

LET'S INNOVATE!

Student Conference Grades 6-8

October 11, 2014

Innovation: a new way of doing something; may be incremental, radical, or revolutionary.

Discover the newest innovations in engineering, biomechanics, computer science, renewable energy, mathematics, medicine, nanoscience, robotics, and more.

Meet and talk with the scientists and professionals who are turning the possibilities of today into the realities of tomorrow. Become inspired to be an innovator!

Keynote Speaker

Remy Pangle, Associate Director and Curriculum Coordinator
Center for Wind Energy at James Madison University

Renewable Energy Future: You and STEM Can Make it Happen

Windmills spinning on the hilltops, solar panels glistening in the sun. Why do we need these renewable energy sources? What are the technology possibilities in your future? Remy Pangle, Assoc. Director for James Madison University's Center for Wind Energy is a leader in the field of wind and other alternative energy sources. Come hear how you can be an active player in our sustainable future.

A Rule of Thirds

For centuries, artists have applied mathematical principles to the creation and composition of their works. One of the most powerful principles is the rule of thirds. Become an artistic sleuth as you look for the rule of thirds in a variety of media, from paintings to photographs. Then try your hand at applying the rule of thirds to create your own work of art. Artistic experience welcomed but not required.

Margaret Hancock, Margaret Hancock Studio, Art & Design Education

Become a Wind Turbine Engineer for a Day!

Discover the mysteries of harnessing the energy of the wind! In this workshop you will build a model wind turbine and learn how it works. Then you will work in teams to design and build blades for your turbine and compete against other teams to determine which design generates the greatest amount of electricity. Learn about Virginia KidWind Challenges and how you can compete as an alternative energy engineer!

Remy Pangle, Center for Wind Energy at James Madison University

Hover Rover

Come learn the four factors of flight while making a hovercraft. You will use the same principles of engineering design that NASA uses to create a vehicle that can travel without disrupting the ground that it covers. So who is ready to design, create, test and lift off!

Rebecca Griffith, Virginia Commonwealth University and Virginia Space Grant Consortium InSTEP program

In the Mood for Nano

Cell phones, computers, and iPods, oh my! Liquid crystal nanoscience is just one facet of the nanotechnology revolution that is shaping the way that we work and play. Learn the chemistry behind the magic! Liquid Crystals - they aren't just for mood rings anymore.

Mary Frances Hobbs, VISTA Grant Program Mentor, Virginia Commonwealth University

Maglev: An Attractive Form of Alternative Transportation?

Come discover the innovative designs and capabilities of Maglev transportation. Your investigation will begin with exploring the properties of magnets, and then you will have the chance to build and test your own small magnetically levitating vehicles. Other alternative forms of transportation will also be investigated. And you thought levitation was just for magic shows!

Jim Lehman, Educator, MathScience Innovation Center

Medical Practices in the Civil War

From health and hygiene to field surgery, medical practices in the Civil War were far different than those of today. Test yourself as a soldier striving to pass a physical, perform triage, and act as an assistant surgeon during a mock amputation. Explore the medical equipment of the day, the use of anesthetics, the purpose of amputation, and the weaponry and diseases that ravaged both the Union and Confederate armies.

Kelly Hancock, Museum of the Confederacy, Richmond, Virginia

MojoWorld - Building Virtual Worlds

Have you ever thought about traveling to distant worlds and hurtling through space seeking solar systems beyond our own? What might these worlds look like? Now is your chance to showcase your imagination. Using MojoWorld, you will be able to design your own planet including its surface, atmosphere, mountains, rivers and more. Learn how to use this exciting new 3D design program to create a world all your own.

MaryKate du Laney, Instructor, MathScience Innovation Center

More than Downward Dog

Art meets science as the yoga mat is unrolled and the stretches begin. Demanding remarkable neuromuscular control and musculoskeletal awareness, the practice of yoga promises to improve quality of life and clarity of thought. Come explore the importance of understanding human physiology and biomechanical alignment in this ancient healing art where eastern and western cultures converge.

