



The Science Educator

Summer 2023

A Publication of VAST, The Virginia Association of Science Teachers

Vol. 72, No. 1

VDOE Endorses VAST

Three General Session Speakers at the PDI

Joshua Whitlinger, the 2023 Virginia Beach Public Schools, Teacher of the Year and a National Geographic Certified Educator. He teaches Earth Science and Physical Science to the gifted and talented. General Session I, Thursday 6:00pm, "Imbedding Social and Emotional Learning into Everyday Lessons"



Dr. Bethany Brookshire is an award-winning freelance science journalist and author of the critically acclaimed 2022 book *Pests: How Humans Create Animal Villains*. She will discuss what science communication is, what science journalism is, and how breaking them down and understanding what they are, can help students read more critically and better navigate the science that makes the world run.



General Session II, Friday 10:40am, "Don't dumb it Down: Science Communication and Journalism"

Laura Akesson of Richmond, Virginia has taught Physics, Math, and Biomedical Engineering/Design for the past 22 years. "When was the last time you thought of teaching and a classroom as naturally stable and low energy? Never. You are the pushers, the pullers, the cheerleaders, the creatives, the spark that ignites curiosity, motivation, wonder, and learning. This spark, and how we defy science and generate it, is the key to who we are and how we can light it up for our students...AND lead the way for our colleagues and communities." General Session III, Saturday 1:00pm, "Teachers are the Spark"



[Click for more information about speakers.](#)



COMMONWEALTH of VIRGINIA 2023 Virginia Association of Science Teachers Professional Development Institute

Anne M Petersen, Ph.D.,
 Science Coordinator Office of STEM and Innovation

Myra Thayer and Gregory MacDougall,
 Science Specialists Office of STEM and Innovation

The Virginia Association of Science Teachers (VAST) and the Virginia Department of Education are pleased to announce the 2022 VAST Professional Development Institute (PDI), "Science Teachers Leading from the Science Classroom", to be held November 16-18, 2023, at the Hotel Roanoke and Conference Center in Roanoke, Virginia. The VAST PDI is a forum for science educators and administrators to network with fellow science teachers, gain new instructional strategies and lesson ideas, enhance science content knowledge, and experience cutting-edge technology. This year's VAST PDI will offer over 200 concurrent sessions intended to support the Virginia Science Standards of Learning as well as Virginia Department of Education initiatives. In addition, presentations will be conducted by nationally recognized keynote speakers.

The Donna Sterling Institute, held in conjunction with the VAST PDI, is an additional opportunity for teachers and leaders to engage with targeted, in-depth professional learning. This year's Donna Sterling Institute is "Create

the Future: Using Engineering Problem-based Learning to Solve Transportation Challenges". This all-day learning opportunity will be held at the same site as VAST on November 16, 2023.

VAST, a professional association with over 2000 members, advocates for high-quality science instruction for all students. The VAST PDI is designed to provide sessions for educators and administrators in all science content areas and at all grade levels. The PDI also provides an avenue for communication among all members of the science teaching community.

We encourage science educators and administrators to take the opportunity to include VAST PDI as part of their professional development plan. The VAST PDI provides educators an engaging opportunity to earn re-certification points while learning strategies to be used in the classroom.

For more information regarding the Virginia Association of Science Teachers or the annual PDI, please visit www.vast.org or contact Susan Booth, Executive Director at susan.science@gmail.com.



AGRICULTURE IN THE CLASSROOM

Connecting Children to Agriculture

Virginia's Agriculture in the Classroom program connects children to agriculture.

Through innovative programming and classroom resources that support core curriculum standards, students of all ages learn about the important role that agriculture plays in their lives.

Check us out on Facebook (Virginia Agriculture in the Classroom) and at **Virginia.Agclassroom.org.**



SCHOOL GRANTS



Teachers with innovative ideas to connect their students to agriculture are encouraged to apply for school grants of up to \$500.

CURRICULUM LIBRARY



Our online curriculum library features hundreds of lessons using Virginia agriculture and natural resources to teach science, math, social studies, and language arts. You can also check out our YouTube channel for lesson demonstrations and virtual field trips.

EDUCATOR RESOURCES



Sign up to receive an AITC CARE Package and have resources such as curriculum, books, and posters mailed directly to you!

AITC also offers virtual and in-person professional development to educators across the state.

From the Executive Director

Let ME OUT—



Susan Booth

Years ago, I can remember being so sad to leave and slowing my packing down to exit the building at the end of the school year, but this year was one I was ready to walk out. I have seen more variations in students and more concerns as we leave the Post Pandemic Days. Teachers are leaving the profession. Students are being left behind. What are we to do?

Take time for me. As I read “Endless Summer” by Heather Cass White in Phi Kappa Phi’s Forum magazine (www.phikappaphi.org). What better way to relax and recharge than to read a fiction book and of course with my career a science fiction book. But as I get older, I look to nonfiction because as the author states “People’s lives are busy and finite...there is so much to know about the world, and so little time in which to learn it.”

It only takes a minute to stop the world. Put your phone on silent. Put your computer on sleep mode. Take me time so you will say as school reopens...LET ME IN. Rejuvenated and Ready.

www.phikappaphi.org

Susan Booth

Susan Booth, Ed.S., VAST, Executive Director
Fellow, Virginia Academy of Science

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President's Page



Stephanie Harry,
VAST President 2023

Greetings everyone,

We are only a few months away from the 2023 Virginia Association for Science Teachers (VAST) Professional Development Institute (PDI). This conference will be held at the Hotel Roanoke from November 16 -18. We have many great presentations, exhibitors, and awards.

The PDI theme is “Science Teachers Leading from the Classroom.” Now is a great time to visit the [2023 PDI page on the VAST website](#) to learn about all the great opportunities which will be available. Information for registering for the conference and the Donna Sterling Institute can be accessed on this page. You can also use this page to get a glance at the PDI schedule and Thursday’s afternoon workshops and field trips.

I would also like to encourage you to visit the [VAST Awards page](#). Consider nominating yourself or a deserving teacher for a VAST Recognition in Science Education (RISE) award. Asking all Elementary (K-6) and Secondary (6-12) teachers to apply for the [2023 Donna Sterling Exemplary Science Teaching Award](#). There is also an award for [Virginia Outstanding Biology Teacher Award](#) (grades 7-12).

Take some time this summer to visit the [VAST grant page](#) and complete a grant application. VAST has a Mini grant for Teaching, TACT Mini grant to Enhance Teaching of Chemistry, and AIPG Russ Wayland Mini Grant to improve Teaching of Geology. VAST also uses this page to share other grant opportunities which are not sponsored by VAST but are great opportunities to assist you in your teaching of science.

The next VAST Coffee Talk with the Content Chairs will be held September 23 at 10 am. Registration for this event is free and will open later this summer. Be on the lookout for the registration email.

This summer VAST has offered 4 [Summer Rockin’ PD](#). There are two more field trips available this summer. You have a chance to visit Dale Quarry by Vulcan Materials on July 21st. Then on July 28th meet me at the Bull Run Quarry by Luck Stone. Registration for these field trips is required. Please visit page 13 of the May 2023 newsletter for more information and registration.

Before you return to school, I would like to encourage you to visit the VAST webpage and learn more about the different resources and opportunities VAST provides its members. VAST is dedicated to serving you throughout the year not just during the PDI. As you research the website also take advantage of the different resources being offered. All these opportunities discussed above are great ways to support the theme and encourage the development of classroom science teacher leaders.

Stephanie Harry, VAST President 2023

Adjunct Professor, Virginia Peninsula Community College,
Program Coordinator, ACS Hach Mentoring Program
Chemistry Teacher, Tabb, Yorktown, VA

Virginia Association of Science Teachers 2023 Professional Development Institute Schedule At a Glance



(draft as of 06-21-2023)

Wednesday November 15, 2023

7:00 PM – 8:30 PM VAST Board of Directors Meeting

Thursday November 16, 2023

Ticketed Donna Sterling Institute (separate registration from the PDI)

Title: “Create the Future: Using Engineering Problem-based Learning to Solve Transportation Challenges”

7:30 AM Continental Breakfast and Check in (Washington Lecture Hall)

8:00 AM – 3:00 PM Sterling Institute Presentations and Lunch

2:30 PM – 6:00 PM **VAST PDI Registration Desk Open**

3:15 PM – 5:00 PM

Pre-Conference Ticketed Workshops

#1: Connecting Classrooms and Communities

Sponsored by the Science Museum of Western Virginia

#2: Engaging Students Through Phenomena-based Instruction

Sponsored by hand2mind

#3: Introduction to Small Uncrewed Aircraft Systems (sUAS, or Drones)

Sponsored by the Virginia Space Grant Consortium

2:30 PM – 5:00 PM

Pre-Conference Ticketed Field Experiences

#1: Mill Mountain Theatre – Science in Live Theatre

#2: Roanoke Pinball Museum – Physics and Engineering in the Pinball Machines

6:00 PM – 7:15 PM

Welcome to the PDI, General Session I (Roanoke Ballroom AB)

Speaker: Joshua Whitlinger, sponsored by Five Ponds Press

Title: “Imbedding Social and Emotional Learning into Everyday Lessons”

(Door prize giveaway- must be present to win)

7:30 PM – 9:00 PM

Night with the Exhibitors (Roanoke Ballroom C-H)

Sponsored by WorldStrides

Friday November 17, 2023

7:15 AM – 5:00 PM

Registration Desk Open

7:30 AM- 8:30 AM

Continental Breakfast in the Exhibit Hall

7:30 AM – 10:30 AM

Exhibit Hall Open (Roanoke Ballroom C-H)

8:30 AM – 9:20 AM

Concurrent Session 1 Breakout Presentations

9:35 AM – 10:25 AM

Concurrent Session 2 Breakout Presentations

10:40 AM - Noon

General Session II and Business Meeting (Roanoke Ballroom AB)

Speaker: Dr. Bethany Brookshire

Title: “Don’t Dumb it Down: Science Communication and Journalism”

(Door prize giveaway; must be present to win.)

