

## VASE ANNUAL REPORT FOR 2020-21

This was a most unusual year for VASE as it weathered the COVID-19 pandemic. COVID restrictions did not deter us from hosting the Fall Annual Meeting however, which took place on October 23<sup>rd</sup>, 2020 via Zoom. The meeting attracted a total of 114 attendees, including VASE members, honorees and their guests, students, and members of the general public. Grace Spatafora as VASE President introduced Dr. Mark Levine, Director of the Vermont Department of Health, as the keynote speaker. Dr. Levine delivered a timely talk entitled "" which was very well received and followed by a vigorous question and answer session.

VASE also welcomed seven new VASE members at this meeting: 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. The pandemic did require us to postpone the awarding of VASE's Teacher of the Year awards however, as all elementary, middle and high schools students throughout Vermont were forced to learn remotely.

VASE expanded its long-standing Small Equipment and HOST Grant programs to include a call for applications in both the fall of 2020 and the spring of 2021. The response to these grant announcements was overwhelmingly positive across the state. VASE is clearly fulfilling a need for its STEM educators and their students in both rural and urban settings throughout Vermont. 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, 2020 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

**Fall 2020 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        |

**Fall 2020 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        |

**Spring 2021 HOST Grant Recipients**

| <b>Name</b>             | <b>Organization</b>                        | <b>Location</b>  | <b>Project Title</b>                    | <b>Award</b> |
|-------------------------|--------------------------------------------|------------------|-----------------------------------------|--------------|
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| 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        |

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| <b>Name</b>         | <b>Organization</b>               | <b>Location</b>  | <b>Project Title</b>                                        | <b>Award</b> |
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| Amy Clapp           | Salisbury Community School        | Salisbury, VT    | Tinker Crates – Keeping Engineering Alive                   | \$250        |
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## VASE budget for 2020-2021, and proposed budget for 2021-2022

|                                             |                                                    |  |  |  | 2019-2020<br>Budget | 2019-2020<br>Actual | 2020-2021<br>Budget |
|---------------------------------------------|----------------------------------------------------|--|--|--|---------------------|---------------------|---------------------|
| Balance, fiscal year beginning June 1, 2019 |                                                    |  |  |  |                     | \$5,866             |                     |
| RECEIPTS                                    |                                                    |  |  |  |                     |                     |                     |
|                                             | 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                 |
|                                             | Total Receipts                                     |  |  |  | \$24,600            | \$24,865            | \$24,600            |
| EXPENDITURES                                |                                                    |  |  |  |                     |                     |                     |
|                                             | Fall meeting and Public Forum                      |  |  |  |                     |                     |                     |
|                                             | 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               |
|                                             | Science Teacher of the Year Award                  |  |  |  |                     |                     |                     |
|                                             | Two awards at \$1000 each                          |  |  |  | \$2,000             | \$2,000             | \$2,000             |
|                                             | Engraved plaques                                   |  |  |  | \$200               | \$175               | \$180               |
|                                             | Small Equipment Grants to K-12 Teachers            |  |  |  |                     |                     |                     |
|                                             | 9 total awards                                     |  |  |  | \$8,000             | \$7,045             | \$8,000             |
|                                             | Hands on Science & Technology Grant Awards         |  |  |  |                     |                     |                     |
|                                             | 13 Total HOST Awards                               |  |  |  | \$10,000            | \$10,290            | \$10,000            |
|                                             | VT STEM Fair Award                                 |  |  |  |                     |                     |                     |
|                                             | cancelled due to COVID                             |  |  |  | \$100               | \$0                 | \$100               |
|                                             | Spring meeting expenses                            |  |  |  |                     |                     |                     |
|                                             | Cancelled due to COVID                             |  |  |  | \$800               | \$0                 | \$700               |
|                                             | Update of website                                  |  |  |  | \$0                 | \$2,000             | \$500               |
|                                             | Miscellaneous expenses (postage, bank costs, etc.) |  |  |  | \$50                | \$96                | \$50                |
|                                             | Total expenditures                                 |  |  |  | \$25,150            | \$24,476            | \$25,380            |
| BALANCE, fiscal year end                    |                                                    |  |  |  |                     | \$6,255             |                     |