



**VAST's Vision:**  
**Excellence in Science Education**  
**Through Innovation**

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Check the web for news, conference updates, registration, and forms.

# The Science Educator

Winter 2023

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During "Night with the Exhibitors," the Virginia Department of Aviation exhibited the ICON a5 aircraft, an educational tool to introduce more youth to aviation. Educators explored amphibious light sport aircraft with foldable wings. Exhibitors shared resources and ideas, while WorldWide Travels encouraged world travel, the ultimate educational experiences, and professional development. Sweet treats were displayed near the aircraft everyone! (see photos on page 12)

## Winners at the VAST PDI 2022



Barbara Adcock (right), VAST member is congratulated by Betty Wilson, Public Relations and Education Manager at the Virginia Department of Aviation.

Barbara Adcock won the Virginia Department of Aviation raffle held at the November PDI. The raffle prize included an aeronautical STEM unit for grades 3-8 including all the lessons, activities, and supplies needed for nine discrete lessons, 21 unique activities, and six weeks of curriculum. Here is link where it can be found on the Pitsco website: <https://www.pitsco.com/Aeronautical-STEM-Unit>



Winning photo by Marsha Brown

## Winners!



Eileen Rogers congratulates Tina Winesett (left), winner of the Virginia Lottery Raffle.

The following won free registrations to next year's VAST PDI.

**Julie Young** won the **Passport Contest** for visiting being scanned at the exhibitors.

**Kerri Hallman** **Leaderboard** for networking in the Whova app and earning 162,400 points.

**Marsha Brown** won the **Photo contest**.

**Sherry Cannon** and **Tina Winesett** won the Virginia Lottery Raffle 2022. Sherry will use her prize next year due to illness. This year two teachers received Friday and Saturday PDI general registration including meals.

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# Volunteer!!!



Susan Booth

Margaret Mead once said “*Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.*”

Time is nothing we give up freely anymore but as you start the new year what does everyone ask for is time...

But go ahead and put yourself out there because things matter...

So, use your time for things you like to do, not something you feel obligated to do.

Do things that matter to you...

While you are involved, feel a part of the team. You are not alone. Decide what skills you have to offer.

You are valued. Stay connected.

Build your volunteering into your plans like attending Regional Meetings and the VAST Annual Meeting. Your involvement may be the breaking point of its success.

We are counting on YOU!

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

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## President's Page

### Greetings Virginia Association of Science Teachers.

I hope your winter break was relaxing, rejuvenating, and filled with lots of love and laughter. A new year is now upon us, and it is a great time to reflect on our accomplishments last year. Our Content Chairs have been busy hosting Coffee Chats and working to strengthen the community within each of the science contents. Regional Directors were busy hosting workshops and learning events within their regions. We connected with Friends of Mineralogy and hosted several field trips to quarries during the summer.

Our last Professional Development Institute (PDI) was also a tremendous success. It was great to be back in-person after two years of awesome online institutes. This amazing institute was held in Williamsburg, Virginia and it was a combination of various learning experiences from start to finish. Educators attending the conference had an opportunity to attend pre-conference workshops, field trip experiences, obtain knowledge from keynote speakers, attend concurrent sessions which covered a variety of science educational topics and receive information and materials from our numerous sponsors and vendors. Your presence and participation at this Professional Development Institute was crucial in making this event successful.

As we enter a new year and reflect on the past years, I would like to challenge you to seek and take advantage of opportunities to grow as a teacher. I recently read an anonymous quote which stated, "there is no growth in a comfort zone and no comfort in a growth zone." As you grow as an educator you also help those around you to grow. However, this growth is not achieved without moving from your area of comfort. It is during this growing process you will experience moments where you question your ability to succeed. I encourage you to dig in your heels and know that you have the skills needed to be successful. Your voice and skills are needed in the VAST and in the world of science education.

Years ago, I felt leaving the classroom and going into administration was the only way I could have an impact on science education. However, I have learned I can be a teacher leader while remaining a classroom teacher. For me personally, VAST was pivotal in helping me to start my journey of becoming a science educational leader while remaining a classroom teacher. Being involved with VAST helped me see science education leadership with a different lens.

My VAST leadership journey began, around 2010, when I was encouraged to submit a proposal to present at a

Professional Development Institute. My session that year was titled "101 Helpful Chemistry Ideas." I presented and created a CD, (yes, I am dating myself) with lesson plans, labs, activities and so much more information a new teacher could use to begin teaching in the chemistry classroom.