Wendy Chu, Project Yoga Richmond

Squishy Circuits

Imagine creating an electrical circuit board that you can eat! Engineers have developed a technique for "cooking up" both insulating and conducting materials that can be molded to direct the flow of electrical energy in many innovative ways. Come try your hands at creating and testing squishy circuits and discover the secrets of electronics.

Tyler Ferro, Megan Lavery and the Engineering World Health Team, Virginia Commonwealth University

Winged Ambassadors

How can your actions here in Richmond, Virginia have an environmental impact on the Hawaiian Islands? Through research on the albatross, scientists have been able to explore the impact that plastics have on the ocean environment. In this session we will dissect an albatross bolus (ingested materials) to investigate how plastic is affecting sea life.

Rachel Martin, Educator, MathScience Innovation Center

General Information

1. Students in grades 6-8 currently enrolled in the public school systems from area consortium school divisions are eligible to participate (Chesterfield, Colonial Heights, Hanover, Henrico, King William, Petersburg, Powhatan and Richmond).
2. **You may register on-line at www.mymusic.org** and pay through PayPal with your credit or debit card. Alternatively, you can complete the registration form below and mail it along with a \$20.00 check or money order made payable to the MathScience Innovation Center (MSiC). Please note that payment must be received before you can be accepted into the conference.
3. **Applications received by October 1 will receive priority.** Registrations will be continuously accepted until the conference is filled. Spaces are limited, so check your calendar carefully. Your registration will be confirmed prior to the conference date by e-mail and will be accompanied by specific instructions for the program. If you do not have e-mail, the U.S. Mail will be used.
4. Bus transportation will be provided for students enrolled in Chesterfield, Colonial Heights, Henrico, King William, Petersburg, Powhatan and Richmond school divisions. A schedule of pick-up times will be posted on the website October 1, 2014.
5. Lunch is provided for all participants.
6. Students will make selections of individual workshop sessions at the conference.
7. Check the Center's web site for other programs including our Saturday Fall Discoverer's program for students in 4th and 5th grades, and Little Innovators for students in K-3rd grades with an accompanying parent or guardian.
8. For additional information contact:
Debbie Mitchell: Phone 804.343.6525, Ext. 243 Email: dmitchell@mymusic.org
Daphne Schmidt: Phone 804.343.6525, Ext. 246 Email: dschmidt@mymusic.org

School Bus Pick-Up Points

Chesterfield

Clover Hill High (Old Hull St. Campus)
Hopkins Elementary
Manchester Middle
Matoaca High
Midlothian Middle
Reams Road Elementary
Robious Middle
Swift Creek Middle
Thomas Dale High

Colonial Heights

Colonial Heights High

Henrico

Brookland Middle
Byrd Middle
Colonial Trail Elementary
Fairfield Middle
Hungary Creek Middle
Moody Middle
Pocahontas Middle
Rolfe Middle
Tuckahoe Middle
Wildier Middle

King William

King William High

Petersburg

A.P.Hill Elementary
Blandford Elementary
J.E.B.Stuart Elementary

Powhatan

Pocahontas Middle

Richmond

Albert Hill Middle
Binford Middle
Boushall Middle
Chandler Middle
Elkhardt Middle
Franklin Military @ Minnis Middle
Henderson Middle
Lucille Brown Middle
Martin Luther King Middle
Thompson Middle

Conference Schedule

	11:00 - 11:15am	Break	
8:30 - 9:00am	Registration	11:15 - 12:30pm	Session II (Your choice)
9:00 - 9:30am	Keynote Speaker: Building A	12:30 - 1:00pm	Lunch
9:30 - 9:45am	Move to Sessions	1:00 - 2:14pm	Session III (Your choice)
9:45 - 11:00am	Session I (Your choice)	2:15 - 2:30pm	Closing Session with Door Prizes: Building A

Registration Form Let's Innovate Student Conference Grades 6-8 October 11, 2014

First Name _____ Initial _____ Last Name _____

School Division _____

Grade (circle) 6 7 8 School _____

Parent/Guardian Phone _____ Fax _____ Emer. Phone _____

Home Address _____ City _____ State VA Zip _____

Accept email notifications? (circle) YES NO

Email Address _____

School Bus
Pick-Up Location _____