quality
www.deq.virginia.gov

Shape your own watershed using DEQ's Augmented Reality Sandbox! Build a dam and see how that changes the flow of water. Make it rain and watch how the rainwater runs off into the streams and rivers. How does the terrain, or landscape contours, in a watershed affect streams and rivers?

Bringing Fossils 'Back to Life'

VT Paleobiology & Geobiology
www.paleo.geos.vt.edu/

Using question-based fieldwork, the Paleobiology & Geobiology Research Group at Virginia Tech explores and studies the breadth of the fossil record.

Reducing domestic water usage

American Water Resource Association at Virginia Tech
vtechawra.weebly.com

The EPA estimates the average shower head uses 2.0-2.5 gallons per minute. A 5-minute shower uses over 10 gallons of water, a 10-minute shower uses 20 gallons, and a 15-minute shower uses over 30 gallons. Reducing your shower time to five minutes each day saves 5,475 gallons of water per person per year.

Discover the Geosciences!

The Geosciences Modeling & Educational Demonstrations Laboratory (MEDL)
Department of Geosciences, Virginia Tech
medl.geos.vt.edu

Explore Earth's geologic and geophysical processes through physical analog models. Use augmented reality to observe how water flows on the surface of the Earth; discover Earth's magnetic field; manipulate Earth's changing landscape; and find out what earthquakes are all about.

Moss Arts Center Portico

VT Physics Outreach

Virginia Tech Physics Department Outreach
Virginia Tech Physics Department
outreach.phys.vt.edu/
www.phys.vt.edu/

The Physics Outreach team has many exciting and electrifying hands-on demonstrations of physics concepts. Crowd participation is encouraged! Both young and old will be able to enjoy learning everything from what happens to marshmallows in space, to how electric generators work.

Rain location: Moss Arts Center Balcony Lobby

Squishy Circuits

Association for Women in Computing (AWC)
www.awc.org.vt.edu

We will use conductive play-dough, non-conductive play-dough, LED lights, and batteries to explore the material underpinnings of computing. Steve Jobs and Steve Wozniak made Apple computers at the Home Brew Computer Club. Can we use home ingredients to make a computing device?

Rain location: Moss Arts Center Orchestra Lobby

Hyperloop at Virginia Tech

www.hyperloopvt.com

We are an award-winning design team preparing to race our pod in the SpaceX Hyperloop Competition.

Rain location: Moss Arts Center Portico

Moss Arts Center Lawn

Microbial Ecology in a Bottle

The Strickland Lab at Virginia Tech
www.stricklandresearch.net

Microbes are all around us doing amazing things but often go unnoticed. The objective of this project is to shed light on the microbial majority that surrounds us. To accomplish this, participants will construct their own Winogradsky column allowing them to observe microbial ecology in action.

Rain location: Moss Arts Center Orchestra Lobby

Make a Wearable Greenhouse

NRV Macaroni Kid
www.NRV.Macaronikid.com

Make wearable mini greenhouse using just a few ingredients and your body heat!

Rain location: Moss Arts Center Orchestra Lobby

The Balance of Nature

Interfaces of Global Change
<http://www.globalchange.vt.edu/igc/>

There are so many beautiful things to touch, taste, smell, hear, and see all around us thanks to the Earth. But did you know that the Earth needs us to help keep it healthy? Come learn about ways that you can help take care of our planet and keep nature in balance.

Rain location: Newman Library

Wave Flume

EWRI/COPRI Student Chapter at Virginia Tech
www.facebook.com/groups/466395510144498/

Different types of waves will be created within an 8-foot flume/tank. During the demonstration, participants will have the opportunity to generate waves themselves, while learning about the effects that regular waves and tsunami events have on the shoreline.

Rain location: Moss Arts Center Portico

Alumni Mall

Ground Transportation Ambulance

Carilion Clinic Patient Transport

www.carilionclinic.org/patient-transportation

Climb in and explore one of our advanced life-support ambulances that is ready to respond to any emergency 24 hours a day.

Rain location: Alumni Mall

Exploration of Size, from Raindrops to Planets

Design for America at Virginia Tech

designforamerica.com/studio/dfa-virginia-tech/

Come out and learn about orders of magnitude through an interactive exhibit allowing you to explore objects ranging from the micro scale to the giga scale!