**Stephanie Harry,**  
**VAST President 2023**

Once I started attending and presenting at VAST PDI's I learned about and applied for grants to fund my chemistry educational projects or purchase science classroom supplies. I wrote articles for the VAST newsletter and journal, I received a RISE award, and then I was asked to serve as chemistry content chair. This led me to running and being elected to serve as the President-elect in 2022. My participation in each of these opportunities helped me to evolve as science educational leader. Each new role took me out of my place of comfort, but it continued to ignite my passion for teaching.

Being a VAST member has shown me I can be an impactful and effective science educational leader while remaining in the classroom. I want to encourage, support, and challenge each of you to see yourselves as the educational leaders I know is within you. The path you choose to be science educational leader will not resemble my path and that is fine. The goal is to make sure you are moving in a path where you grow and evolve into a science educational leader.

Please remember VAST is here and able to support you in this endeavor. I encourage you to take advantage of current opportunities to strengthen your passion and role as a science educational leader. You can continue your teacher leadership journey by writing for our newsletter and journal to share your knowledge and great lessons and participating in the content chair's coffee chats. You can also push out your comfort zone and apply for VAST grants and awards, attending VAST sponsored events/field trips, and holding a position on the General Board. Not only will you benefit from this growth, but your students will also.

As I plan for the upcoming year, I hope you will join me and remain actively engaged in the VAST sponsored opportunities and events to increase your development as a teacher leader. I believe as you grow as a science educational leader you will also grow as a teacher in the classroom. In the end your students will also benefit as well. I look forward to walking this journey with you as we grow as science educational leaders while remaining classroom teachers.

*Stephanie Harry, VAST President 2023*

**Adjunct Professor, Thomas Nelson Community College**  
**Program Coordinator, ACS Hach Mentoring Program**



# 2022 Virginia Association of Science Teachers Awardees

VAST recognizes exemplary contributions to science education through its annual awards program. Awards are presented to outstanding educators at all levels. In addition, school administrators, and businesses are eligible to be recognized for their support of, and contributions to, quality science education.

The recognition consists of an attractive engraved plaque. The presentations were made as part of the annual PDI in November. VAST is pleased to recognize the following recipients for 2021. Please both congratulate and thank them for their outstanding contributions to quality science education in Virginia.

## Recognition in Science Education (RISE) Awards 2022

Community Partner: **Virginia Aviation**

Science Educator University: **Dr. Benjamin Campbell**, Longwood University

Science Educator K-12: **Laura Nelson**, Portsmouth Public Schools

Biology teacher: **Jina Price**, Brooke Point HS

Earth Science: **Dr. David Matchen**, Madison County Public Schools

Resource Teacher: **Melissa Economou**, Norfolk Collegiate Lower School

Middle School: **Erin Watson**, Tabb Middle School, York County Public Schools

## Mini-Grants

**TACT Mini-grant, Rachel Sparks White**, Cultural Heritage Conservation in Chemistry- \$1500

**Lisa Brown**, Flat Rock Elementary, Chiller- \$500

**Stephanie Harry**, Tabb HS, Chemical lab equipment- \$462

**Michelle Knight**, E.B. Stanley Middle, Solar powered cars- \$500

**Charita Vance**, Lakeview Elementary, Stream table- \$102

**Jennifer Culpepper**, Morton Elementary, \$140, Stream table- \$140

**Stephanie Coleman**, Patrick Copeland Elementary, Stream table- \$140

**Stacey Schurkamp**, Buckingham County Elementary, Stream table- \$150

See pictures on [VAST.org](https://vast.org) home page.



## An Expedition in Review–2022 Reflections as Outgoing Expedition Leader

*My Dearest Expedition Team,*

How have we already arrived at the point where my tenure as your Expedition Leader has ended? I do not know either, but I can tell you it is bittersweet if I may use a cliché word for the end of a moment in time. Like any expedition I have been a part of, whether as a bright-eyed novice team member or the leader charged with facilitating a field study, this expedition as President of VAST has been filled with wonder, adventure, challenge, and triumphs of learning. I am grateful that each of you chose to be on the journey and a part of me is sad that it is ending now.

My big 3 highlights of this year's expedition have been:

- Rockin' PD this summer in collaboration with VTCA, Friends of Mineralogy, and VAST Regional Directors
- Returning to an in person Professional Development Institute
- Reinstating field experiences during the Professional Development Institute

While so many things have happened during this expedition, those three have had the most positive impact in terms of elevating, empowering, and supporting high quality science education in Virginia. And isn't that the ultimate goal of our great organization? In fact, our mission statement explicitly states our priorities are to: inspire students, provide professional learning opportunities, build partnerships, and advocate for excellence at the school, local, state, and national level. I wholeheartedly believe that those three highlights of the year accomplished all of those pieces, and for that I am truly grateful. It took each and every one of you to accomplish these tasks and now we take the year's accomplishments and bring them to our learners of all ages, in all spaces across the state to empower and elevate their experiences with what we have built and experienced together.

