2019 Annual Report
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RESET - Raising Excitement for Science, Engineering, and Technology

*STEM Volunteers Inspiring Children Though Hands-On Learning*

*Cover Photo: A kindergarten student in RESET Volunteer Amber Fandel’s optics session at Barrett Elementary School in Arlington, Virginia.*
Reflecting Upon 2019

A Message from RESET’s Executive Director

Creativity and innovation are key to the way Science, Technology, Engineering and Math (STEM) are presented to students in schools today. In 2019 those qualities also guided RESET as we looked anew for ways to reach more children with hands-on STEM learning. For decades RESET volunteers have led programs in elementary and middle school classrooms during the school year. This year showed robust growth in newer non-traditional learning environments – summer programs, STEM events, and weekend sessions for Girl Scouts. These programs not only increase the number of children RESET is able to inspire, but help with recruitment of STEM volunteers who have work schedules that conflict with traditional school-day programs. Because of these innovative approaches, RESET was able to reach more students in 2019 than ever before in its 31-year history.

I am deeply grateful to the hundreds of STEM professionals who share their time, expertise and enthusiasm with this new generation that will lead us into a STEM-imbued future. I also thank the Principals, teachers and community leaders who welcome our volunteers to work with their children, our Board of Directors for their guidance and direction, and RESET staff who made our record-setting year possible.

- Keith Osterhage

RESET is a volunteer organization of science, technology, engineering, and math (STEM) professionals whose mission is to motivate children to discover and explore the worlds of science and math, and to encourage them to consider education and career choices in related fields.
Volunteer Bill Mitchell

**Putting Creativity in Computer Science**

“How do you eat an elephant?” is Bill Mitchell’s opening line for one of his classroom sessions. Eying the bemused looks on his student’s faces, he says “one bite at a time.” He then explains that “one bite at a time” is the way they will approach the animation software lesson for the day – steps that include selecting and introducing virtual pets on their laptops, and then animating, feeding, watering and making them talk. As the students work on these tasks, he wanders through the classroom looking at their screens, commenting “I love the creativity, guys!”

Bill is a volunteer at Fairhill Elementary School in Fairfax, Virginia. As his students activate their on-screen unicorns, monkeys and other pets, sixth grade teachers Jessica Gannon and Margaret Albertson and Fairhill’s School-Based Technology Specialist Stephen Giese, are also actively engaged with the students. The virtual pet lesson is midway through Bill’s twelve-session fall computer science program with two classes of sixth graders, who join together in the library for his weekly visits. He is leading another program this spring so that all Fairhill sixth graders have the opportunity to experience the program.

Bill hails from western Canada. He studied computer science and artificial intelligence at British Columbia’s Simon Fraser University and, after working in Montréal and California, is now at PublicRelay.com in Tyson’s Corner, Virginia. He became interested in volunteering when he met RESET’s Shaheen Khurana at a Tech Talk in Reston, a monthly meeting where computer professionals meet and share ideas. He likes working with children because of their excitement when they learn to do things...
themselves. His goal is to make them competitive in their future world of work. Bill says, “I want to take the fear of complexity of computers out of kids – and to get to them early.” He cited his relevant personal background, having worked with his daughter ten years ago on making stop-motion animation using Scratch. At Fairhill he also uses Scratch, a popular software in today’s elementary schools. Bill has also volunteered at local libraries and with Scouting organizations as part of the “Hour of Code” program.

Commenting on Bill’s program, Technology Specialist Giese says that it’s great to have an outsider from the computer industry show the students “how what they do connects with their jobs in the future.” He explains that Bill also reinforces Fairhill’s participation in the nationwide Positivity Project, which each week emphasizes a different character trait for the school community; examples are open-mindedness, curiosity, and teamwork/citizenship.

RESET has had programs at Fairhill for two years, since RESET advocate Courtney Korb was appointed as Assistant Principal. In her previous assignment Courtney had hosted RESET programs at Camelot Elementary School. While there she reported “There was such positive feedback last year; we would love to be involved with RESET again.”

Bill acknowledges that it has taken a lot of time to develop the lessons and slide presentations for his program. He is willing to share the lesson plans and materials with any others who may consider volunteering to bring the program to other students. Please contact reset@resetonline.org if you are interested.

Students share their pet animation ideas
RESET Program Data

As STEM grows ever more important in today’s economy and culture, community institutions outside of schools are seeking ways to include relevant content in programs for youth. This provides new avenues for RESET to reach children with hands-on STEM learning, and 2019 showed significant growth in RESET activity in summer schools, Girl Scout sessions, and at community events. The number of young participants in those RESET programs grew from 254 in 2018 to 1299 in 2019. Students enrolled in RESET classroom programs during school year 2018/19 reflected a slight increase over the previous year. RESET reached a total of 3,347 children in 2019. The graph below shows RESET growth over a five-year period.