Rain location: Newman Library

Carilion Children's Ambulance

Carilion Clinic Patient Transport

Carilionclinic.org

Get a view of this technologically-sophisticated vehicle that is equipped with the most advanced life-saving medical equipment available, allowing us to safely transport kids in critical care to our hospital.

Rain location: Alumni Mall

Henderson Lawn

Marshmallow Tower

Galipatia-Outreach

Who can build the tallest tower? Come to the marshmallow tower building table and compete in teams to try to build the tallest tower. The only catch is you only get 10 minutes and your towers are built using only marshmallows and toothpicks.

Rain location: Moss Arts Center Orchestra Lobby

Gold Pennies and Film canister rockets

Alpha Chi Sigma Virginia Tech

We will be making golden pennies and canister rockets using chemical reactions. These reactions will show the course of a chemical reaction and the resulting products.

Rain location: Newman Library

First Appalachian Robotics

www.facebook.com/FirstAppalachianRobotics/

We are a FIRST Tech Challenge team from Bristol, VA, and will launch, track, and recover a high altitude balloon. See the launch at 11:00 AM on Henderson Lawn.

Track the balloon in the Learning Studio at the Moss Arts Center

ScientificaLEE Amazing!

CurVinci Living Learning Community

www.inventscommunity.org/currentstudents/curvinci

Science is everywhere! We present grand scientific principles using common household products. Creating a vacuum is as easy as lighting a candle! Who knew cornstarch and water could create a non-Newtonian fluid? Stop by to see for yourself!

Rain location: Newman Library

The Amazing Grain. Thank you, agriculture

Agricultural Economics Club

Learn more about where your food, clothes, and a variety of products come from by filling up free grain jars with cottonseed, corn, wheat, soybeans, and barley.

Agriculture is vast, so come learn some fun facts about the world around you and take home a fun reminder of all you've learned!

Rain location: Newman Library

Exploring the Solar System

Roanoke Valley Astronomical Society

rvasclub.org

How big is our Solar System? What does the sun look like up close? How much would you weigh on Pluto? Members of the Roanoke Valley Astronomical Society will demonstrate the answer to these questions and more.

Rain location: Newman Library

College Avenue / Plaza

The Hybrid Electric Vehicle Team of Virginia Tech

www.facebook.com/vtHEVT

Virginia Tech is one of 16 universities participating in this international, four-year competition sponsored by GM and the Dept. of Energy in which they transform a 2016 Chevrolet Camaro into a hybrid electric vehicle.

Rain location: Moss Arts Center Portico

The Human Powered Submarine Team

<http://www.hps.aoe.vt>

The Human Powered Submarine (HPS) Team is one of many student-run engineering design teams that are the pride of Virginia Tech's College of Engineering. The team's mission is to design, build, and race submarines that are propelled solely by human power.

Rain location: Moss Arts Center Portico

Virginia Tech Formula SAE

<http://www.vtmotorsports.com/>

Formula SAE (Society of Automotive Engineers) is a team where students design, build, and race two Formula style racecars every year against over 120 collegiate teams.

Rain location: Moss Arts Center Portico

BOLT Electric Motorcycle

bolt.org.vt.edu

The BOLT Design Team designs and builds all-electric racing motorcycles for clean-emissions racing!

Rain location: Moss Arts Center Portico

Baja SAE at Virginia Tech

<http://vtbaja.wixsite.com/vtbaja>

Baja SAE is a collegiate design competition to design, manufacture, and test a single seat off-road vehicle that meets the requirements set by the Society of Automotive Engineers.

Rain location: Moss Arts Center Portico

Are You Gellin'?

Department of Chemistry

Robert B Moore Research Group

<http://www.chem.vt.edu/>

<http://www.morg.chem.vt.edu/>

Gels exist everywhere from the food you eat to the shampoo you use every day. This exhibit will teach the basic concepts of gelation using hands-on demonstrations for all ages. Experiments will explore everything from the formation of gels to gel properties and real-life applications.

Rain location: Moss Arts Center Portico

Extracting Strawberry DNA

Biochemistry Club

vtbiochemclub.wixsite.com/bchmclub

We will be extracting DNA from strawberries using a simple buffer solution and isopropyl alcohol.

Rain location: Moss Arts Center Orchestra Lobby

Newman Library

Newman Library Technology Showcase

University Libraries

www.lib.vt.edu

Newman Library has tons of new and fun technology. Join us for a hands-on demonstration of 3D-printing, virtual reality, educational toys, and more.