As we forge ahead into 2023, I am delighted to see Stephanie Harry lead VAST through another year of wonder, excitement, challenges, and triumphs as we continue to elevate, empower, and support great science education. I also challenge each of you to consider your potential leadership within this organization. There are many opportunities to serve, and you are perfect for the role(s)!



Yours in experiential learning,

*Becky Schneker*, Immediate Past President

# Benefits of VAST Membership

Mini-grants • Social Media • Professional Development • Awards • E-notes • Networking

**Welcome to 2023, VAST members.** Your VAST membership gives you many benefits and we want to make sure that you know what they are and take full advantage of them.

**The Virginia Enrichment Repository for Science Educators, VERSE**, is available to all members. It is being updated and 'tagged' with content and grade level identifiers to help target both your interest and learning. It is still draft and a work in progress. It includes content from VAST's *The Science Educator Newsletter*, the *Journal of Virginia Science Education*, and sessions from the VAST Virtual Fall Professional Development Institutes (2020-2021). **Explore VERSE by logging in to the [VAST web](#) and go to: [VERSE](#).**

**[Journal of Virginia Science Education, JVSE](#)**, is a peer-reviewed professional journal produced by VAST. The principal criterion for the acceptance of a manuscript is that it contributes to strengthening the teaching and learning of science. Teachers-to-be, educators of all levels, school administrators, and informal science educators are invited to submit papers to be considered for publication in *Journal of Virginia Science Education*.

**[See more information on page 9.](#)**

**[The Science Educator](#)** is full of information on national science education news; Virginia Department of Education happenings; announcements from partnering organizations; news from VAST regions; innovative science teaching strategies; grant information; professional development opportunities, workshops, and courses; and award information and applications. It is published five times each year. All members should receive a link to the current issue in January, March, May, July, and October in an email.

**The VAST website, [VAST.org](#)** contains the most recent news and updates. When VAST members login to the website they have access to **VERSE** and **archives of Journal and Newsletter**. There you may renew your VAST membership; check your membership status;



Journal of Va. Science Edu.



Newsletter



VAST.org Website

and update your membership information.

**[Recognition In Science Education \(RISE\) 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 region in which they work. The awards are grouped in to twelve distinct categories. **[Winners 22 are listed on page 4.](#)**

**[Donna Sterling Exemplary Science Teaching Award](#)** - Donna Sterling was a visionary science educator with a passion for working with science teachers and developing habits of inquiry-based teaching. Most recently, her leadership in the **Virginia Initiative for Science Teaching and Achievement (VISTA)** focused on teacher professional development. In 2023, the award will be given to both an exemplary elementary teacher and exemplary secondary teacher. See more information on the Sterling Award and other awards on [page 14](#) and on the [vast web](#).

**[VAST Mini-grant program](#)** provides seed money for innovative curriculum activities which expand learning opportunities for science students. Team or individual applications are welcome.

Your membership in VAST is your portal to resources, discounted conference rates, and connections to other science teachers in Virginia. Be sure to renew your membership so that you do not miss out on all the resources that VAST has to offer. YOU are important the VAST Science Community! Encourage your colleagues to join. Why not gift a new colleague or your student teacher? **[Membership](#)**



# VAST Needs YOU!

## Nominate VAST Leadership to Serve in 2024

It's time to step into your leadership role with VAST. Nominate someone, or yourself, for one of our open positions.

Annually, VAST elects a group of individuals according to our current bylaw requirements.

Consider nominating someone who you think would serve well in 2024 as:

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

**Treasurer:** The Treasurer shall be responsible for the collection and recording of membership dues, receive all monies due to VAST, pay all bills legally incurred by VAST (including approved PDI expenses), and arrange for the yearly audit of the financial records (when authorized by the Board of Directors). With input from the President, Board, and PDI Committee, the Treasurer shall prepare a budget for the current year for approval at the first Board of Directors meeting of the year. The Treasurer shall prepare a report for all meetings of the Board of Directors and for the annual meeting. In addition, the Treasurer will be responsible for the timely preparation of IRS reports, including the

filing of taxes and the renewal of tax-exempt status. The Treasurer shall be elected to a term of three years.