Noon – 1:00 PM

Ticketed Lunch (Shenandoah)

2:00 PM – 5:45 PM


Exhibit Hall Open

Schedule At a Glance continued


1:10 PM – 2:00 PM	Concurrent Session 3 Breakout Presentations
2:15 PM – 3:05 PM	Concurrent Session 4 Breakout Presentations
3:20 PM – 4:10 PM	Concurrent Session 5 Breakout Presentations
4:25 PM – 5:15 PM	Concurrent Session 6 Breakout Presentations
5:30 PM - 6:45 PM	Celebration Ticketed Dinner (Awardees will be recognized.) (Roanoke Ballroom AB)
7:00 PM - 9:00 PM	Science Museum of Western Virginia Viewing Party, Social, D.J., Higher Ed Throughout the Regions. (1 Market Square, SE)

Saturday November 18, 2023

7:30 AM – 10:30 AM	Registration Desk Open
7:30 AM- 8:30 AM	Continental Breakfast in the Exhibit Hall
7:30 AM- 9:30 AM	Exhibit Hall Open (exhibitor giveaways)
9:45 AM – 10:35 AM	Concurrent Session 7 Breakout Presentations
10:50 AM – 11:40 AM	Concurrent Session 8 Breakout Presentations
11:55 AM-12:45 PM	Concurrent Session 9 Breakout Presentations
12:45 PM– 1:00 PM	Pickup Ticketed Box Lunch to eat during General Session III
1:00 PM – 2:15 PM	General Session III, Meet Your VAST Officers (Roanoke Ballroom AB) Speaker: Laura Akerson, Sponsored by Virginia Space Grant Consortium (VSGC) Title: “Teachers are the Spark” (Extra-Special Door Prizes Giveaway; must be present to win)



Five Ponds Press



K-8 Science Program
Aligned to the 2018 SOL
<https://sciencepreview.efiveponds.com>
Username: FPPscience
Password: 2018sol



Virginia Space Grant Consortium
Promoting STEM education, research, and businesses across Virginia and help to build a diverse STEM workforce pipeline. throughout the state.

VSGC provides:

- ✓ FREE hands-on STEM programs
- ✓ Online courses for college credit for pre-college students
- ✓ Summer academies at NASA centers and university partners
- ✓ STEM educator professional development
- ✓ And more!

Accepting applications starting in late August!



vsgc@odu.edu
(757) 766-5210
600 Buller Farm Rd., Suite 2200
Hampton, VA 23666



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Thursday Afternoon Ticketed Workshops Virginia Association of Science Teachers 2023 Professional Development Institute

All Workshops 3:15 PM – 5:00 PM

Cost for each workshop is \$10.00.

Register online (<https://vast.wildapricot.org/2023pdi>) for one of the workshops by October 31.

Workshop #1: Connecting Classrooms and Communities

Presenters: Danielle Murray, Katherine Brooks and Ivy Phillips of Science Museum of West Virginia Sponsored by the Science Museum of Western Virginia

Grade Level: K-12

Description: This workshop will show how educators working with K-12 students can utilize resources in their communities to supplement their classroom experiences from 3:15-4:15. Followed by a teacher field trip to the museum where we showcase the outreaches and field trip offerings to the attendees from 4:15 to 5:00-closing.

Workshop #2: Engaging Students Through Phenomena-based Instruction

Presenters: Pam Caffery, National Solutions Sales Consultant, hand2mind Sponsored by hand2mind

Grade Level: Elementary

Description: Come explore how everyday phenomena can be leveraged to engage students in meaningful scientific investigations, collect authentic data, and develop appropriate scientific models and explanations. Participants will investigate a wide range of everyday phenomena while gleaning turnkey strategies for a successful 5E learning experience.

Workshop #3: Introduction to Small Uncrewed Aircraft Systems (sUAS, or Drones)

Presenters: Kristen Duprey, STEM Education Specialist, Virginia Space Grant Consortium Kari Espada, STEM Education Specialist, Virginia Space Grant Consortium

Sponsored by the **Virginia Space Grant Consortium**

Grade Level: High School

Description: Virginia Space Grant Consortium (VSGC) coordinates and leads a variety of precollege and higher education programs that pipeline students into STEM majors and careers. This workshop will give teachers an introduction to small uncrewed aircraft systems (UAS, or Drones). Hands-on training and resources for integrating UAS into the classroom will be provided. Instructors will also provide information about careers in UAS and how they are used in the workplace. The primary target audience is high school teachers with little knowledge of UAS.

An overview of various UAS applications, an introduction to UAS and physics of flight, flight planning and operations, coding with drones, and hands-on flying of drones will be provided. Teachers will leave this workshop with a better understanding of UAS applications, vehicle and sensor selection, safe flying practices, how to obtain controlled airspace flight authorizations, coding with drones, and classroom-ready instructional resources to be used in the science classroom. Teachers will also hear about the availability of additional training, courses, certification programs, and dual-enrollment and distance learning opportunities available through Virginia's community colleges.

Link to Hotel Map:

<https://vast.wildapricot.org/resources/Documents/hotel%20floorplan.pdf>



Virginia Association of Science Teachers 2023 Professional Development Institute Thursday afternoon Ticketed Field Experiences 2:30 PM – 5:00 PM

Meet at the VAST Registration Desk in the Hotel Roanoke at 2:30 PM for the short walk to the Museum and Theatre.

Cost for each field trip is \$15.00.

Register online (<https://vast.wildapricot.org/2023pdi>) for one of the field trips by October 31.

Field Trip #1: Mill Mountain Theatre

Come and explore the role of science in live theatre. We will be visiting the Mill Mountain Theatre, a professional theatre company. Learn how they build sets and prepare for their upcoming holiday show. From the simple machines used to move the sets to the intricacies of sound, lighting and costuming, learn the role of science in the magic of theatre.

Field Trip #2: Roanoke Pinball Museum

Come and learn about the physics and engineering of pinball machines- from the classics to modern day. After the guided learning experience, enjoy free play on over 50 pinball machines! Check it out at: www.roanokepinball.org.

PDI 2023 Hotel Roanoke

The Hotel Roanoke & Conference Center
110 Shenandoah Avenue, Roanoke, VA 24016
PDI November 16-18 2023



The VAST reservation website:

<https://book.passkey.com/event/50478556/owner/9515698/home>

The guest room rate is \$139.00 plus 13.3% tax per night. With taxes, the rate is \$157.49 per night.

Internet and WiFi Information

If you are an overnight guest at the Hotel Roanoke, wireless internet is complimentary throughout the hotel and conference center. The username and password are the guests last name and room number. For guests who are not overnight guests staying at the hotel and who are just coming in for the day, there is a \$9.95 per day charge for internet/wifi...these guests can pay for the internet through the hotel splash page when they try to access the internet.

We do have options for free internet for the day guests. In the main lobby, we do have free wireless internet access. We also have two business center locations that have computers for people to use.

Parking Options

Hotel Roanoke Parking Lot Valet parking: \$21.00

Self-Parking: \$15.00

Closest City Parking Garages to the Hotel Roanoke (hourly or day rates)

Gainsboro Garage - 25 Shenandoah Ave (two blocks from Hotel Roanoke)

Tower Garage - 11 N. Jefferson St. (across the walking bridge from Hotel Roanoke to Downtown)

On-Street Parking Be sure to follow all posted signs regarding parking restrictions.

PDI Exhibitors 2023

Exhibit Hall Schedule - ROANOKE BALLROOM C-H



Thursday, Nov 16	7:30 PM – 9:00 PM	Night with the Exhibitors Sponsored by WorldStrides
Friday, Nov 17	7:30 AM – 10:30 AM	Exhibit Hall Open
	2:00 PM – 5:45 PM	Exhibit Hall Open
Saturday, Nov 11-18	7:30 AM - 9:30 AM	Exhibit Hall Open (exhibitor giveaways)

3D Molecular Design

Cengage

Virginia Department of Wildlife Resources (DWR)

Eastern Mennonite University (EMU)

ExploreLearning

Five Ponds Press

Center for the Advancement of Sustainable

Energy at JMU (James Madison University)

hand2mind

James River Association

mheducation

MiniPCR

Microscope Solutions

Project NEED

SAVVAS

School Specialty

Science Museum of Western Virginia (SMWV)

TI (Texas Instruments)

VAST

Vernier

Virginia Agriculture in the Classroom

Virginia Department of Aviation (DOAV)

Virginia Institute of Marine Science (VIMS)

Virginia Junior Academy of Science (VJAS)

Virginia Space Grant Consortium (VSGC)

Exhibit Hall - VAST Swap Table

Join the fun and bring stuff you want to share and give away. Place it on the table and swap out for something you would like. Nothing to swap? Are you sure? Everyone needs something? Biodegradable packing peanuts, paper towel rolls or what I got last year a core sample. Have fun! Be creative!!

Are you interested in exhibiting? [Click here to learn more.](#)



VIRGINIA ASSOCIATION OF SCIENCE TEACHERS 2023 PROFESSIONAL DEVELOPMENT INSTITUTE CONCURRENT SESSION PRESENTATIONS

(Draft as of July 10)

Presentation list will be periodically updated at
<https://vast.wildapricot.org/2023pdi>

Differentiating Student Choice

Grade: Middle School, Content: Physics/Physical Science
Rachel Alldaffer, Prince William County Public Schools

Inclusivity Fostered with STEAM-Infused Instruction

Grade: Elementary, Content: Infusing STEM & the Arts
Susan Bardenhagen, AIAA-NCS K12 STEM Committee Chair

Weaving Earth Science, Social Studies, and Civics Education

Grade: Elementary, Middle School, Content: Middle Grades 4-6 Content
Susan Bardenhagen, American Institute of Aeronautics & Astronautics K12 STEM Committee Chair

The Autoclave: A Versatile Tool in High School Science

Grade: High School, Content: General
Timothy Bill, Harrisonburg High School

Re-envisioning Science for Students with Visual Impairment

Grade: Middle School, High School, Advanced High School/College, Content: Adaptive STEM
Dylan Boeckmann, The Virginia School for the Deaf and the Blind
Kerry Cresawn, James Madison University

How to Slay Every Science Lesson

Grade: Middle School, High School, Content: General
Kristen Boudreau, Prospect Heights Middle School

Developing the Mind of an Experimentalist

Grade: All grade levels, Content: STEM
Arthur Bowman, Norfolk State University

Culturally Responsive Teaching for STEM Instruction

Grade: All grade levels, Content: STEM
Arthur Bowman, Norfolk State University
Kianga Thomas, Norfolk State University

Science & Diverse Learners

Grade: Middle School, High School, Content: Earth/Space Science, General
Andrea Bryant, Lucille Brown Middle School

Bringing Science to Life

Grade: Elementary, Content: General
Meryl Butler, Henrico County Public Schools
Rebecca Fischer, Laburnum Elementary School

VCU: Role Play Experiences Sustaining Watershed Ecosystems

Grade: Middle School, High School, Content: Earth/Space Science, Biology/Life Science, Environmental Science
Al Byers, VCU School of Education: Center for Innovation in STEM Education
Sue Kirk, VCU School of Education
Elizabeth Edmondson, VCU School of Education

VCU: The Role of Bivalves in Sustaining Watershed Ecosystems

Grade: Middle School, High School, Content: Earth/Space Science, Biology/Life Science, Environmental Science
Al Byers, VCU School of Education: Center for Innovation in STEM Education
Sue Kirk, VCU School of Education
Elizabeth Edmondson, VCU School of Education

Bye-Bye, Bycatch and Hello Terrapin Town!