Number of Children Reached

- Classroom Programs
- Girl Scout Programs
- Summer Programs
- STEM Events

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Student Assessment Results

To measure RESET’s effectiveness in achieving its goal of sparking children’s enthusiasm for STEM, RESET surveys students who have completed a program. The survey instrument measures attitudes towards science learning and uses questions developed by the National Center for Education Statistics (NCES) in preparing The Nation’s Report Card. With these metrics RESET can compare the responses of students in our programs with those of students nationwide who completed the NCES assessment.

RESET received 323 responses to its Student Assessment Questionnaire in school year 2018/19. The data below show RESET’s positive impact on students compared with responses of students nationwide.

<table>
<thead>
<tr>
<th>How much do you like studying science?</th>
<th>Nationwide Results</th>
<th>RESET Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Little or Some</td>
<td>41%</td>
<td>20%</td>
</tr>
<tr>
<td>Very Much or Quite a Bit</td>
<td>59%</td>
<td>80%</td>
</tr>
</tbody>
</table>

RESET asks several additional questions. The results below show the positive impact RESET volunteers have on student attitudes toward STEM.

How did you like the science classes that you had with your science visitor?

- Very Much: 82%
- Quite a Bit: 11%
- Some: 6%
- Very Little: 1%
Student Assessment Results (continued)

Did having your science visitor in your classroom change the way you feel about science?

- 75% I like it more
- 22% I like it the same
- 3% I like it less
Operating Expense Report

In Fiscal Year 2019 RESET received $187,673 in financial contributions through grants and individual contributions and incurred $172,456 in expenses, resulting in an increase of $15,217 in net assets.

RESET continues to keep our administrative and management costs at a modest level, investing a high percentage of the operating budget in the delivery of programs. Because our volunteers donate their time and expertise and community partners provide help, the impact of donations to RESET is amplified to support our mission.

RESET expenses include program operations staffing, classroom skills training, field trips, classroom materials, fundraising, communications and liability insurance.
RESET Schools and Community Partners

RESET is grateful to our partner schools and community service organizations that help us deliver hands-on STEM learning to children.

District of Columbia

Amidon-Bowen Elementary—Ward 6
DC Prep Anacostia Campus—Ward 8
DC Prep Benning Campus—Ward 7
DC Prep Edgewood Campus—Ward 5
Excel Academy—Ward 8
Harmony Public Charter—Ward 5
John W. Ross Elementary—Ward 2
JC Nalle Elementary—Ward 7
Lawrence E. Boone Elementary—Ward 8
Martha’s Table—Ward 8
Payne Elementary—Ward 6
Shaw Center City Public Charter—Ward 6
Whittier Educational Campus—Ward 4

Maryland

Annapolis Elementary
Cashell Elementary
Cannon Road Elementary
Captain James Daly Elementary
Clopper Mill Elementary
Dunloggin Middle School
High Bridge Elementary
Girl Scouts of America – Montgomery County
Oak View Elementary
Sligo Creek Elementary
South Lake Elementary
Summit Hall Elementary
Waugh Chapel Elementary
Wheaton Woods Elementary

Virginia

Barrett Elementary
Bren Mar Park Elementary
Buckland Mills Elementary
Camelot Elementary

Volunteer Marya Sabir presents Shaw School Patrick Ashton with RESET’s Student of the Year Award
Churchill Road Elementary
Creighton Corner Elementary
Cora Kelly Elementary
Crestwood Elementary
Drew Model School
Ellis Elementary
Fairhill Elementary
Ferdinand T. Day Elementary
Forest Grove Elementary
Girl Scouts of America – Alexandria
Girl Scouts of America - Ashburn
Girl Scouts of America – Reston
Glebe Elementary
Hoffman-Boston Elementary
Horizon Elementary
INMED Partnerships for Children
Jefferson-Houston Elementary
Kings Glen Elementary
Landmark Science Club
Liberty Elementary
Moorefield Station Elementary
Northern Virginia Family Service
Stratford Landing Elementary
Sugarland Elementary
Volunteer Sarbari Gupta

“These are good fields for women and those from disadvantaged families. Helping them onto a STEM Pathway makes sense.”

