

## VASE ANNUAL REPORT FOR 2019-20

The year began with VASE's Annual Meeting and Public Forum which took place on September 23<sup>rd</sup>, 2019 at Middlebury College's McCardell Bicentennial Hall in Room 216. The room was nearly full with ~100 attendees, including VASE members, honorees and their guests, students, and members of the general public. Grace Spatafora as VASE President started the meeting by welcoming everyone. She then introduced VASE Outreach Coordinator John Cohn who announced the 2019 Paula Fives-Taylor Awards for Outstanding Teaching in Science. This year's awardees were Joshua Patriquin of St. Michael's Catholic School in Brattleboro, VT (for Grades K-8), and Carly Brown from Harwood Union High School in Duxbury, VT (for grades 9-12). The awardees each received an engraved plaque as well as a check for \$1000.00.

The keynote speaker for the evening was Dr. Michael Gilmore, the Sir Osler Professor of Ophthalmology, Microbiology and Immunology at the Harvard Medical School. Dr. Gilmore delivered a lively talk entitled "Ancient Roots of our Antibiotic Resistance Problem" which was very well received and followed by a vigorous question and answer session.

Following Dr. Gilmore's presentation, ~50 VASE members, honorees, and guests convened for dinner at Middlebury's Kirk Alumni Center. The Middlebury *a capella* group, the "Mischords" sang a few tunes before dinner was served. Later during the evening, VASE welcomed two new VASE members: Dr. Suresh Garimella, President of the University of Vermont (UVM), and Dr. Robert Waterman, Professor of Chemistry and Associate Dean of the College of Arts and Sciences at UVM. VASE members who had been recently inducted into the National Academy were also recognized and applauded. The meeting ended after the science teacher awardees delivered some brief reflections on their teaching careers and philosophies.

VASE continued its long-standing Small Equipment Grants program for Vermont's K-12 educators. This year we received 10 highly competitive Small Equipment Grant proposals. We were able to fund nine of these, with a total of \$7,045.00 awarded. A list of Small Equipment Grant awardees is attached to this report.

VASE also continued its Hands-On Science and Technology (HOST) grants outreach program (now in its fourth year). A donor who wishes to remain anonymous contributed yet another \$10,000 to VASE's HOST program in 2019 to promote capable and practical technology skills among Vermonters beyond the traditional classroom. This year we received a very strong response to our solicitation for proposals. Among the HOST grants we received, 13 earned funding, for a total of \$10,290.00 (see list of HOST grant awardees attached).

VASE looks forward to bestowing its annual Outstanding High School Science Project Award at the Vermont Science, Technology, Engineering and Mathematics Fair (VTSTEMF) which is held at Norwich University. This award recognizes outstanding initiative and innovation in science, technology, engineering, and/or mathematics in a student-led high school science project. Unfortunately, no award was made this year owing to the COVID-19 pandemic which led to the cancellation of this year's VTSTEMF competition.

The VASE 2020 Spring meeting was scheduled to take place at the Vermont State House in Montpelier on April 28, 2019 from 4:00pm – 6:00pm. All 2019 K-12 grantees (for both VASE Small Equipment and HOST grants) were invited to attend and set up their project exhibits for demonstration in the State House

cafeteria where VASE members, guests, state legislators, and other state government officials were due to gather. Newly-inducted VASE members Drs. Suresh Garimella and Robert Waterman were also invited to deliver presentations of their research, from which we anticipated some lively discussion. However, due to the COVID-19 pandemic we had to cancel the Spring meeting, which is unprecedented in the history of the VASE organization. Indeed, unprecedented circumstances call for unprecedented measures. Nevertheless, we look to the future with optimism, and to gathering once again for VASE's Spring meeting at the Statehouse next year. If space and gathering size allow, we would very much like to include both 2020 and 2021 VASE grant recipients and inductees in the 2021 meeting invitation.

Despite the pandemic, the VASE Board has convened on multiple occasions via Zoom conferencing to discuss the redesign and updating of the VASE website. VASE hired two ITS students from Middlebury College to help with this project (total expenditure this budget period = \$2000.00). VASE members contributed new content and photos to the website, including a Science News and Events tab, a tab for Vermont Youth, and tabs for VASE Grants and Teacher of the Year awards, all while learning about website construction and maintenance. The new VASE website will go "live" in the summer of 2020 (visit <http://www.vtscieng.org>), and will do a much better job of showcasing who we are and what we have to offer to STEM groups throughout the state of Vermont.

In VASE's commitment to more broadly announce its Teacher of the Year awards to schools in every corner of the state, VASE Board member Emmett Hughlett wrote letters to Superintendents and Principals in over 300 Vermont school districts and advisory unions to solicit nominations. The letters were mailed via the U.S. Postal Service during the first week in March (hence why this line item was overspent by \$46.00 this year). Although these mailings were likely received only a week prior to the unforeseen COVID-19 school closures, we remain hopeful that the solicitations for nominees will reach our constituents, and that it will draw a large pool of candidates for VASE's Outstanding STEM Teacher Awards in 2021.

In summary, VASE is very much alive and well as it plans its mission in 2020-2021 to include soliciting STEM project proposals that have been impacted by COVID-19, honoring the accomplishments of Vermont scientists and engineers while promoting the interests of science and engineering throughout the state, educating Vermonters about the importance of science, technology engineering and mathematics in their daily lives, and helping the state government resolve science and engineering problems (the latter with VASE's recently appointed Artificial Intelligence Task Force).