Grade: Middle School, Content: Biology/Life Science, Environmental Science, STEM
Celia Cackowski, Virginia Institute of Marine Science, Marine Advisory Program (VIMS MAP)
Anna Caputo, Chesapeake Bay National Estuarine Research Reserve in Virginia (CBNERR-VA)
Not-for-Profit Exhibitor

Bridge DATA - Bay Nettles: What are the Chances?

Grade: Middle School, High School, Content: Biology/Life Science
Celia Cackowski, Virginia Institute of Marine Science, Marine Advisory Program (VIMS MAP)
Not-for-Profit Exhibitor

Building Vocabulary and Sense-making with Makerspace Tasks

Grade: Elementary, Content: General, STEM
Pam Caffery, hand2mind Commercial Exhibitor

Integrating Coding Skills with Screen-free STEM Activities

Grade: Elementary, Middle School, Content: STEM
Pam Caffery, hand2mind Commercial Exhibitor

Phenomenal Hands-On Kits Session and Coding Session

Grade: Elementary, Middle School, Content: Math in Science, General, STEM
Pam Caffery, hand2mind Commercial Exhibitor

Bonding the Beauty of Science and Best of Computer Science

Grade: Elementary, Content: Computer Science Integration
Jessa Campbell, Albemarle County Public Schools
Charli Nolan, Albemarle County Public Schools
Sandy Shaffer, Albemarle County Public Schools
Katie Breaud, Albemarle County Public Schools

Methods for Fostering Dialogue in the Science Classroom

Grade: All grade levels, Content: General
Ben Campbell, Longwood University
Erich Sneller, Harrisonburg High School

Engaging Science Lessons Through the 5-E Lesson Model

Grade: Middle School, Content: Biology/Life Science
Marlin Campbell, Carroll County Public Schools
Jennifer Campbell, Grayson County Public Schools

Exploring Climate Change Solutions in the Classroom

Grade: High School, Advanced High School/College, Content: Climate Change Social Impacts
Anna Caputo, CBNERR

Engaging in Scientific Argumentation in STEM

Grade: Elementary, Middle School, Content: General, STEM
Chelsea Chandler, STEMscopes by Accelerate Learning Commercial Exhibitor

Integrating the Arts Into the Science Classroom

Grade: Elementary, Middle School, High School, Content: General, STEM

Chelsea Chandler, STEMscopes by Accelerate Learning

Commercial Exhibitor

Exploring Content with Student Created Podcasts

Grade: Elementary, Content: General

Lauren Connor (Berk), Bon Air Elementary School

Sonya Smith, Bon Air Elementary School

Opportunities for MS & HS Students and Teachers at Virginia Tech

Grade: Middle School, High School, Content: Biology/Life Science, Chemistry, STEM

Victoria Corbin, Virginia Tech, College of Science

Sandy Hancock, Fralin Life Sciences Institute, Virginia Tech

March Mammal Madness: if You're Learning, You're Winning!

Grade: All grade levels, Content: Biology/Life Science

Linda Correll, Fauquier County Public Schools

Informal K-5 STEM: Let's do More than Spark Interest

Grade: Elementary, Content: STEM

Kerry Cresawn, James Madison University STEM Center

Julianna DiRocco, James Madison University STEM Center

Physics for All

Grade: High School, Content: Physics/Physical Science

George T Dewey, Fairfax County Public Schools, retired

Robert C. Smith, Chantilly High School, Fairfax County Public Schools

Real Science: Science Teachers in Research Labs

Grade: Middle School, High School, Content: Biology/Life Science, STEM

Elizabeth Edmondson, Virginia Commonwealth University

Science and Social Justice

Grade: Middle School, High School, Advanced High School/College, Content: STEM

Elizabeth Edmondson, Virginia Commonwealth University

Meredith Kier, College of William and Mary

Empowering Science Ed: Integrating CS for Engaging Learning

Grade: Middle School, Content: Biology/Life Science, STEM

Valerie Fawley, CodeVA

Natalie Rice, CodeVA

Not-for-Profit Exhibitor

Environmental Awareness: Supporting a Path Towards Action

Grade: Elementary, Middle School, Content: Environmental Science, General

Stefany Feldbusch, Blandy Experimental Farm

Emily Ford, Blandy Experimental Farm

Be an A11y Ally: Creating Accessible STEM Classrooms

Grade: Middle School, High School, Content: General

Katie Fielding, Prince William County Schools

STEM Initiatives: A Collaborative Discussion

Grade: All grade levels, Content: STEM
Katie Fielding, Prince William County Schools
Kirsten White, Prince William County Schools

Moon Phases and Tides- Teach the Abstract to Concrete Brains

Grade: Elementary, Middle School, High School, Content: Earth/Space Science, Physics/Physical Science
Thomas Fitzpatrick, Roanoke City Public Schools
Angelo Bonilla, James Breckinridge Middle School
Leslie Barrett, James Breckinridge Middle School

Are You Moody?

Grade: Middle School, High School, Content: Physics/Physical Science, STEM
Michelle Grooms, Texas Instruments Inc Commercial Exhibitor

Bring It Together: Elementary Engineering Integration

Grade: Elementary, Content: Engineering, STEM
Kristie Gutierrez, Old Dominion University
Jennifer Kidd, Old Dominion University

Marsh Cam Takeover

Grade: All grade levels, Content: Biology/Life Science, Environmental Science, General
Courtney Hallacher, Virginia Department of Wildlife Resources Not-for-Profit Exhibitor

Teaching Beyond the Text: Integrating Arts and Literacy

Grade: Elementary, Middle School, High School, Content: Earth/Space Science, Biology/Life Science, General
Christina Hannaman, Gayle Middle School- Stafford County Public Schools
Alyssa Scrubb, Gayle Middle School - Stafford County Public Schools

Experiencing Biology through Interactive Learning

Grade: High School, Advanced High School/College, Content: Biology/Life Science
Patrick Hardner, Turner Ashby High School

Gifted Learners in the Science Classroom

Grade: All grade levels, Content: Science Education for All
Debra Hicks, Kilgore Gifted Center

Pre-service and Early Career Teacher Lunch

Grade: Advanced High School/College, All grade levels, Content: Pre-service/early career
Robbie Higdon, VAST Colleges and Universities Chair

Building the Future of Science Education

Grade: Advanced High School/College, All grade levels, Content: Pre-service and early career
Robbie Higdon, VAST Colleges and Universities Chair
Elizabeth Edmondson, Virginia Commonwealth University

Colleges and Universities Roundtable

Grade: Advanced High School/College, Content: General
Robbie Higdon, VAST Colleges and Universities Chair

Three Programs to Integrate Environmental Ed in Your Classroom

Grade: All grade levels, Content: Biology/Life Science, Environmental Science
Krista Hodges, Dan River Basin Association
Regina Flora, Dan River Basin Association

Game On! Gamification vs. Game Based Learning

Grade: Middle School, High School, Content: Chemistry, Physics/Physical Science, STEM

Kristen Holland, Plasma Games

Cancel

Mike Tuggle, Plasma Games

Commercial Exhibitor

3D STEM Careers: Diversity, Diversity, Diversity!

Grade: Middle School, High School, Content: Chemistry, Physics/Physical Science, STEM

Kristen Holland, Plasma Games

Cancel

Commercial Exhibitor

Cross Circular Connections with Colonial Williamsburg

Grade: All grade levels, Content: Cross-Curricular Connections

Rachel Honchul, Colonial Williamsburg Foundation

Brandon Lyles, Colonial Williamsburg Foundation

Integrating Organic Gardening into Atmospheric Science

Grade: All grade levels, Content: Earth/Space Science, Biology/Life Science

Richard Howell, Tabb High School

School Science Safety - Practical Guidelines

Grade: All grade levels, Content: General

Andrew Jackson, Harrisonburg City Schools - retired

Infusing Environmental Action Civics into Your Curriculum

Grade: Elementary, Middle School, High School, Content: Biology/Life Science, Environmental Science, STEM

Sarah Jennings, Earth Force

Sheri Sharwarko, Jamestown Elementary School

CVCSI Team- Core Content Plans to Help You Integrate CS

Grade: Elementary, Middle School, Content: All K-8 teachers

Allison Kappler, Bedford County Public Schools

Nothing is Random: Weathering, Erosion, Provinces, & The Bay

Grade: All grade levels, Content: Earth/Space Science, Environmental Science

Chris Kaznosky, Central High School, Shenandoah County

Steve Leslie, James Madison University Geology Department

A Quick Chemistry Grab Bag

Grade: High School, Content: Chemistry

James Key, Huguenot High School

Using a Simulation, PEWI, to Experience Watershed Ecosystems

Grade: Middle School, High School, Content: Earth/Space Science, Biology/Life Science, Environmental Science

Suzanne Kirk, Virginia Commonwealth University

Elizabeth Edmondson, Virginia Commonwealth University

Al Byers, Virginia Commonwealth University

Making Biology Lessons More Active!