**Regional Director** (Regions 1, 3, 5, and 7) 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](#), or download and complete the [nomination form \(PDF\)](#) and email to Becky Schnekser [expeditionsschnekser@gmail.com](mailto:expeditionsschnekser@gmail.com)



## Virginia Association of Science Teachers SAVE THE DATE

VAST would like to thank you for your support at the 2022 VAST PDI! Your partnership is important to the VAST community of educators.

**SAVE the DATE for the 2023 VAST PDI!** We will be in person **November 16-18 2023** at the **Hotel Roanoke** and look forward to seeing you there!

# JVSE Update - January 2023

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

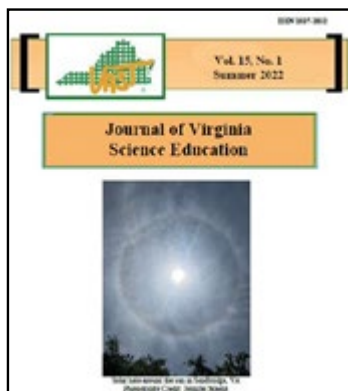


As the new year begins, we are excited to assume our new role as co-editors of the Journal of Virginia Science Education (JVSE), VAST's peer-reviewed professional journal. We both work as associate professors of science education at James Madison University—Joi at the elementary level, Angela at middle and secondary—and bring our experiences as teachers, researchers, reviewers, authors, and editors to this position. We value this opportunity to support science teachers and researchers across Virginia.

We 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 are willing to review 1-2 articles per year, please email Dr. Angela Webb at [journal@vast.org](mailto:journal@vast.org).

Do you have unique lesson activities, research in science education, or solutions to challenges in science education to share with teachers-to-be, educators of all levels, administrators, or informal science educators? We encourage all VAST members to consider submitting a manuscript for an upcoming issue of JVSE. The themes for 2023 are:

- **Summer issue - Rising to a new vision for science education: Implementing the 2018 SOLs** (submissions due **March 1**; published July 1). Manuscripts that address this theme may include innovative lessons/



activities well-suited to the new SOLs, including the focus on science and engineering practices; research on the translation and/or implementation of the new SOLs; ways to address challenges that may arise when transitioning from the old SOLs to the new ones; etc.

- **Winter issue - 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 look forward to building on the strong changes instituted by out-going editors, Dr. Amanda Gonczi and Dr. Jennifer Maeng. Thank you both for your service and leadership to JVSE and VAST.

Please visit the [journal webpage](http://journal.vast.org) to read current and past issues of JVSE, learn more about the issue themes for 2023, and review guidelines for manuscript authors and reviewers.







# The Results of the 2022 Election

## New VAST Officers for 2023

### Stephanie Harry - VAST President, 2023

Elected President-elect in 2021

Elected in the 2022 election during the PDI

### LoriAnn Pawick - VAST President-Elect, 2023

LoriAnn has been on the VAST Board first as PAEMST representative and then as Technology Chair followed by her current position as Region 4 Director. LoriAnn also is a member of the Donna Sterling Institute Team. She is a phenomenal teacher with superb leadership skills.

### Janet Lundin - Secretary, 2023

Janet has served as Middle Chair on the VAST Board of Directors for 8 years. She has also read numerous VJAS Environmental Student papers and been an Exploravision Regional Judge. Since she has recently moved to Williamsburg this would be an easy transition. Her attention to detail will be an asset in this position.

## New Regional Directors

### Heather Overkamp - Region II Director

Recently appointed to serve in this role this summer, Heather is in her 21st year of teaching and has been involved with VAST for years as a presenter and in other capacities in addition to heavy involvement in the STEM community in Virginia. She has been successful in writing grants and has been a part of other organizations that support teachers and would be able to easily share the various resources for teachers in Region II and at the VAST PDI. She is currently a DOD STEM Ambassador and as a result, a part of the newly formed STEM ecosystem for Southside. Through this Ambassador program, she has a lot of contacts with opportunities for teachers and students.

### Region IV Director: No Nomination

### Region VI Director: Tom Fitzpatrick and Angelo Bonilla

- Tom is a Past President of VAST and has served several terms as District VI Director. We are fortunate to have him as a VAST Board Member. He represents VAST at the Virginia Math & Science Coalition. Tom has served as a middle school science teacher and as both a science and a science and mathematics supervisor. He has presented at many VAST Professional Development Institutes and is a trainer for Project WET, WILD, Growing Up WILD, and Project Learning Tree. In the past he served as a Certified Trainer for the JASON Project.

- Angelo has been a member of VAST for a number of years and has presented at the VAST PDI for the last five years or so. He has taught physical science and earth science for Roanoke City Public Schools for 15 years. He has also taught STEM and rocketry for the summer programs. Currently, he serves as the science department chair for his school.