As she prepared to lead a computer science lesson, RESET Volunteer Sarbari Gupta explained that this session would differ from her previous visits because it would not involve the use of computers. The topic for that day was algorithms. The children were to develop a step-by-step set of directions – a non-digital exercise in logic preparatory to coding a computer program. In this case, the sequence of steps the children were to identify would be like those used to program a robot. Before the students arrived, Sarbari had marked a pathway on the floor with masking tape. When the lesson began, the children were broken into teams; one child on each team was blindfolded and led to the starting point of the course laid out on the floor. The other teammates then directed the unseeing student along the pathway using only spoken instructions: turn left, turn right or go forward. Students each had a turn being blindfolded and following the guidance from their teammates. Sarbari had wanted the children to be active and have fun as they learned about algorithms. That was certainly the case as the team members jumped up and down in excitement while shouting out their instructions.

This "unplugged" lesson was one in a series included in Sarbari’s program at INMED’s Partnerships for Children in Loudoun County, Virginia. INMED has been a RESET partner for two years, hosting computer science volunteers in its after-school program for children. Their mission is to build pathways that enable vulnerable children, families and communities to achieve well-being and self-reliance. At the Family & Youth Opportunity Center, the after-school program site, INMED’s goal is to help at-risk children get a healthy start in life and provide them opportunities to achieve academically and socially. RESET volunteers help with this goal by providing hands-on computer science programs and connecting the children to professionals who have chosen career pathways in related fields. INMED’s Youth Education Services/Volunteer Coordinator Yahaira Hanon values Sarbari’s contribution: “We really appreciate Dr. Sarbari's volunteer work; the kids love and enjoy her class.”

Sarbari is Chief Executive Officer of Electrosoft Services, a Reston, Virginia company.
that focuses on cybersecurity, software and information technology, with clients that include the U.S. Army and Navy. Her educational background includes a degree in Electronic and Electrical Communication Engineering from the Indian Institute of Technology in Kharagpur, and masters and doctoral degrees in Electrical Engineering from the University of Maryland. Sarbari met RESET’s Shaheen Khurana through code.org, a nonprofit dedicated to expanding access to computer science in schools and increasing participation by women and underrepresented minorities. While raising her two daughters Sarbari ensured they were aware of options in STEM fields. With her children now grown, Sarbari volunteers for RESET because she wants to inspire other children, especially girls and those from disadvantaged backgrounds, to explore information technology. She also volunteers as a mentor for Women in Technology and an instructor for code.org.

When asked how she finds the time for volunteering while serving as the CEO of Electrosoft, Sarbari says that she makes it work because giving back to the community is a priority for her. She explains that Shaheen Khurana helps by providing the content for her computer science program, which would otherwise be a time-intensive endeavor. Sarbari thinks RESET can attract more volunteers with demanding jobs by providing content in other STEM fields as well.
RESET Volunteers

Jonathan Abramowitz
Isabel Alexandra
Kaylea Algire
James Henry Alstrum-Acevedo
Tara Altman
Wilfred Amisiial
Raul Arenas
Rebecca Arruda
Thomas Artman
Jana Austin
Nick Balanda
Samantha Ballinger
AnuOlu Balogun
Emily Behrman
Nicole Bills
Rachel Bittner
Cody Bolling
Kristin Branson
Marcus Cajuste
Marquis Chapman
Charles Cisneros
Brandon Cole
Brian Coleman
Paola Correa
Elise Croteau-Chonka
Christopher Dolce
Mike Economo
Rojan Egnor
Mina Ekramnia
Anne Erickson
Chigozie Erondu
Isabel Espinosa-Medina
Amber Fandel
Dylan Fitzgerald
Greg Fleishman
LaShawn Fortune
Claire Gao
Justin Geffrey
Ramit Ghosh
Mike Goldstein
Eric Greenlee
Sarbani Gupta
Shobhit Gupta
Arthur Hall
Jessica Han
Sarah Hebert
Sandra Hernandez Hangarter

Jenny Hsin
Casey Hummeldorf
Sean Hunter
Tom Ilich
Sara Inglis
Nikita Israni
Rajani Joglekar
Rebecca Jonas
Ujwala Joshi
Jennifer Kane
Amrit Khalsa
Shaheen Khurana
David Klinges
Andrew Kubiak
Briana Kulisch
Jonte Lee
Patrick Lee
Stephen Leete
Yingquan Li
Kevin Lin
Brandon Long
Clara Long
Fonya Long
Kit Longden
Joe Mait
Curtis Mayes
Briana McClain
John McDermott
Joe McDonald
Monti Mercer
Rebecca Mickol
Bill Mitchell
Nina Mortazavi
Lukasz Oleninski
Tess Oram
Cecilia Ortega
Adeoye Owolewa
Alexis Pacheco
Gaby Paez
Goral Pahuja
Bashir Partovi
Nitin (Kumar) Patel
Cynthia Peacock
Jessica Pedersen
Mike Perkins
Minh Phan
Wendye Quaye
Ben Rahimi