Grade: Middle School, High School, Content: Biology/Life Science

Julia Kogut, John Handley High School

Marisa George, John Handley High School

Kelly Huynh, John Handley High School

Emilia Guirguis, John Handley High School

Building Critical Thinkers that are Prepared for the Future

Grade: Elementary, Middle School, Content: Biology/Life Science, Environmental Science

Leslie Lausten, School Specialty - FOSS

Commercial Exhibitor

Getting Started with Anchor Phenomena in FOSS Elementary

Grade: Elementary, Content: General

Leslie Lausten, School Specialty - FOSS

Commercial Exhibitor

Knock Down the Silos: Outdoor Science Learning and Literature

Grade: All grade levels, Content: Science supports language arts

Lillian Ledford, University of Virginia

Emily Ford, University of Virginia

The Life of a Monarch Butterfly (PBL)

Grade: High School, Content: Environmental Science

Carolene Lewis, Westmorland High School

Paris Hickman, Westmoreland High School

Regional STEM PD - Crosspollination Results & Tips

Grade: All grade levels, Content: STEM

Cheryl Lindeman, STEM Consultant

Lani Patrick, Campbell County Public Schools

Allison Kappler, Bedford County Public Schools

Computer Science for Middle School

Grade: Middle School, Content: STEM

Melani Loney, Old Dominion University

Lisa Steffian, Old Dominion University

STEAMing into an Improved School Culture

Grade: Elementary, Content: STEM

Liz Lynch, Patrick Henry Elementary School;

Ashley Taylor, Patrick Henry Elementary School

Lizzy Fulcher, Patrick Henry Elementary School;

Erica Becker, Patrick Henry Elementary School

Applying for PAEMST: Highlighting Your Teaching

Grade: Elementary, Middle School, High School, Content: General

Gregory MacDougall, Virginia Department of Education

Anne Petersen, Virginia Department of Education

Myra Thayer, Virginia Department of Education

Plan for Learning with the 2018 Science Curriculum Framework

Grade: All grade levels, Content: General

Gregory MacDougall, Virginia Department of Education

Anne Petersen, Virginia Department of Education

Myra Thayer, Virginia Department of Education

Debunking Myths about Engineering

Grade: Elementary, Middle School, Content: Engineering, STEM

Jennifer Maeng, University of Virginia

Amanda Gonczi, Michigan Technological University

A Catalyst for Independent Learners in a Science Classroom

Grade: High School, Advanced High School/College, Content: Chemistry, Instructional Practices

Mithra Marcus, Rock Ridge High School

Heather Cox, Rock Ridge High School

Bottom Up: Introduction of STEM and Navigating Gender Bias

Grade: Elementary, All grade levels, Content: General, STEM

Lizzy Marples, James Madison University

How Student-Driven Inquiry Can Address Climate Justice

Grade: Middle School, High School, Advanced High School/College, Content: Biology/Life Science,
Environmental Science

Sandra Marr, Collegiate School

Small Steps to Lead with Phenomena

Grade: All grade levels, Content: General

Jason Marshall, McGraw Hill

Commercial Exhibitor

Exploring Mendelian Inheritance with Labradoodle Genetics

Grade: High School, Advanced High School/College, Content: Biology/Life Science

Katy Martin, miniPCR bio -

Commercial Exhibitor

Accessible Gel Electrophoresis for Middle & High School Biology

Grade: Middle School, High School, Content: Biology/Life Science

Katy Martin, miniPCR bio

Commercial Exhibitor

Search for Antibiotic Resistance Genes in Environmental DNA

Grade: High School, Advanced High School/College, Content: Biology/Life Science

Katy Martin, miniPCR bio

Commercial Exhibitor

Design an Experiment for the International Space Station!

Grade: Middle School, High School, Content: Biology/Life Science

Katy Martin, miniPCR bio

Commercial Exhibitor

Coffee Chat with the VAST Content Chairs

Grade: All grade levels, Content: General

David Matchen, VAST Earth Science Content Chair

Tony Wayne, Albemarle High School

Jennifer Sharp, Floyd County High School

Jill Collins, Martinsville City Public Schools

A Report on Teaching Dual-Enrollment Geology in High School

Grade: High School, Content: Earth/Space Science, Environmental Science

David Matchen, VAST Earth Science Content Chair

Hello Science, Meet Creative Arts! (STEAM K-5)

Grade: Elementary, Content: Science and the Arts (STEAM)

Jenna Mercury, ExploreLearning

Commercial Exhibitor

STEM +1: Stirring Literacy into Your Science Lessons!

Grade: Elementary, Content: Science Literacy

Jenna Mercury, ExploreLearning

Commercial Exhibitor

Don't Reinvent the Wheel: The New Virginia SOL standards

Grade: High School, Content: Chemistry
Laura Moffett, Floyd E. Kellam High School

Buffers! Buffers! Buffers!

Grade: High School, Content: Chemistry
Laura Moffett, Floyd E. Kellam High School

Promoting Science Appreciation with #ScienceSaves

Grade: All grade levels, Content: General
Christopher Moran, The Teacher Institute for Evolutionary Science
Therese Whitehurst, The Teacher Institute for Evolutionary Science Not-for-Profit Exhibitor

Evolution for Middle School Educators

Grade: Middle School, Content: Biology/Life Science
Christopher Moran, The Teacher Institute for Evolutionary Science
Therese Whitehurst, The Teacher Institute for Evolutionary Science

Skull Comparison Lab on a Budget

Grade: High School, Content: Biology/Life Science
Christopher Moran, The Teacher Institute for Evolutionary Science

MineCraft, Engineering, & Biology

Grade: All grade levels, Content: Biology/Life Science, Engineering, STEM
Angela Morris, Henry County Public Schools

Intro to Project Learning Tree's® Forests of the World

Grade: Middle School, High School, Advanced High School/College, Content: Environmental Science, Math in Science, General
Lesley Newman, Project Learning Tree, Virginia Department of Forestry
Ellen Powell, Virginia Department of Forestry Not-for-Profit Exhibitor

The Shallow End of the Teacher Leader Pool

Grade: Elementary, Middle School, High School, Advanced High School/College, All grade levels,
Content: Everyone/Every subject
Heather Overkamp, Portsmouth Public Schools
Dara Brinkman, Portsmouth Public Schools

The Deep End of the Teacher Leader Pool

Grade: All grade levels, Content: Everyone/All levels
Heather Overkamp, Portsmouth Public Schools

Workshop for Teachers that Mentor Students in Research

Grade: All grade levels, Content: Everyone/All levels
Heather Overkamp, Portsmouth Public Schools

Using Solar Energy to Power Learning

Grade: All grade levels, Content: Environmental Science, Engineering, STEM
Remy Pangle, Center for the Advancement of Sustainable Energy at JMU
Meghan Milo, Sun Tribe Solar Not-for-Profit Exhibitor

Integrating Science Using a Cup, a Tray, and a Great Book

Grade: All grade levels, Content: Math in Science, General, STEM
Lori Pawlik, Colgan High School/Prince William County

Presentation list continues on page 22.



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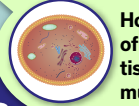
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Sparkling Lysosome:
I clean up the place, getting rid of waste 🗑️ and other unwanted substances that may get into the cell.



Sparkling Lysosome:
You're awesome, 😊 but I'm always there to clean up any bad things that enter the cell.



How does the function of your cell part affect tissue growth in muscle?



Tenacious Cell Membrane:
Thanks, Sparkling Lysosome. We make a good team! 🤝



Tenacious Cell Membrane:
I may be thin, but I'm tough! 😊 I surround the cell and only let good things enter.



Replenishing Ribosome:
I'm a cell organelle 😊 that provides the protein powder to help muscle tissue grow.



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ICON A5 Introduction to Flight Program

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The ICON A5 introduces students to aviation and encourages them to consider aviation as a future career. Many young people today have never had the opportunity to see a general aviation aircraft up close or to sit inside one. They will get this experience with the ICON A5 Introduction to Flight Program.

The ICON A5 is transported to schools on a trailer so that students can view and sit in the airplane (2 at a time). Aviation professionals will be available to talk with students about aviation careers, the science of aviation, and to answer questions. Older students may even fly a flight simulator!

Students who are in K-12 classrooms right now are the ones who will be the future of the aviation industry. It is our mission to help bring aviation lessons to the classroom at a young age so students are aware of the variety of careers available.

We look forward to bringing this fun and educational program to your school!

Contact Betty Wilson at the Virginia Department of Aviation (betty.wilson@doav.virginia.gov) for more information about how to get the ICON A5 to your school.



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“Probing” Chemistry Topics with Texas Instruments

Grade: Middle School, High School, Content: Chemistry

Wendy Peel, Texas Instruments, Inc.

Commercial Exhibitor

Simulations, Data Collection and Assessments Oh My!

Grade: Middle School, High School, Content: Biology/Life Science, Chemistry, Physics/Physical Science

Wendy Peel, Texas Instruments, Inc.

Commercial Exhibitor

More Than Hands On

Grade: Elementary, Middle School, Content: Authentic learning

Karen Perry, Roanoke County Schools

Authentic Learning in the Science Classroom

Grade: Elementary, Middle School, High School, Content: General

Karen Perry, Northside Middle School

VDOE Update

Grade: All grade levels, Content: K-12 Educators

Anne Petersen, Virginia Department of Education

Myra Thayer, Virginia Department of Education

Gregory MacDougall, Virginia Department of Education

The Science Standards of Learning Development and Revision

Grade: All grade levels, Content: K-12 Educators

Anne Petersen, Virginia Department of Education

Myra Thayer, Virginia Department of Education

Gregory MacDougall, Virginia Department of Education

A Bewildering Tale

Grade: High School, Content: Biology/Life Science

Jinx Rasmussen, Virginia High School

Amanda Gardner, Virginia High School

Engaging Strategies for Teaching Forensic Science

Grade: Middle School, High School, Content: Biology/Life Science, STEM

Kaitlyn Ray, Charlottesville High School

Student-Centered Science using SEPs

Grade: Elementary, Middle School, High School, Content: General

Eric Rhoades, Retired

The Genetics of Education

Grade: All grade levels, Content: Psychology/Behavioral Genetics

Bryan Rhodes, Reynolds Community College

Performance Tasks for Elementary Science

Grade: Elementary, Content: Assessment/Performance Tasks

Kimberly Rice, Five Ponds Press

Commercial Exhibitor

Performance Tasks for Middle School Science

Grade: Middle School, Content: Assessment/Performance Tasks

Kimberly Rice, Five Ponds Press

Commercial Exhibitor

Tackling Misinformation

Grade: All grade levels, Content: Biology/Life Science

Erin Rieron, Rustburg High School

Jamie Banton, Rustburg High School

It's Phenomenal! Real-World Science to Support 3D-Learning

Grade: Middle School, High School, Advanced High School/College, Content: Earth/Space Science, Biology/Life Science, Physics/Physical Science

Steven Romano, Savvas Learning Company

Commercial Exhibitor

Amplifying Instruction to Reach ELs in the Science Classroom

Grade: Elementary, Middle School, High School, Content: General

Alexis Rutt, University of Mary Washington

Erich Sneller, Harrisonburg City Public Schools

Empowering Student's Scientific Literacy with C-E-R

Grade: Elementary, Middle School, Content: Scientific Literacy

Jennifer Saleeba, Rocky Mount Elementary

Lisa Angell, Ferrum Elementary

A Creative Project Using Research & Data to Use the 5 C's

Grade: All grade levels, Content: Biology/Life Science

Patrick Scharf, Louisa County Public Schools

Unraveling Chromosomes Through Modeling

Grade: High School, Advanced High School/College, Content: Biology/Life Science

Alice Scheele, 3D Molecular Designs

Commercial Exhibitor

Lets Get Interactive! Are Science Notebooks for You?