### Region VIII Director: Dr. Ben Campbell

Dr. Campbell has been a member of VAST since joining the faculty of Longwood University and moving to Virginia in the fall of 2016. Previously, he served as the Treasurer of the Central Arizona Chapter of the Society for Conservation Biology (2005-2007) and Director or Co-Director of Region VIII since August 2017. He is a member of the National Association for Research in Science Teaching, the Association for Science Teacher Education, the National Science Teachers Association, and the National Association of Biology Teachers. Dr. Campbell is completing his sixth year as an assistant professor of science education at Longwood University. Housed in the Department of Biological and Environmental Sciences, he teaches both biology content and science education courses. He is also currently the coordinator of Longwood's secondary science education program.

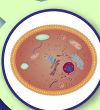
**The full list of Regional Directors and their contact information is listed on [page 22](#).**

# MySciLife®

Use the power of social media to bring science to life!



## ASSIGNMENT: CELL PROCESSES



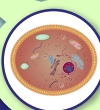
**Sparkling Lysosome:**  
I clean up the place, getting rid of waste 🗑️ and other unwanted substances that may get into the cell.



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



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



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



**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.



Learn more & create your account on [MySciLife.org](https://MySciLife.org)!

**MySciLife is a free, educational social media platform designed to enrich middle-level science instruction—for a lesson, a unit, or all year long.**

In MySciLife, students create identities based on science concepts, conduct research to build their profiles, and learn from each other as they post, comment, and respond to content in your private classroom community.

### MySciLife is...

- **Browser-based and accessible** from any device with an internet connection.
- **Resource-rich**, with a library of customizable NGSS-aligned modules.
- **Safe**—COPPA-compliant and password-protected.
- **Free**, with no limits on class size.

**MySciLife.org**

**Contact Us:** [MySciLife@sflinc.org](mailto:MySciLife@sflinc.org)



The Source for Learning, Inc. is a nonprofit educational services organization.



Get creative with Virginia Lottery's Thank a Teacher Art Contest. Three K-12 public school students will win money and art supplies for their schools! **Deadline:** Tuesday, Jan. 31

**VISIT:** [ThankATeacherVA.com](https://www.ThankATeacherVA.com)

### 2022 Art Contest Winners



Each year through the **Thank a Teacher** campaign, the Virginia Lottery encourages students, parents and the general public to send thank-you notes to Virginia's deserving public school teachers during Teacher Appreciation Week. Since 2016 the Lottery has recognized over a dozen teachers with Virginia vacations, gift cards and money for their school.

These thank-you notes have featured custom artwork designed by Virginia's public school students through the Thank a Teacher Art Contest. This winter, we're once again looking for three student artists to have their artwork featured on thousands of thank-you notes distributed during Teacher Appreciation Week the first full week of May. The contest is open to all K-12 students enrolled in one of Virginia's public schools (not just art students!), and one top-prize winner will be selected from each level: elementary school, middle school and high school. The three winners will not only get to see their artwork featured on the 2023 thank-you notes, they'll also receive a \$200 Visa® gift card and win \$2,000 in supplies for their school's art department from the Lottery and our valuable partners at The Supply Room.

Submissions will be accepted now through January 31, 2023. For more information about the Thank a Teacher Art Contest, including official rules, eligibility and entry requirements, visit [www.ThankATeacherVA.com](https://www.ThankATeacherVA.com).





### At Night, PDI 23 was Fun and Tasty!

Thursday night, the Virginia Department of Aviation sponsored “A Pastport to Travel”. All were invited to get aboard the Icon A5 and to take their picture, eat delicious food, network, and explore possible adventures.

On Friday night, WorldStrides and the VAST regional directors created “A PDI Expedition”, with eight interactive and amazing locations to explore with a DJ, food, drink tickets and door prizes.



# 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:



**Donna Sterling**

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?

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

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

**Save the Dates:**  
**Tentative Dates for Tours of Operating Quarries**

**June 23, 2023 – E. Dillon & Co. – Swords Creek, VA (SW VA)**

**June 30, 2023 – C.W. Barger & Son – Lexington, VA**

**July 21, 2023 – Vulcan – Dale Quarry – Chester, VA**

**July 28, 2023 – Luck Stone – Bull Run Quarry – Chantilly, VA**

The second annual Rockin' PD will be held this summer. These unique experiences 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!

For more information, check the VAST website and future newsletters for updated information. Attend one or all four drive-in field trips at four unique Virginia locations.