T.E.K. Robotics

www.tekrobotics.com

We are a Robotics Team at Virginia Tech. Our exhibit includes driving robots, a hand built claw machine, and introduction to STEM children's activities.

Makey Makeys and Conductive Play Dough

Roanoke County Public Library

www.yourlibrary.us

Visit the Roanoke County Public Library exhibit to create a circuit with conductive play-dough and Makey Makeys. Plus, find out more about fun events at Roanoke County Public Library for all ages.

Curious Physics Demonstrations for Fun

The Curiosity Shop

We present a series of demonstrations selected to engage the curiosity of the audience. Many of the demonstrations are interactive and all encourage questions and discussion of the physics involved.

Chemical Illusions

Department of Chemistry

We will use chemistry to perform some simple "magic" tricks. Come and make your own bracelets with magic white beads that change color when exposed to light, make slime, and play with sand that can't get wet. Participate in many exciting hands-on experiences of chemistry and soft, squishy materials

STEM Based Lego Models and Science Scenarios

Bricks 4 Kidz

www.bricks4kidz.com/roanoke

Bricks 4 Kidz will provide motorized models of various science scenarios and students will be able to explore the concepts to develop a deeper understanding through motorized LEGO builds.

Lego Drop

Galipatia Outreach Committee

www.eng.vt.edu/residentialprograms

Learn the engineering design process by constructing a landing pad using various materials provided. Test your design by dropping a Lego on the landing pad to see if it breaks. Try to improve your design.

Augmented Exercise through Virtual Reality Design

davidnoahdesign.xyz

Have you ever wanted to bike through the mountains but can't make the trip? Our virtual reality allows you to immerse yourself in the experience of traveling and nature from the comfort of your home using a virtual reality headset which tracks your progress on a stationary bike.

CritiSearch: Empowering users in performing online search through view customization of result set

Third Lab of Center for Human Computer Interaction at Virginia Tech

<http://www.hci.vt.edu/>

<https://thirdlab.cs.vt.edu/>

Search engines provide users with access to unlimited information. However, these interfaces offer limited flexibility to us when it comes to customization of the result set for a query. CritiSearch empowers us by providing us the ability to arrange, organize and explore the results.

BioactiVT Pulse Oximeter

BioactiVT

bioactivt.com/

Pulse oximeters are essential for monitoring vitals during surgery, but much of the developing world lacks them. BioactiVT has developed TEMPO, a solar-powered pulse oximeter that will improve healthcare and save lives around the world.

Virginia Career VIEW Let's be Scientists!

vacareerview.org/

Virginia Career VIEW is recognized as the Commonwealth's Career Information Delivery System for all students in grades K-8 in Virginia. Our mission is to inform, encourage, and support the education and career development of the people of Virginia.

All About Optics

OSA student chapter of Virginia Tech

<http://www.osa.org.vt.edu/news.htm>

Visitors are encouraged to build one or a few of the several recommended optical systems on their own. Once finished, bring your products home! Do not worry! Our instructors will be with you step by step. Video documentary will be played to introduce the history of optical engineering as well.

Sponsors

Platinum



Silver

College Access Collaborative

Virginia Tech College of Science

Bronze

Center for Research in SEAD Education

Virginia Tech College of Natural Resources

Novozymes

Rackspace

Town of Blacksburg

Festival Team

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Outreach and Engagement
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Regional Tourism
Marketing Team

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College Librarian for the
Sciences
University Libraries

Ginny Pannabecker

Life Science Scholarly
Communication Librarian
Newman Library

Steven Hutchison

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Volunteer Team

Karen Eley Sanders

Associate Vice Provost for
College Access
Virginia Tech College Access
Collaborative

Micaela Sanders

Volunteer Coordinator

Caroline Sutphin

Volunteer Coordinator

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Rachel Hopkins

Executive Director
Science Museum of Western
Virginia

Ben Knapp

Director
ICAT

Cathy Sutphin

Associate Director, 4-H
Youth Development
Virginia Cooperative
Extension

Cathy D. Jennings

Clinical Nurse Specialist
Carilion Clinic

Deb Sydnor

Marketing and
Communications
Carilion Clinic

Mike Czar

Director of Pharmacy
Carilion Clinic
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