Grade: High School, Advanced High School/College, Content: Biology/Life Science, Chemistry, General

Alice Scheele, Patrick Henry High School

Bryan Buckalew, Patrick Henry High School

Jennifer Falin, Louisa High School

Do You Teach AP? Lets Learn How the CRR Can Help

Grade: Advanced High School/College, Content: Biology/Life Science, Environmental Science, Physics/Physical Science

Alice Scheele, Patrick Henry High School

Getting Real to Get Better: Rebuilding Rigor and Rapport

Grade: Middle School, High School, Content: Biology/Life Science

Kristin Scheible, Massaponax High School

Teaching Chemistry Lab Skills - Inexpensively and Quickly!

Grade: Middle School, High School, Content: Chemistry

Jen Sharp-Knott, Floyd County High School

AI-Driven Mock Classroom Science Fair

Grade: All grade levels, Content: General, STEM

Demetrice Smith-Mutegi, Old Dominion University

Matthew McConnell, Old Dominion University

Tamu Crisden, Old Dominion University

Pipette Micro Rockets

Grade: High School, Advanced High School/College, Content: Chemistry, Math in Science, STEM

Erich Sneller, Harrisonburg City Public Schools

Suzie Smith, Harrisonburg City Public Schools

Insights from Human Remains: East Marshall Street Well Project

Grade: High School, Advanced High School/College, Content: Chemistry

Tori Solano, Virginia Commonwealth University

Tal Simmons, Virginia Commonwealth University

Elizabeth Edmondson, Virginia Commonwealth University

Collaborative Elementary Curriculum Design

Grade: Elementary, Content: Elementary Science

Tammy Stone, Rockingham County Public Schools

Carrie Lillard, Mountain View Elementary School

Allison Mendenhall, John C Myers Elementary School

Miranda Lyle, John Wayland Elementary School

Inspiring Innovators

Grade: Middle School, High School, Advanced High School/College,

Content: Earth/Space Science, Chemistry, Environmental Science

Rachel Stuart, Eastern View High School

Heather Glick, Eastern View High School

Forms of Energy & Energy Transformations Interactive Lessons

Grade: Elementary, Middle School, High School,

Content: Chemistry, Physics/Physical Science, General

Kimberly Swan, National Energy Education Development Project

Not-for-Profit Exhibitor

Exploring Marine Hydrokinetics

Grade: High School, Content: Environmental Science, Physics/Physical Science, Engineering

Kimberly Swan, National Energy Education Development Project

Not-for-Profit Exhibitor

Kinematics as the Mathematics of Time-dependence

Grade: All grade levels, Content: Physics/Physical Science, Math in Science

Tatsu Takeuchi, Virginia Tech Department of Physics

Making Meaningful Connections CS Curriculum Integration

Grade: Elementary, Middle School, Content: General

Keisha Tennessee, Virginia Department of Education

Kim Wilkens, Tech-Girls

What Do I Do About Vocabulary?

Grade: All grade levels, Content: General

Myra Thayer, Virginia Department of Education

Anne Petersen, Virginia Department of Education

Gregory MacDougall, Virginia Department of Education

Gotta Talk: How to Facilitate Productive Classroom Talk

Grade: All grade levels, Content: General

Myra Thayer, Virginia Department of Education

Anne Petersen, Virginia Department of Education

Gregory MacDougall, Virginia Department of Education

Swimming with the Fishes: Effects of Climate on Fish

Grade: Elementary, Content: Earth/Space Science, General

Matthew Thayer, CBNERR/VIMS

Sarah Nuss, CBNERR/VIMS

Anna Caputo, CBNERR/VIMS

Science Teaching Revisited: The STEM Clinical Experience

Grade: Elementary, Middle School, High School, Content: Math in Science, General, STEM

Kianga Thomas, Norfolk State University

Shafeeq Ameen, Norfolk State University

Increasing Student Participation in Independent Research

Grade: High School, Advanced High School/College, Content: General, STEM

Matthew (Matt) Togna, Collegiate School

A Breath of Fresh Air

Grade: All grade levels, Content: Environmental Science

Melinda VanDevelder, Virginia Commonwealth University School of Education

Beguiling Biology

Grade: Middle School, High School, Content: Biology/Life Science

Melinda VanDevelder, Virginia Commonwealth University School of Education

Colleen Joseph, Petersburg High School

Inquisitive - The 5e Model Comes to life in K-5 Classrooms

Grade: Elementary, Content: Earth/Space Science, Biology/Life Science, Physics/Physical Science

Peter Walters, Inquisitive

Commercial Exhibitor

Zero- Gravity- Taking Your Classroom to the Next Level

Grade: Middle School, High School, Content: Earth/Space Science, Math in Science, STEM

Cindy Watson, Bedford County Public Schools/Forest Middle School

Laparoscopic Surgery Simulation in Your Classroom

Grade: All grade levels, Content: Biology/Life Science, Chemistry, STEM

Cindy Watson, Bedford County Public Schools/Forest Middle School

Bernoulli, Pressure and more -Demonstrations for class.

Grade: High School, Content: Physics/Physical Science

Tony Wayne, Albemarle High School

Get Involved with the Journal of Virginia Science Education!

Grade: All grade levels, Content: General

Angela Webb, James Madison University

Joi Merritt, James Madison University

Using Talk as Tool for Learning in High School Science

Grade: High School, Content: General

Angela Webb, James Madison University

Experiencing Science as a Language Learner

Grade: All grade levels, Content: General

Angela Webb, James Madison University

Emily Stewart, James Madison University

How Students can L.E.A.R.N. Science the Fun Way!

Grade: Elementary, Middle School, Content: STEM

Joselyn Whetzel, Legends of Learning

Commercial Exhibitor

How Students can L.E.A.R.N. Science the Fun Way

Grade: Elementary, Middle School, Content: Math in Science, General, STEM

Joselyn Whetzel, Legends of Learning

Cancel

Commercial Exhibitor

Repairing the Climate System's Yellow Brick Road

Grade: All grade levels, Content: Earth/Space Science, Environmental Science, Physics/Physical Science

John White, U.S. Government - Meteorologist

Laurie Ashworth, Pittsylvania County Schools

I Love Teaching, but I Just Need a Break

Grade: All grade levels, Content: STEM

Jessica White, Hampton City Schools/ Regent University

Transdisciplinary Learning through Artifact Conservation

Grade: Middle School, High School, Advanced High School/College, Content: Chemistry, Engineering, STEM

Rachel White, Landstown High School STEM Academy VBCPS

Megan Wong, Landstown High School STEM Academy VBCPS

Laura Newsham, Landstown High School STEM Academy VBCPS

STEM Majors in Sustainability, Environment, & Conservation

Grade: High School, Advanced High School/College, Content: Biology/Life Science, Environmental Science, STEM

John Gray Williams, Virginia Tech - College of Natural Resources and Environment Not-for-Profit Exhibitor

If I Built a Solar Powered House ...

Grade: Elementary, Content: Environmental Science, Engineering, STEM

Laurie Witt, Martinsville City Public Schools

Elementary Teachers and STEM Teachers Coffee Talk

Grade: Elementary, Content: Environmental Science, General, STEM

Laurie Witt, Martinsville City Public Schools

Using Bloom's Taxonomy and Webb's DoK to Increase Rigor

Grade: All grade levels, Content: Earth/Space Science, Environmental Science, General

Tabatha Zarkauskas, Prince William County Public Schools



VAS Offers a Mentorship for Students

The Virginia Academy of Science is excited to once again, offer its mentorship program for k-12 classrooms across Virginia to pair scientists with K-12 classes to perform long-term science projects. Once again, we are looking to recruit both mentors: graduate students, postdoctorals, instructors, scientists, etc. and high school teachers, who would like their students to participate in a virtually driven long-term research project. We have partnered with the Virginia Junior Academy of Science (www.vjas.org) in this endeavor in hopes that this project will encourage participation in their 2023 Annual Research Symposium and give students the juried research experience necessary to earn the Virginia Department of Education's new Seal for Excellence in Science and the Environment on their diploma. Mentorships may be in-person, virtual, or hybrid.

We would like to offer middle school instructors the opportunity to either do a project of local interest or to participate in a "Citizen Science" type initiative in which their class will work with others across the Commonwealth and maybe the nation in the collection and analysis of data.

If you are interested in serving as a mentor in this project, please fill out the form found at: <http://secure4.hsc.edu/forms/view.php?id=117158>

If you are a high school teacher with an interest in having a mentor work with your class, please fill out the form found at: <http://secure4.hsc.edu/forms/view.php?id=116443>

Please do not hesitate to contact me (mwolyniak@hsc.edu) with any questions you may have, and please pass this announcement along to any other contacts you think may wish to participate. Thank you for your consideration of this opportunity!

Michael J. Wolyniak, McGavacks, Professor of Biology, Hampton-Sydney College

Past-President Message

Leadership in VAST, begins with YOU!

This year is all about leading from the science classroom. We know you are a dedicated leader, you are already a member of VAST. It's time to step further into your leadership role with VAST by joining our Board of Directors.



Nominate someone, or yourself, for one of our open positions.

President-elect: The President-elect shall serve as the co-Chairperson of the standing Professional Development Institute (PDI) of the year they will serve as President.