**VAST PDI 2023 will be Held at the Hotel Roanoke**

**The Hotel Roanoke & Conference Center  
110 Shenandoah Avenue, Roanoke, VA 24016**

**November 16-18 2023 at the Hotel Roanoke**

The VAST reservation website: <https://book.passkey.com/event/50478556/owner/9515698/home>

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## Learning a New Language

Too often, the problems we face can feel intractable, the magnitude of the change overwhelming. But I have always been, and always will be, an abiding optimist. That's why I became a teacher. I take as an article of faith that tomorrow will be better than today, that one small group of people – or one small school, for that matter – really can make a difference. And so we will. With audacity and courage. With planning and strategy. With all of you.

— Tim Richards, Head  
Pomfret School, CT

The early 20<sup>th</sup> Century Manitoba farmer, Nelson Henderson, once wrote to his son, “The true meaning of life is to plant trees, under whose shade you do not expect to sit.” As an Irish immigrant, he certainly knew of the promise of a new land and fertile soil. In a similar manner this could well be the credo of many teachers or administrators today: that with both optimism and audacity, plus careful strategizing and planning, a single teacher or small school can indeed make a difference. Tim Richards carries his abiding optimism into the teaching profession, first as dedicated classroom teacher, later as administrator. Like many of us, the changes in the world of today, together with personal health problems he and others have endured, can definitely feel overwhelming, and yet, with persistence and courage, our faith in a brighter tomorrow energizes us to go on. Only some of us will get to sit beneath the shade of those young trees we see as saplings in our classrooms.

One salient example, of both innate optimism and nurturing gifts, can be found within the walls of the Nansemond Parkway Elementary School in Suffolk, Virginia. In her editorial, “Making Kindness a Visible Priority,”<sup>1</sup> Yvonne Zipp tells the tale of a fourth-grade teacher, Kari Maskelony, who, along with her principal, Janet Wright-Davis, encouraged their students to truly make kindness a visible priority.

During October's Disabilities Awareness Month, Ms. Maskelony, who has several deaf family members, decided to teach her students some basic words in American Sign Language (ASL). The school has a deaf food-services employee, Leisa Duckwall, so her youngsters had a good reason for learning their new language. Soon, instead of pointing to items they wanted from the cafeteria line, students were signing words like “pizza” or “chicken” or “apple.” Dr. Wright-Davis was surprised how quickly this caught on when students began greeting her in the corridor



ASL Deafined, Auburn Hills, MI,  
used with permission

Signing the word “science.” See it in motion:

<https://www.asldeafined.com/internal/dictionary-search/?word=science>

by signing. After October, she continued a policy where her whole school would learn a new sign every week with Ms. Duckwall appearing on the daily announcement program to teach them a new sign. This has spilled over into the local community where a gentleman once left a school program signing himself.

The biggest take-away the principal found was the excitement and genuine commitment her children had, not seeing deafness as a disability after all. She was impressed how much they really wanted to learn; it was as though they sensed a genuine need and set about meeting it. The motivation came not from mandated standards or examinations, but from a deeper sense of interest in meeting a need within their small school community – what Richards would recognize as making someone's tomorrow better than today. Not to be overlooked is the point that Ms. Duckwall became both recipient *and* instructor. For kindness always works two ways, the reciprocity between donor and donee.

What is also significant is the role children play in learning, and actually in forming a new language. The history of “Hawaiian Pidgin English” and its evolution to today's “Hawaiian Creole English” is a case in point. In the mid- to late-1800's thousands of foreign plantation laborers came to the islands bringing with them their own cultural and linguistic habits: Chinese, then Portuguese, and Japanese. Their unique vocabulary and to some extent grammatical structures were appended to the rudimentary Hawaiian which they had learned. One could imagine, while adults gathered together after work in the evenings doing their best to communicate, gesturing and using mostly nouns and verbs, that their children were having fun inventing words, phrases, and sentences as they played and danced, sharing activities together.

By the late 1800's the English language of plantation managers began to replace this "Pidgin Hawaiian," which died out by the early 20<sup>th</sup> Century. Add to the cultural and linguistic mix the vast numbers of Puerto Rican, Korean, Okinawan, and Filipino laborers, and Hawaiian Pidgin developed its own vocabulary and grammar, used in family, schools, and businesses to evolve into today's Hawaiian Creole English (HCE).

Moreover, the history and evolution of American Sign Language (ASL) actually bears a striking similarity to the evolution of Hawaiian Creole English. Early European explorers reported that sign languages were being used among First Nations in the plains of North America as early as the mid-16<sup>th</sup> Century. The ability to communicate across linguistic barriers was also evident in isolated villages in Massachusetts, New Hampshire, and Maine. With intermarriages between English settlers and Indigenous Americans in the late 17<sup>th</sup> Century, the nature of congenital deafness became more apparent, and small children learned signing from adults in both familial and village settings. Today about 3.6% of the US population experiences total deafness or severe hearing impairment.

