



Where intellect and innovation converge for students

2015 ANNUAL REPORT



An Investment in Virginia's Future

May 2016

Letter from Leadership

Dear Friends,

Thank you for your steadfast support. We feel privileged to provide another year of service to Virginia's young scholars. The mission of the Virginia STEAM Academy is to nurture future generations of creative, ethical, and imaginative STEAM leaders who understand and integrate the humanities into their full development. We have made great strides and continue to seek opportunities to expand statewide through strategic partnerships.

In our second annual report, we capture our successes and our next steps. For example,

- We welcomed to the Board of Directors Jim Cheng, secretary of commerce and trade for the Commonwealth of Virginia from January 2010 to January 2014; Louise Epstein, board member and past president of the Fairfax County Association for the Gifted (FCAG); and Troy Siemers, head of Virginia Military Institute's Applied Mathematics Department.
- We established the Parent Advisory Council with more than 100 Summer STEAM Ambassador parents statewide.
- We matched the state's resources (\$400,000 from inception) with private sector cash and in-kind contributions.
- We welcomed new partners: Chrysler Museum of Art, Harrisonburg Regional Housing and Development Authority, and cyber risk management company Sera-Brynn. Virginia STEAM Academy now has six official university partners (Virginia Tech; College of William and Mary, School of Education; Old Dominion University; Virginia Military Institute; Norfolk State University; and Radford University), six science and engineering partners (NASA Langley; Thomas Jefferson National Accelerator Facility; National Institute of Aerospace; Virginia Modeling Analysis and Simulation Center; Peninsula Technology Incubator; and Hampton Roads Sanitation District); one health systems partner, Riverside Health System; one arts partner, Chrysler Museum of Art; one regional housing and development authority partner, Harrisonburg Regional Housing and Development Authority; one cyber risk management partner, Sera-Brynn, and other collaborators.
- We co-authored a chapter with College of William and Mary, School of Education Associate Professor Christopher Gareis in the recently released book, *STEM Education for High-ability Learners*. The edited book is co-published with the National Association for Gifted Children and Prufrock Press.
- We administered 100 American Mathematics Competition 8 (AMC 8) test booklets to Suffolk and Norfolk public school students, a previously underserved area, and one homeschool student.
- We were selected as one of the Virginia Mathematics and Science Coalition's 2016 Programs that Work awardees for Summer STEAM, our signature summer academy intended to inspire and expose rising 6th-8th grade young scholars across the Commonwealth to STEAM content, applied learning, and leadership development.
- We are providing mentorship opportunities to two Virginia STEAM Academy alumni through the National Institute of Aerospace.
- We are preparing to pilot our online learning module (March 2016) and host our first professional development symposium (March 2016) in collaboration with Science Museum of Virginia, University of Richmond Museums, and Partners in the Arts.

We have much to share in the following pages. Before we advance, we want to thank Co-founder and first Board Chair Caroline Martin for her exemplary contributions of time, talent, and treasure.

This is an exciting time for Virginia STEAM Academy. We look forward to and thank you for your continued support.

Sincerely,



M. Caroline Martin,
Co-founder and
Past Board Chair



Jack Ezzell, Board
Chair (Elected
December 2015)



Judy Stewart
Co-founder,
President & CEO



CURRICULUM, INSTRUCTION, ASSESSMENT & FACULTY

With a generous grant from the Lewis Family and significant in-kind support from Newport News Shipbuilding, Virginia STEAM Academy commissioned a report synthesizing the design of the Academy's curriculum, instruction, assessment, faculty and institutional policies and procedures. The final report includes the recommendations of the Virginia STEAM Academy Standards Setting Panel, Business Leaders Roundtable and Teaching, Learning and Faculty subcommittee. The report showcases the Academy's Student Excellence Portfolio© and Virginia STEAM Academy Development DNA©; provides illustrations of trans-disciplinary learning across STEAM, arts and humanities disciplines and service opportunities; outlines and integrates the Lewis Family Business and Entrepreneurship curriculum; and aligns all work with AdvancEd accreditation criteria and international benchmarks.

The report includes a number of intriguing elements, such as a commitment to culminating projects that demonstrate STEAM-related outcomes, integration of the arts in the STEAM offerings, value for service learning, a required sequence in business, finance, and innovation, application of international and personal standards of excellence, emphasis on self-reflection, and the habits of mind to sustain joyful learning for a lifetime.

Going forward, the Virginia STEAM Academy Leadership Team, including the Chief Academic Officer and lead teachers, will flesh out the design, delivery, measurement and continuous improvement process for a living curriculum, instruction, and assessment handbook, course catalogue, and graduation requirements.