Regional Director Regional Directors shall be elected from each of the eight (8) Department of Education regions. Directors shall be elected by the membership to serve a two-year term and may serve more than one term. Directors from even-numbered regions will be elected on even years, and those from odd-numbered regions will be elected on odd years. Directors will, within their region, promote VAST membership, regional professional development activities, and the VAST Professional Development Institute (PDI). Directors will serve as the coordinator of science leaders within their region and encourage an active and viable network within their region. Directors are expected to attend VAST Board meetings and provide a report on activities within their region. Directors shall actively participate as VAST leaders including contributing to publications, awards nominations, and the solicitation of presenters for the VAST conference.

Nominees may fill out this [electronic form on the web](#).

Becky Schneker



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“Trout in the Classroom” Mini Grant Project

Lisa A. H. Brown
STEM Instructional Coach
Powhatan County Public Schools



Brook Trout, *Salvelinus fontinalis*

Educators often have “class pets” in their rooms or “critters” in a lab all for a myriad of purposes, some due for scientific study and others due to the social-emotional motives. In Powhatan County Public Schools, we now have Trout in the Classroom (TIC) in all three of our elementary school STEM labs through the assistance of a VAST mini grant. TIC combines the different aspects of several branches of science with the positive effects of affective learning. This program offers fourth grade students an opportunity to raise Brook Trout, Virginia’s state freshwater fish, in our STEM labs and then release them into the South River. Caring for our Brookies from the eyed-egg stage to fingerlings fosters a connection between an animal’s life cycle and how our management of the environment affects a species.

In the fall, our students received approximately 250 eggs from our regional distribution site and assisted in placing them in the lab aquarium. Each fourth-grade classroom selected two Trout Ambassadors to receive training from the elementary Instructional STEM Coaches on the care, life cycle, and importance of Brook Trout. They were taught how to test the water quality each day, feed the fish once they are swimming up, and report their findings on a shared Google form. The Ambassadors were also responsible for educating their classmates using a slideshow about the trout and the importance of caring for our streams and rivers. In addition, other grade levels could request our Ambassadors to visit a classroom to provide information about the Brook Trout and TIC. During the year, some fourth-grade teachers rotated the selected students to allow more opportunities for

responsible caretaking. From September until the release of the parr in April, all students in the school visited the aquarium in the STEM lab to watch the eggs hatch and develop. In April, the Ambassadors were able to participate in the trout release at TroutFest in Waynesboro, Virginia. After releasing “our babies” into the river, students enjoyed learning more about our state fish and other species native to our watershed. The benefits of Trout in the Classroom are many. Not only do all students have the opportunity to watch an animal mature from an egg to a point where it can be released into the wild, they also see that only the strongest survive due to the natural selection process. Students realize not all eggs hatch and many of the fry do not develop into parrs. They witness how clean water and proper care allows the best chance for parr to survive. As our students watch this process, they begin to care more about the relationship between their actions and the health of an environment. We believe the impact of our MWEE experiences is greater because students see how humans affect the watershed where the trout live.

Without the VAST mini grant we would not have been able to provide this program to all of our schools in the county and are thankful for the support. Applying for mini grants for innovative science activities is a benefit of VAST Membership, so please utilize this program!

Lisa A. H. Brown
STEM Instructional Coach
Powhatan County Public Schools



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to Virginia's K-12 public schools
since 1999



Get Ready, Get Set, Go!!

Michelle Knight
EB Stanley Middle School
Washington County, VA

In 8th grade physical science, students learn nine weeks of chemistry and nine weeks of physics. This project is geared toward the physics standards. Specifically, PS.5. The student will investigate and understand that energy is conserved. The students will work in collaborative groups to research President Biden's recent announcements about energy efficient cars. After their research, they will design and build their own solar powered car. Each group will be able to test drive their vehicle and make adjustments.

Finally, each of my three classes will have a race. The winner in each class will race the winner of the other classes until there is one final winner. Additionally, each group will have to make a flip.com reflective video that explains the process they used to build their car and how their car did in the race. In the video, they will have to explain what they did well and what improvements could have been made.

Project Summary/Reflection

After the chromebooks were collected the learning didn't end! My students built solar cars and we had a tournament of races. We started by watching a Youtube video from the company xUmp.com. The video gave helpful hints and clues to working with the small screws and pieces. It also gave some ideas for making each car unique. Next, each partner pair or trio construct their own solar car with a few creative and unique modifications. After two days of construction, testing and modifications, we took the cars outside to charge and race. The cars worked perfectly! I would definitely love to order them again. During each race, we completed a bracket of CHAMPIONS!! The final winner of each race, raced against the winner from one of my two other classes. With the audience of all my Physical Science students the final two cars raced and we ended up with a winning pair! The winning pair was two female students in my third core class. Their design was simple but creative. Since I wanted more students to be recognized for their hard work, I also printed and gave out certificates for the most creative design, the pair/trio that worked best



Michelle Knight

in their group, and of course the winners from each class. Sadly, I was unable to have my students make their reflective videos like I mentioned in my grant narrative because their chromebooks had been taken up by our librarian prior to this project. However, this is definitely something that I think would have been an added component and bonus to this project. When I asked some students what they thought of the project this is what they said: "It was fun!" "It was a way to do something when chromebooks were gone." "It was a cool way to show the transfer of energy, since we just learned that." "I liked it but I didn't win." Overall, this Michelle Knight, E B Stanley Middle, mknight@wcs.k12.va.us Solar powered cars \$500 project was a definite success and I am so thankful to have a grant pay for the majority of the project. The remaining funds were paid for by my school out of our science funding. Below: I put a link to my tournament bracket, certificate and a couple of pictures of cars only. I didn't get permission from parents to share the photos from our actual race, since my project happened so late into the school year.



Michelle Knight

Donna Sterling Institute



Create the Future: Using Engineering Problem-based Learning to Solve Transportation Challenges

November 16, 2023; 8am-3pm

In Person: Hotel Roanoke - Roanoke, VA

We are pleased to announce the 2023 Donna Sterling Institute.

Participants will

1. Learn how to implement engineering PBLs in your classroom.
2. Engage in activities to support understanding of engineering and transportation science.
3. Learn and apply the key components of an e-PBL unit to meet the needs of your students and Virginia Standards (force, motion, energy; electricity and magnetism; human impacts on the environment, sustainability; modeling).

Registration includes a hotel room for Wednesday night, breakfast, and lunch, plus 7 hours of recertification points.

Donna Sterling Institute Registration: \$100

(Institute registration fee does not include registration for the VAST PDI)

[Link to Register](#)

Registration Opens March 15 and Ends October 31, 2023

Donna Sterling's vision of problem-based learning (PBL) as a means of teaching and integrating science with math, engineering, technology, and language arts is timeless. She was committed to meeting the diverse needs of our students through culturally responsive and equitable practices. Her legacy lives on in the Sterling Institute which supports teachers in developing and enacting PBL units in their instruction through a 7-hour professional development experience.

Here is your chance to learn how to implement this powerful teaching strategy!

Instructors include Robin Curtis, Dr. Elizabeth Edmondson, Dr. Amanda Gonczi, Suzanne Kirk, Russ Kohrs, and Dr. Jennifer Maeng.

Elementary (K-6) & Secondary (6-12) Teachers: Apply for the Donna Sterling Exemplary Science Teaching Award 2023

Donna Sterling was a visionary science educator with a passion for working with science teachers and developing habits of inquiry-based teaching. Her leadership in the Virginia Initiative for Science Teaching and Achievement (VISTA) focused on elementary and secondary teacher professional development. This award recognizes that exemplary teachers engage in continuous improvement and is designed to support a professional development plan for the improvement of science teaching.

In 2023, the award will be given to one exemplary elementary teacher (grade preK-6) and one exemplary secondary teacher (grade 6-12). 6th grade teachers in elementary settings are eligible for the elementary award and 6th grade teachers in middle or high school settings are eligible for the secondary award.



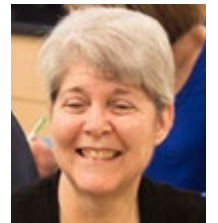
Becky Schnekser and Juanita Jo Matkins

Each awardee will receive a total of \$4000. Each awardee will receive \$3000 at the VAST PDI in 2023, held in Roanoke November 16-18, 2023. The remainder will be awarded after the awardee presents at the next VAST PDI and submits an article to the newsletter *The Science Educator* or the *Journal of Virginia Science Education*. In addition, registration and travel costs will be reimbursed to attend the 2023 VAST PDI to receive the award and to the 2024 VAST PDI to present a session on the professional development experience and outcomes.

Deadline for Applications: August 15, 2023, 5pm

To Apply:

1. Provide a cover letter that includes your preferred name, your home and school addresses, phone number(s), and email address(es) where you can be reached. Tell us how many years you have taught, where, and what subjects and grade levels.
2. In no more than 2 single-spaced pages, describe an inquiry-based science unit that you have taught. Describe how your unit is student-centered and includes community engagement. Provide evidence that the unit was effective. Evidence documents such as student work can be submitted separately and do not count toward the two-page limit.
3. In no more than 2 single-spaced pages, describe your plan for professional development, using the funds received through the Sterling award. Plans may include summer courses, workshop attendance, study abroad, instructional material development under expert guidance, etc. Feel free to be creative in your plan. Submit the professional development description with anticipated outcomes, including plans for a presentation at the 2024 VAST PDI. Tell how this award will help you become a better science teacher and support the development of your leadership skills. Tell about your plans for writing an article about your experience.
4. Submit 3 letters of recommendation based on direct observations of your teaching. One letter must be from a science supervisor or someone serving in that capacity, a second letter must be from the principal, assistant principal, or instructional leader, and a third letter must be from a fellow teacher or a parent. Letters should address the following: Why is this teacher a good candidate for this award? What qualities do they exhibit as teachers that make the recommender think they will use the funds from the award to improve their practice as teachers of science?



Donna Sterling

Email the complete application packet, including letters of recommendation and supporting materials to Dr. Jennifer L. Maeng, jlc7d@virginia.edu with “Sterling Award Application” as the subject.