By the time Thomas Gallaudet founded his famous school for the deaf in Hartford, Connecticut in 1817, ASL had emerged from blends of French Sign Language plus home and village signs. It is particularly pertinent that children played a major role both as recipient and creator of signing languages. As with spoken language, contact between different languages and cultures made ASL a creole language in its own right, serving as a true *lingua franca* (bridge language). In addition, positions and motions of arms, face, and torso became part of sign languages, so one might almost think in terms of a dance for the deaf. [Check the link under the image on the first page.]

Today we know much more about the facility of young children to learn and create language. Our knowledge of brain structure and development has shown us a lot about how we create and accommodate to new languages. Not a little of this seems to develop alongside our ability to perceive, appreciate, and create music. In fact, in some individuals the perception of sight, sound, and smell become intermingled in the phenomenon known as "synesthesia." For example, seeing the color blue, a person actually hears a particular sound or melody. Some artists have created unusual paintings when hearing melodies or the timbres of various instruments. About 4% of the global population possess this unusual union of senses, some actually seeing shapes when hearing music. One Icelandic composer, Anna Thorvaldsdottir, actually sketches shapes and scenes before her scores are written to achieve what she

calls an ecology of sight and sound.

Learning a language, then, can exploit a multi-sensory ability, a true ecology of the senses, as when sounds (from Peruvian flute or military brass, e.g.) have been used to conjure up images or communicate both information and emotions. Hence, perhaps, the popularity and power in the rhythms and lyrics of rappers today.

An article in ASCD's special issue on personalized learning, "Student Engagement: Key to Personalized Learning,"<sup>2</sup> describes the power of student agency in transforming what students know to newer contexts. The value of engagement in the learning process, especially for ELLs was summarized by a student's comment, "We learn better by helping each other." Working with others to achieve personal results can engage us both in learning a new language, and in addressing community needs.

Of course, in science we have our own unique language in which are embedded both vocabulary and ideas. Signing "science" is also a bit complex; use the link above to see the rotations of right fist clockwise, left fist counterclockwise, a little like the pat-the-head-rub-the-stomach maneuvers! Many of us have been frustrated by our lengthening lists of terms, recalling the observation that in introductory biology there are as many new words as in an introductory foreign language course. To our ELL students, this similarity is doubly frustrating. Some of us hand out sheets of terms to be memorized. Yet we know the best way to learn any new language is to become immersed in its culture. Like the Nansemond ASL experience, some of us also exploit the personal discoveries our students can make while immersed in the culture of our laboratory activities. So, instead of confirming what students have already learned about cell structure, or gas laws, or Newton's laws of motion, we instead have them discover them much as earlier scientists might have done. In physics at least, this becomes something of a "math lab" where graphical interpretations of data illustrate particular mathematical relationships.

Like many aspects of our unique cultures, language can be used in multiple manifestations and manipulations along the spectrum of kindness to hostility. Much of our current preoccupation these days seems sadly to be in the latter region. Perhaps we have more to learn from the example set by those children at Nansemond Park Elementary School. The word "Nansemond" refers to "fishing point," an organic connection to the earth with which Native Americans and Hawaiians are intimately familiar. In our fishing into the ocean of many cultures and languages, it is reassuring to find that learning a new



language itself can be a visible act of kindness. Among the Hawaiian words in HCE are: *kuma* (teacher) and *mālama* (caring for something). Surely, Tim Richards' and Kari Maskelony's care for the students entrusted to them serves as an important guidepost for us as we embark on our new calendar year, planting trees under whose shade we do not expect to sit.

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](mailto:gtdewey3@outlook.com)

1. Zipp, Yvonne. 2022. "Making Kindness a Visible Priority". *The Christian Science Monitor*, Vol. 114, Issue 52.
2. Ferlazzo, Larry. 2017. "Student Engagement: Key to Personalized Learning." *Educational Leadership*, ASCD, Vol. 74, Number 6.



## Virginia Junior Academy of Science Virtual Symposium:

May 5-6, 2023

Dr. Julia H. Cothron

VJAS Representative to VAST Board

### 1. What Is the Virginia Junior Academy of Science (VJAS)?

VJAS is a STEM competition and symposium for 7-12 students. Over 600 students participate annually in more than thirty categories such as botany, engineering, environmental and earth science, mathematics and statistics, and medicine and health. Middle and senior high students participate in separate categories. The 2023 VJAS Virtual Symposium will be held May 5-6, 2023 via Zoom. The General Session and Opening Ceremony will be held on May 5<sup>th</sup> and the Student Research Symposium and presentation to judges will take place on May 6<sup>th</sup>.