Nadine Randel
Catherine Rastowsky
Allie Reichart
Alice Robie
Terrell Robinson
Lexi Rubin
Bobby Rushing
Ashley Russell
Lizma Saeed
Marya Sabir
Ajmeeta Sangtani
Harkiran Singh
Pedro Santos
Katie Schretter
Josh Sciurba
Nuttiiya Seekhao
Charles Shedrick
Harold Smith
Hallee Soderholm
Peter Sowa
Halvi Spence
Sanjay Sreekumar
Gwen Tervo
Rachitha Tolasi
William Thomson
Jordan Towne
Rebecca Trinklein
Cheng-Yuan Tseng
Sharaya Tulpulse
Dan Turner-Evans
Juan Valentint
Sarada Viswanathan
Andy Vo
Katie Vollmer
Chen Wang
Monique Watts
Laureen Weeden
Andrea Wellington
Nathaniel Wiehe
Oscar Wiygul
Ann Williams
Zhou Yu
Dah-Wei Yuan
James Zhang
Art Zhao
Qinsi Zheng
RESET partners with government, private sector and non-profit organizations that provide teams of volunteers to deliver RESET programs:

- Curiologie in the Classroom
- The Environmental Protection Agency
- General Dynamics
- The Howard Hughes Medical Institute
- The National Oceanic Atmospheric Administration
- The U.S. Patent & Trademark Office
RESET Remembers Teacher Kelly Chapman

April 27, 1983-October 28, 2019

RESET’s John Meagher remembers a conversation with Stratford Landing Elementary School’s Assistant Principal Shirley Shannon about which teacher she would recommend for a RESET program. Without hesitating Ms. Shannon recommended Ms. Chapman because she was an innovative teacher who loved science. Ms. Chapman showed an enthusiasm for the experiments that spread to her second-grade students. Her favorite lesson was raising tadpoles in her classroom; when their legs emerged, she reported that her students asked if they might hop around the classroom at night.

John said “Kelly Chapman actively participated in the lessons and went from table to table to help the students. She was the kind of teacher that makes sure her students got the most out of what RESET offers.”

“I cannot thank you enough for enriching our curriculum, bringing excitement to every Thursday, and bringing science to life for them in ways I could have never dreamed of. It has been such a pleasure to work with you and such a joy to watch my second-grade scientists fully engaged. I can only hope that we are able to continue this partnership and to bring the joy, fun, and excitement of science to as many kids as possible.”

- Teacher Kelly Chapman, Stratford Landing Elementary
RESET Program Support

RESET's income from Community and Family Foundations and Corporations grew in 2018. Increased funding enabled RESET to expand to new locales, establish more partnerships with schools and community organizations, improve volunteer classroom skills, and expand classroom content, including in the computer science program.

RESET is grateful for the generous financial support it receives from corporations, community & family foundations, and individual donors.

**Community and Family Foundations**

- Boothe Family Fund
- Business Women’s Giving Circle of the Community Foundation for Northern Virginia
- The Max and Victoria Dreyfus Foundation
- Morris and Gwendolyn Cafritz Foundation
- Dimick Foundation
- Max and Victoria Dreyfus Foundation
- Elkes Foundation
- John Edward Fowler Memorial Foundation
- Marilyn T. and David R. Heebner Foundation, Inc.
Community and Family Foundations (Continued)

- Matthew Korn and Cynthia Miller Family Foundation
- Richard E. and Nancy P. Marriott Foundation
- Mufson Family Foundation
- Luther I. Repogle Foundation
- Silicon Valley Community Foundation
- Hattie M. Strong Foundation

Corporations

- American Airlines
- Northrop Grumman
- SRC, Inc.
- Virtru Corporation

In-Kind Support

- Living Classrooms (cost sharing for science cruise field trips)
RESET Board and Staff

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• Jon Simon, Mathematics Professor Emeritus, Potomac, MD
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• John Meagher, Communications, johnmeagh@gmail.com
• Helen Nelson, Certified Public Accountant, hnelsoncpa@gmail.com
Seated: Lew Mendelson; Standing from left: Susan Hesser, Ramiro Ramirez-Valdez, Katie Vollmer, John Meagher, Salim Adogo, Jon Simon, Adeoye Owolewa, Keith Osterhage