Let us take time

A Time to Talk

When a friend calls to me from the road
And slows his horse to a meaning walk,
I don't stand still and look around
On all the hills I haven't hoed,
And shout from where I am, "What is it?"
No, not as there is a time to talk.
I thrust my hoe in the mellow ground,
Blade-end up and five feet tall,
And plod: I go up to the stone wall
For a friendly visit. — Robert Frost

The great human problem is to teach ourselves to live for others.
—August Comte (1830)

It was one of those nightmare times on the Washington Beltway, in the depths of rush hour, and already late on my 450-mile drive north, fussing and fretting my way as all of us tense and exasperated drivers inched our way along; 25 miles in 1.5 hours. Suddenly my attention was drawn to the license plate on the blue Honda in front of me: GOT2STP! Though this happened some time ago, its message remains, even more important now than when imbedded in the morass of five lanes of stop-and-go traffic.

Last year at this time, I made some remarks on the distinction between *chronos* (clock time) and *kairos* (timeliness), with emphasis on growing our students more at their pace than ours. The Greek term *kairos* can be understood in terms of "right time," "season," or "opportunity," the importance of a sense of rhythm in our activities. Now seems the kairoic time to apply the concept to us as teachers.

In his novel, *The Time Keeper*¹, Mitch Albom traces the ever-more-sophisticated methods humans have invented for tracking time since his main character, Dor, first marked it: sundials, water clocks, weight-driven tall and tower clocks, 16th Century invention of the minute hand, 17th Century accuracy within one minute per day, and in less than a century accuracy within one second per day. We then wore time on our bodies, and (*chronos*) time became an industry: time zones created so shipping and travel times could be coordinated and regulated, alarms and whistles announced times for personal and community use, businesses and schools. "What time is it?", "Quelle heure est-il?", "¿ Qué hora es?" became one of the world's most common questions. As Albom expresses it, "The hands of a clock will find their way home." [Curious that the hands of a clock use the same term as a human's most useful appendage.] Today we split time into ever more minute chunks: nanoseconds for computer operations, 10⁻³² seconds for the start of the inflationary epoch following the big bang.

There are important implications from our entanglements with the various exigencies of time. Or from our fascination and obsession with time. There seems to be a fairly universal desire to control time, so we invent expressions in attempts to make it a commodity: we want to make the most of time, so we make



During a long migration, even a little hummingbird needs to fold her wings and rest.

time, take time spend time, invest time, use time, save time lose time, keep time, waste time. A hundred years into the Industrial Revolution, Charles Darwin remarked, "A man who wastes one hour of time has not discovered the meaning of life."² One of my father's favorite expressions was, "He who hesitates is lost." As the 20th Century opened, Frederick Taylor invented the concept of "scientific management" in experiments with sequencing operations at Bethlehem Steel Works in Pennsylvania. After measuring and arranging operations for maximum efficiency, he made the comment, "In the past the man has been first. In the present, the System must be first."² We can understand our current obsession with time (schedule first, person second) in an economy which controls much if not most of what we do, rather than the opposite.

One consequence of our need for control is our love affair with speed and efficiency. In the 1920's, Emily Post's rules of etiquette provided time limits for meals, and as author, Carl Honoré puts it in his book, *In Praise of Slowness*², "Today, most meals are little more than refueling pit stops." Holiday meals must be timed to avoid conflict with sports events; with our penchant for scheduling our children's after-school and weekend lives, the microwave has shortened food preparation to just a few minutes. But Honoré gives many other examples of our high-speed society and its consequences: the acceleration of agriculture has been accomplished by the heavy use of fertilizers, growth hormones, and genetic modification as seen in the 4-6-fold increase in growth rate for farmed salmon, to pigs which reach 220 lbs. in only 6 months, versus five years to reach 130 lbs. 200 years ago.

Beginning with a section, The Age of Rage, he connects our addiction to speed with the increased aggressiveness seen in the causes and consequences of "road rage." Keeping time meant keeping control, from 6th Century monks through control of working hours and "lunch breaks" in 14th Century Germany, through Benjamin Franklin's "Time is money," through Model T Fords moving over the first assembly lines, through ruling classes' emphasis on punctuality in 19th Century capitalism, to regulating our schools and children. McGuffey's Readers (1881) warned, "The fortunes of individuals, honor, happiness, life itself are daily sacrificed because somebody is behind time."²

Honoré is honest in his own entanglements with our culture of speed: he admits to having gotten a traffic ticket speeding on his

way to give a lecture on his book! He is also first to admit that his purposes with *In Praise of Slowness* is not to condemn high speed processes or products – who wants an emergency crew to complete a lunch break before rushing off to rescue lives in danger, and high-speed warnings and communication have saved countless lives. But speed reading, multitasking, and instant communications on phone or I-pad also come with dangers of mis- and dis-information. In a 2000 book, *175 Ways to Get More Done in Less Time*, the authors' tip #141 states simply, "Do everything faster." Neil deGrasse Tyson wrote a 2017 best seller, *Astrophysics for People in a Hurry*.

However, the largest toll may be upon our health and well-being. Aside from the increasing traffic deaths due to speeding, there are increasing numbers of diseases associated with and aggravated by stress, over-work, and lack of exercise, sleep and connection with others.

For those of us who may be musically inclined, the secret seems to be in finding the *tempo giusto* (right speed). Composers all use changes in tempo, rhythm, and dynamics to communicate their musical ideas to their audiences. There are moments for using *vivace*, and *adagio*, as much as for *forte* and *pianissimo*, but balance needs to be appropriate for conditions, both in the arts as in any other discipline.

There are helpful signs that the Slowness Movement is gaining traction in the US as in Europe, England, Canada, and even Japan. Bicycle lanes are increasing in number and in use, inner city streets are being opened only for pedestrian use, a person's power (control) to decide when to work is increasing, "handmade" objects are more greatly valued. Active leisure (reading, gardening, knitting, walking in nature) is replacing passive forms (TV, computer screens). In our post-Covid communities book clubs and choral/instrumental groups are on the rise.

Honoré has a whole chapter on "Raising an Unhurried Child"². Two cartoons could illustrate his point. In one, a busy executive replies into his phone: "No, Thursday's out. How about never – is never good for you?" In the other, two school girls are checking their calendars at a bus stop: "Okay, I'll move ballet back an hour, reschedule gymnastics, and cancel piano...you shift your violin lesson to Thursday and skip soccer practice...that gives us from 3:15 to 3:45 on Wednesday the 16th to play."² When children act like high-powered adults, it appears David Elkind's 1989 book, *The Hurried Child: Growing Up Too Fast Too Soon* was not seriously read by most parents. Today, the pressure is still to "keep up with the Joneses," only the Joneses are now global. In too many schools, the goal is still to get to the top of the class ASAP, computer camps and interviewing techniques at the age of four. And we act surprised at increases in depression, headaches, insomnia, and eating disorders together with behaviors arising from too little sleep. There are schools like the long-running Laboratory School in Toronto where kids have the freedom to "fall in love with learning," as Honoré puts it, instead of a diet of "tests, targets, and timetables."

This is where we teachers come in, to find the *tempo giusto* for our kids. But, at least equally important at this time of year, for ourselves. Whether from colleagues, administrators, parents, or politicians, we can feel hit, rather than supported, on many sides.

We hear echoes of the tag-line of the main character, Littlechap, in the 1966 film of the musical, "Stop the World, I Want to Get Off." We gasp with our bodies and in our hearts, "So much to do, so little time!"

Here are a few examples of the pressures we may have experienced this past year:

- Domonique Dickson [*Education Week*, 24 August 2022] identifies a reason for the often-unruly behavior of children returning to the post-pandemic classroom: "...they are really reflecting us, all the adults around them."
- In a group text, a member realized he had quickly responded with personal information another member had shared on the phone, for which he had to back up and apologize: "I'm learning. Sometimes fast is just too fast." [Emphasis mine, Ira Porter, *Christian Science Monitor*, 15 May 2023]
- Summer is not a period of R&R for many of us as summer jobs can add to the school year's fatigue and tension. A 2023 Pew Research Analysis found 1 in 6 teachers nationally work non-school summer jobs, and Virginia is listed as one of the 10 states with "highest teacher shortages," especially in elementary, special education, and middle school.
- That said, Violet Adams, a teacher of 30 years, wrote a short piece [*Education Week*, 22 September 2022], "Summer School Reminded Me Why I Love Teaching," in which she discussed teaching English to ELLs who knew more languages than she did. She mentioned a student who wrote about her troubles at home and her struggles just to come to class: "but once she showed up and I began teaching, she forgot about her problems. *This is why I teach.*" We have graduate courses in philosophy, history, psychology, methods of education. Why not a course in the tempo/timing of teaching? As the author put it, why not "classroom relational strategies?...It is an art that is learned only by immersion."

Finally, US Surgeon General, Vivek Murthy, describes a growing "epidemic of loneliness and isolation" in the US. [Harry Bruinius and Sophie Hills, *CSM*, 9 June 2023,] As early as 2014, on a cross-country "listening tour," Dr. Murthy found comments from all regions like, "I have to shoulder all of life's burdens by myself," or "If I disappear tomorrow, no one will even notice." He emphasizes the "healing effects of social connection and community." Darcin Narvaez, psychology professor at Notre Dame, puts it this way: "What helps us thrive is relationships... and connectedness. Feeling like we belong, like we matter..."

Notwithstanding the demands and pressures of our high-speed and intensely-divided culture, we need more than ever to reset our tempo to *andante* or *moderato*, if not **adagio**, for a while. Which brings us again to Robert Frost and his poem, "A Time to Talk." When a friend calls, can I leave my hoe blade-end up and five feet tall, and plod for a friendly visit instead of looking around on all the tasks I haven't completed, the hills I haven't hoed? Here are Vivek Murthy's verbs: "Make time to share a meal, listen without distraction, perform an act of service, express yourself authentically."

An African proverb encapsulates Comte's concept of altruism: "If you want to go fast, go alone; if you want to go far, go together." Even the hummingbird needs to let down her wings for a rest.

May we each learn how to fold our wings, too.

George

Continued....

Let us take time continued:

George

A VAST Life Member, George Dewey is a former VAST President, former NSTA District VIII Director, Presidential Awardee, and Albert Einstein Distinguished Educator. He taught physics in Fairfax County, NBCT since 1999. He can be reached at: gtdewey3@outlook.com

1. Albom, Mitch. 2012. *The Time Keeper*. Hyperion.
2. Honoré, Carl. 2004. *In Praise of Slowness.*, HarperCollins Publishers.



Are you registering for meals at the PDI?

Check out the link below to view the menus for the continental breakfasts Friday and Saturday and the ticketed Friday luncheon, ticketed Friday dinner, and ticketed Saturday boxed lunch.