### 2. How Do Students Participate?

Students complete individual or team projects which are supervised by a teacher, mentor or parent. A school or individual joins the Virginia Junior Academy of Science.

### 3. How Are Students Selected?

STEM Readers review and score projects using criteria which are applicable to all STEM disciplines. Readers recommend projects for the symposium and the projects are ranked in the various categories. Selected students are invited to present at the May 6 Virtual Symposium, held in connection with the College of William & Mary. All students receive feedback from the STEM Readers.

### 4. How Are Students Judged at the VJAS Symposium?

Students make a presentation. STEM Judges score the research paper, presentation and responses to questions. Category winners are selected with first, second, third and honorable mentions awarded. The first place category winners become eligible for over twenty-five honor awards and scholarships. Two students, or teams, are selected to attend the American Junior Academy of Science. The project abstracts and first place papers are published in the VJAS Symposium Proceedings. All presenters receive feedback from the judges.

### 5. How Do Students Benefit from VJAS?

Students have increased understanding of Virginia's Standards of Learning (SOL) for STEM subjects. They use creative and critical thinking skills and develop technical reading, writing and presentation skills. Students obtain an enhanced understanding of careers by interacting with STEM professionals, participating in symposium lectures, and visiting university campus and research laboratories. In addition, students can develop citizenship skills by serving as a VJAS officer and/or volunteering at the symposium. Students can use feedback from STEM Readers and Judges to improve future research.

### 6. How Can I Obtain Support for Student Research? Learn More?

The Virginia Academy of Science (VAS) supports student research by providing mentors for teacher. VJAS Student Officers, or a prior VJAS presenter, can mentor a beginning researcher. Experienced teachers within a division are a valuable resource for teachers beginning to involve students with VJAS.

To learn more, visit the Virginia Junior Academy of Science website (<http://vjas.org>). Be inspired by images from prior symposia, abstracts and papers in the VJAS Symposium Proceedings, and the student publication, *The Voice*. Learn details by reviewing the VJAS Handbook and by contacting the VJAS Leadership Team.

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## 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](http://www.vjas.org)) in this endeavor in the 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 and high 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. I am excited for this model since it should allow a greater level of participation with geography and distance not being limiting factors.

Even if you signed up last year, to avoid unwanted emails to those who do not wish to participate this year, I am asking you to sign up using the appropriate link below.

If you are interested in serving as a mentor in this project, please fill out the form found at:

<https://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:

<https://secure4.hsc.edu/forms/view.php?id=116443>

Please do not hesitate to contact me ([mwolyniak@hsc.edu](mailto: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  
Director, Office of Undergraduate Research, Hampden-Sydney College



## VJAS

SENIOR'S ONLY:

### THE VIRGINIA ENVIRONMENTAL ENDOWMENT SCHOLARSHIPS

#### The Frances and Sydney Lewis Environmental Science Scholarship

This \$5,000 college scholarship may be awarded to the 12th-grade student whose project presented at the VJAS Research Symposium evidences the most significant contribution in the field of Environmental Science. The purpose of the award is to stimulate interest in environmental sciences and to enable promising young students to pursue undergraduate studies in a related field. The Virginia Environmental Endowment (VEE) and the VJAS offer this scholarship in tribute to the outstanding and generous services of VEE Directors Emeriti, Frances A. Lewis, and Sydney Lewis.

#### The Henry W. MacKenzie, Jr. Environmental Scholarship

This \$5,000 college scholarship may be awarded to the 12th-grade student whose project presented at the VJAS Research Symposium evidences the most significant contribution in the field of Environmental Science dealing with the James River Basin and the Chesapeake Bay. The purpose of the award is to stimulate interest in environmental sciences and to enable promising young students to pursue undergraduate studies in a related field. The Virginia Environmental Endowment (VEE) and the VJAS offer this scholarship in tribute to the outstanding and generous services of Judge Henry W. MacKenzie, Jr., one of the founding directors of VEE who had a great interest in the James River and the Chesapeake Bay.

These scholarships must be applied for and are decided by a special set of judges. The payment shall only be available to students during their first year of college. Students must provide VJAS with proof of attendance no later than November of their first year in college. No student may win more than one of the scholarships. Students may choose to have payment made directly to the university or to the student. Failure to provide the requisite evidence will result in forfeiture.

See more details at [vjas.org](http://vjas.org)



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