Respectfully Submitted,

*Grace Spatafora*

Grace Spatafora, Ph.D.

President, Vermont Academy of Science and Engineering

Irene Heinz and John LaPorte Given Professor in the Pre-medical Sciences

Middlebury College

May 27, 2020

## 2019 HOST Grant Recipients

<b>Name</b>	<b>Organization</b>	<b>Location</b>	<b>Project Title</b>	<b>Award</b>
Gale Batsimm	Fletcher Free Library	Burlington, VT	Designing the Future	\$800
Mark Drapa	Westford School Robotics	Westford, VT	FLL Jr. Pilot Program	\$800
Allan Miller	Charlotte Central School	Charlotte, VT	Coding in Three Dimensions	\$800
Stephen Farrington	Artchytas Education Corp.	Bethel, VT	Hands-On STEM Education Outreach	\$800
Karen McCalla	Rutland Area Robotics	Rutland, VT	Promoting Kids, Promoting STEM	\$690
Lori Boes	Roxbury Public and Twinfield Union Schools	Montpelier, VT	Capital Robotics FIRST Team #14251	\$800
Mike Cole	4-H Club of Manchester	Manchester, VT	Skystone	\$800
Thierry Uvillingiyimana	Winooski Middle and High School	Winooski, VT	Winooski FIRST Robotics Team	\$800
Andrew Rousseau	North Hero 4-H	North Hero, VT	Aluminum Avian Antics	\$800
Pike Porter	The Schoolhouse	South Burlington	The Schoolhouse Community Robotics Club	\$800
Benjamin Sevey	Milton High School	Milton, VT	Milton High School Robotics Team	\$800
Michelle LaFrancis	Spaulding High School	Spaulding, VT	Paving a Path to a Better Future	\$800
Faith James	VT Day School	Shelburne, VT	Inaugural FIRST LEGO League	\$800

## 2019 Small Equipment Grant Recipients

<b>Name</b>	<b>Organization</b>	<b>Location</b>	<b>Project Title</b>	<b>Award</b>
Amy Clapp	Salisbury Community School	Salisbury, VT	Tinker Crates – Keeping Engineering Alive	\$250
Sarah Kaltenbaugh	Academy School	Brattleboro, VT	Microscopes for Macro Learning	\$900
Charlotte Holmquist	Ripton School	Ripton, VT	Structure and Function of Organisms	\$495
Lisa Beshay	Windham Elementary School	Windham, VT	WES After School Robotics Club	\$900
Katie McDougall	Middlebury Union Middle School	Middlebury, VT	Pasco Probes for EcoZone Summative Assessment	\$900
Jessica Tetreault	North Country Supervisory Union	Newport, VT	The Wonders of Dash	\$900
Hilary Peck	Mount Anthony Union Middle School	Bennington, VT	8 <sup>th</sup> Grade Engineering Wind and Solar Kick Start	\$900
Randy Brown	Union 32 Middle and High School	Montpelier, VT	U-32 AI Self Driving Challenge	\$900
Allan Miller	Central Vermont School District	Williamstown, VT	Addressing the Lack of Analysis Skill – Using Pendants	\$900

## VASE budget for 2019-2020, and proposed budget for 2020-2021

					2019-2020 Budget	2019-2020 Actual	2020-2021 Budget
<b>Balance, fiscal year beginning June 1, 2019</b>						\$5,866	
<b>RECEIPTS</b>							
	Transfer from Technology Council				\$13,000	\$13,000	\$13,000
	Contributions from members				\$1,600	\$1,865	\$1,600
	Donation to HOST grant program				\$10,000	\$10,000	\$10,000
	Reimbursement of unused grant funds				\$0	\$0	\$0
	<b>Total Receipts</b>				<b>\$24,600</b>	<b>\$24,865</b>	<b>\$24,600</b>
<b>EXPENDITURES</b>							
	<b>Fall meeting and Public Forum</b>						
	Travel & accommodation for speaker				\$700	\$470	\$700
	Honarium to keynote speaker				\$500	\$0	\$500
	Catering				\$2,500	\$2,230	\$2,500
	Conference and Events charge				\$200	\$0	\$0
	New member certificate frames, etc				\$100	\$170	\$150
	<b>Science Teacher of the Year Award</b>						
	Two awards at \$1000 each				\$2,000	\$2,000	\$2,000
	Engraved plaques				\$200	\$175	\$180
	<b>Small Equipment Grants to K-12 Teachers</b>						
	9 total awards				\$8,000	\$7,045	\$8,000
	<b>Hands on Science &amp; Technology Grant Awards</b>						
	13 Total HOST Awards				\$10,000	\$10,290	\$10,000
	<b>VT STEM Fair Award</b>						
	cancelled due to COVID				\$100	\$0	\$100
	<b>Spring meeting expenses</b>						
	Cancelled due to COVID				\$800	\$0	\$700
	<b>Update of website</b>						
					\$0	\$2,000	\$500
	<b>Miscellaneous expenses (postage, bank costs, etc.)</b>						
					\$50	\$96	\$50
	<b>Total expenditures</b>				<b>\$25,150</b>	<b>\$24,476</b>	<b>\$25,380</b>
<b>BALANCE, fiscal year end</b>						<b>\$6,255</b>	