[Link to Menu Meals](#)



VAST Recognition In Science Education (RISE) Awards

[VAST RISE Awards](#) are presented to spotlight the excellent work done by science educators across the Commonwealth. They recognize service to science education in the individual's school, school system, and the VAST district in which they work. The awards are grouped in twelve distinct categories:

Remote Teaching (Ele., MS & HS)
Elementary (pre K-5)
Middle school (6-8)
Biology
Chemistry
Earth Science
Physics

Environmental Science
At-Risk Students (K-12)
Resource Teacher (examples: Tech., Sci.Resource, Etc.)
Science Educator (non K-12-Examples Science Supervisor, Information Education, Principal, Etc.)
University/College Faculty
Community Partnership (ie. Businesses, Politicians, Etc.)

VAST would like to thank Graduate Teacher Education at Eastern Mennonite University ("EMU"); a private university with campuses in Harrisonburg (Virginia), Lancaster (Pennsylvania) and wherever you are (online). EMU Graduate Teacher Education seeks to increase professional knowledge and competence among current practitioners by developing leadership, becoming agents of change who advocate for children and youth, promoting caring learning environments, and teaching boldly in a changing world through an ethic of care and critical reflection. To further this aim, EMU Graduate Teacher Education is sponsoring the RISE Awards for:

Remote Teaching (Ele, MS, HS), At-Risk Students (K-12), and Community Partnerships (Businesses, Politicians, etc.).

The RISE Awardees are invited to attend the VAST PDI and will be recognized during the PDI. Awards Nomination deadline is September 30, 2023.

To apply or nominate [click here](#) to complete online.

**In Partnership with Virginia's Transportation Construction Alliance
and
Friends of Mineralogy Virginia Chapter
Summer 2023 Rockin' PD**

The Virginia Association of Science Teachers in partnership with the Virginia Transportation Construction Alliance (VTCA) and Friends of Mineralogy Virginia (FMVA) is excited to bring members four new aggregate industry field experiences across Virginia's diverse geologic provinces. These professional developments are free of charge to VAST members and open to educators of all grade levels. Earn professional development hours, if approved by your school evaluators! Attend one or all four drive-in field trips at four unique Virginia locations.



July 21st Dale Quarry by Vulcan Materials

Dale Quarry, owned by Vulcan Materials, is a crushed stone operation but is also known for very unique igneous dike formations and pegmatites which run through the country rock. The material at the site provides teachers with classic mineral specimens we are all familiar with from our mineral quizzes, such as feldspar, quartz, mica, garnets, and beryl. Collectors have visited the site over the years and in 2019 a beryl crystal reaching 11 inches was discovered. The geology of the quarry is one of a kind and will provide teachers with a hands-on look at hard rock geology and pegmatite mineralogy. One rock from this quarry is bound to have at least a few minerals, which is perfect for kids and your geology labs!



July 28th Bull Run Quarry by Luck Stone

Started in the 1950's, the Bull Run Plant was purchased by Luck Stone in 2002 and is the largest operation for the company today. The plant is located near the historic Bull Run Battlefield and serves the growing Northern Virginia market. This quarry mines a type of rock known as traprock by miners or diabase by geologists. Diabase is a dense igneous rock dark colored, greenish black to bluish black. It formed as hot magma surfaced from within the earth through fractures in other rocks already present near the surface.

Registration is required.
REGISTER

**COFFEE TALK
@ 10:00 AM**



VAST Coffee Talk with the Content Chairs.

VAST wants you to remember you are not in this alone.

Next Coffee Talk Date:

September 23, 2023, 10:00 AM Theme: "Back To School"

Registration will open later this summer.

Questions? Contact meeting host Dave Matchen, matchendl1966@gmail.com

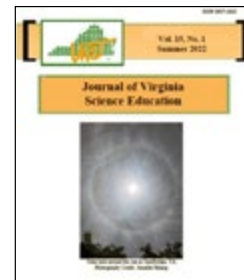
Coffee Talks are held on Saturdays and there is no cost to register.

Watch for future dates and times.



JVSE Update - July 2023

Written by Dr. Angela Webb & Dr. Joi Merritt, JVSE Co-Editors



We are excitedly putting together this year's first issue of the Journal of Virginia Science Education (JVSE), expected later this summer. Many of the articles address the theme, Rising to a New Vision for Science Education: Implementing the 2018 SOLs, by presenting inquiry-focused activities and lessons aligned with the standards.

If you're curious about becoming more involved with JVSE, VAST's peer-reviewed professional publication, we hope you'll join our VAST PDI session titled, Get Involved with the Journal of Virginia Science Education! Our session will acquaint attendees with JVSE, answer questions about being published in JVSE, and provide an overview of the review process.

We encourage VAST members to consider submitting an article for our winter issue. The theme is Science education for our current times: Connecting science to issues in the public sphere and students' curiosities and questions (submissions due July 31; published December 15). Manuscripts that address this theme may include innovative lessons/activities that address community

science concerns and/or students' pressing questions about science phenomenon; research on connections between school science and the public's perceptions of science and/or understandings of nature of science; ways to address challenges that may arise when addressing pressing, relevant science ideas (e.g., COVID/pandemic, climate science, environmental justice, etc.) in our science classrooms (PreK through post-secondary); etc.

We also invite all VAST members to volunteer to review submitted manuscripts. This opportunity is a service you can include on your resume and is a great way to get ideas for your own publications. If you're interested in serving as a JVSE reviewer, please scan the QR code and respond to a brief set of questions to (a) indicate your interest in reviewing 1-2 manuscripts this year, (b) update your contact information, and (c) share your areas of expertise and your professional interests.

Please visit the journal webpage to read current and past issues of JVSE, learn more about the issue themes for 2023, and review guidelines for manuscript authors and reviewer.

2023 PDI Registration

Presenter - \$155

Attendees:

\$195 Earlybird

\$240 Regular Registration

\$115 Full Time Student Earlybird

\$145 Full Time Student

\$185 Lifetime VAST Members



**VAST PDI
INFORMATION:
Forms and
Registration**

2023 VAST Contact Information



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Dr. Angella Webb
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VAST Board Links

Is Your Address Changing?

Be sure to let VAST know your new contact information. Neither the post office nor the internet will forward our newsletters. Please log in to VAST.org to edit your account or e-mail Barbara Adcock, Membership chair: Membership@vast.org.

VAST Board Members

Standing Committees (voting members)

Advocacy-Eric Rhoades-rhoadesem@gmail.com
Awards/Grants-Sandy Pace-awards@vast.org
Biology-Jill Collins-jill.collins@martinsville.k12.va.us
Chemistry-Jen Sharp-Knott-sharpj@floyd.k12.va.us
Colleges/Universities-Dr. Robbie Higdon-higdonrl@jmu.edu
Communications-Dr. Denny Casey-communications@vast.org
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Earth Science-Dave Matchen-matchendl1966@gmail.com
Elementary (K-2)-vacant-
Elementary (3-5)-Laurie Witt-lwitt@martinsville.k12.va.us
Environmental Literacy-Cindy Duncan-CDuncan@cbf.org
Informal Learning- vacant
Membership-Barbara Adcock-membership@vast.org
Middle-vacant-
PDI-Dr. John Kowalski-pdi@vast.org
Physics-Tony Wayne-twayne@k12albemarle.org
Policy-vacant-
Technology- Dr. Paula Klonowski Leach-paula@ittip.org

Appointments (voting members)

Journal Editors-Dr. Angela Webb,
Dr. Joi Merritt-journal@vast.org
Newsletter Editor-Jean Foss -newsletter@vast.org
PDI Director-Dr. John Kowalski-pdi@vast.org
PDI Treasurer-Cheryl Coronado-registrar@vast.org
Virginia Math & Science Coalition-Tom Fitzpatrick
tfitzpatrick@rcps.info
Web Administrator-Dr. Denny Casey-webmaster@vast.org

Invited Representatives (non-voting with voice)

National Science Teachers Association-Keri Meador
keri.meador@jefferson.kyschools.us
Presidential Awards for Excellence in Math and Science -vacant
Pre-service Student Representative-vacant
Science Museum of Virginia-Karen McKenzie-
kmckenzie@smv.org
VA. Children's Education Council/National Institute of
Aerospace-Joan Harper-Neely-joan.harper-neely@nianet.org
Virginia Department of Education-Dr. Anne Petersen-Anne.
Petersen@doe.virginia.gov
Virginia Earth Science Teachers Association-vacant-
Virginia Instructors of Physics-Seth Berkeley-
sberkeley@harrisonburg.k12.va.us
Virginia Junior Academy of Science-Dr. Julia Cothron-
cothron9293@comcast.net
Virginia Resource Use Education Council-Russ Kohrs-
kohrsrh@gmail.com
Virginia Science Education Leadership Association-
Lani Patrick-lpatrick@campbell.k12.va.us
Virginia STEM- vacant

Non-board Appointments (non-voting, no voice)

National Congress On Science Education Delegate and Alternate-
Becky Schnekser – expeditionschnekser@gmail.com & Stephanie Harry-
president@vast.org
Social Media - Andy Jackson, Becky Schnekser, Kathy Frame,
Dr. Denny Casey - communications@vast.org
Sterling Committee Chair Dr. Jenn Maeng, and Dr. Elizabeth
Edmondson - jlc7d@virginia.edu

FIELD TRIPS ARE BACK!

Nothing is better than the sights and sounds of young minds discovering the awesome science all around them! From dissections to engineering challenges, there is something for curious minds of all ages at the Science Museum of Virginia. If you're looking for a scientific adventure, but are unable to visit us in-person, we also offer a wide variety of Digital Demos.

Learn more at smv.org/groups





The Virginia Association of Science Teachers
 109 St. Ives Rd.
 Charlottesville, Va. 22911



Please consult the website for up to date information, VAST forms for awards and mini-grants, advertising and current PDI information. www.vast.org

Mission of the Virginia Association of Science Teachers (VAST)



- *inspire students,*
- *provide professional learning opportunities,*
- *build partnerships,*
- *advocate for excellence at the school, local, state and national level.*

**Please send articles,
 letters to the editor, or labs by the submission deadline, October 1, 2023,
 for inclusion in the next Newsletter.**

**Please consult the website for up-to-date information, VAST forms for awards and mini-grants,
 advertising and current PDI information: vast.org**



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