To see more highlights of Virginia STEAM Academy's statewide presence and impact, go to page 4.

Virginia STEAM Academy Receives 2016 Programs that Work Award

In November, Virginia STEAM Academy was nominated for the Virginia Mathematics and Science Coalition's 2016 Programs that Work Award. In January, 2016, Virginia STEAM Academy received the good news that it had been selected as one of the Coalition's 2016 awardees. Virginia STEAM Academy was recognized along with other awardees on Tuesday, January 19 at the Library of Virginia in Richmond, VA. Virginia STEAM Academy extends special thanks to Founding Parent Advisory Council Member Cheryl Coghlan for nominating Virginia STEAM Academy, Elizabeth Hobson for conducting the Summer STEAM evaluations, and Hampton Roads Sanitation District General Manager Ted Henifin and Community Educator Sarah Crawford, and Summer STEAM 2015 Math Modeling instructors Linnea Haase and Olimpia Stein for writing letters of support. Wonders of Water, superbly designed and delivered by Hampton Roads Sanitation District, in collaboration with Elizabeth River Project and Chesapeake Bay Foundation, was the Academy's spotlighted course.



Pictured here from L to R are Board Chair Jack Ezzell, Governor Terry McAuliffe, Co-founder, President & CEO Judy Stewart, and Hampton Roads Sanitation Engineer Community Educator Sarah Crawford.

PARENT ADVISORY COUNCIL

Virginia STEAM Academy recognizes the essential contributions of parents and families to the Academy's design, delivery, measurement, and continuous improvement. As such, the Virginia STEAM Academy has established Parent Advisory councils which will further the Academy's mission to nurture future generations of creative, ethical, and imaginative STEAM leaders who understand and integrate the humanities into their full development.

The primary purpose of the Parent Advisory Council is to inform and be informed by the Virginia STEAM Academy Board of Directors.

Council members have the following three key roles:

- (1) Increase awareness and interest in Summer STEAM, Virginia STEAM Academy's signature summer offering for rising 6th-8th grade with prospective students, families, schools, and community agencies in their respective region.
- (2) Serve as advocates and ambassadors for the breadth of Virginia STEAM Academy, Inc.'s initiatives with prospective parents, educators, business, science and engineering, arts and humanities, and other community leaders, military, local and state elected officials.
- (3) Be active with the Academy's financial and human capital sustainability.

Virginia STEAM Academy Summer STEAM Ambassador parents and eventually Virginia STEAM Academy boarding high school and online parents will be invited to become members of the Parent Advisory Council. When fully operational, the goal is to have a Parent Advisory Council located in each of the state's eight school regions. Each Council will work to represent all districts within its region.

Council members are encouraged to serve a term of two years. However, there is no required minimum or maximum term of service. Any Summer STEAM Ambassador parent is invited and welcome to serve indefinitely.



"While we live in Fairfax County, an area that offers access to various resources in STEAM subjects, no other educational experience has motivated, inspired, and energized our middle school-aged daughter as much as her summer experience through VA STEAM. Only in this public and residential environment was our daughter able to meet and work with such a diversity of students and develop meaningful relationships with other STEAM-interested girls in our home state. [Our daughter] came home enthusiastically looking forward to returning to VA STEAM whether in future summers or, ultimately, as a high school student at VA STEAM's preferred site of Fort Monroe."

- Tricia Su and John Moy, Summer STEAM Parents, Northern Virginia



PAY IT FORWARD

Adventures of the Mind

This summer, Adventures of the Mind sponsored three Summer STEAM Citizen Leaders at its prestigious, weeklong summit on the campus of Rosemont College, Philadelphia. Summer STEAM 2013 Ambassadors and 2014 Citizen Leaders Alana Coghlan (Chesapeake Public Schools), Saket Bikmal (Fairfax County Public Schools) and Victoria Mulvihill (Chesterfield County Public Schools) met with intellectual peers from around the nation and world. They interacted with adult mentors who have done things most of us only dream about – dig up dinosaurs, unlock the mysteries of medicine, receive a MacArthur, Nobel, or Pulitzer prize, or write computer code that is used by billions of people. Citizen Leaders Alana, Saket, and Victoria debriefed with Virginia STEAM Academy leadership on their experience. Their feedback will help inform partnership exploration between Virginia STEAM Academy and Adventures of the Mind. Adventures of the Mind is often referred to as the “Ted Talk for Teens.”

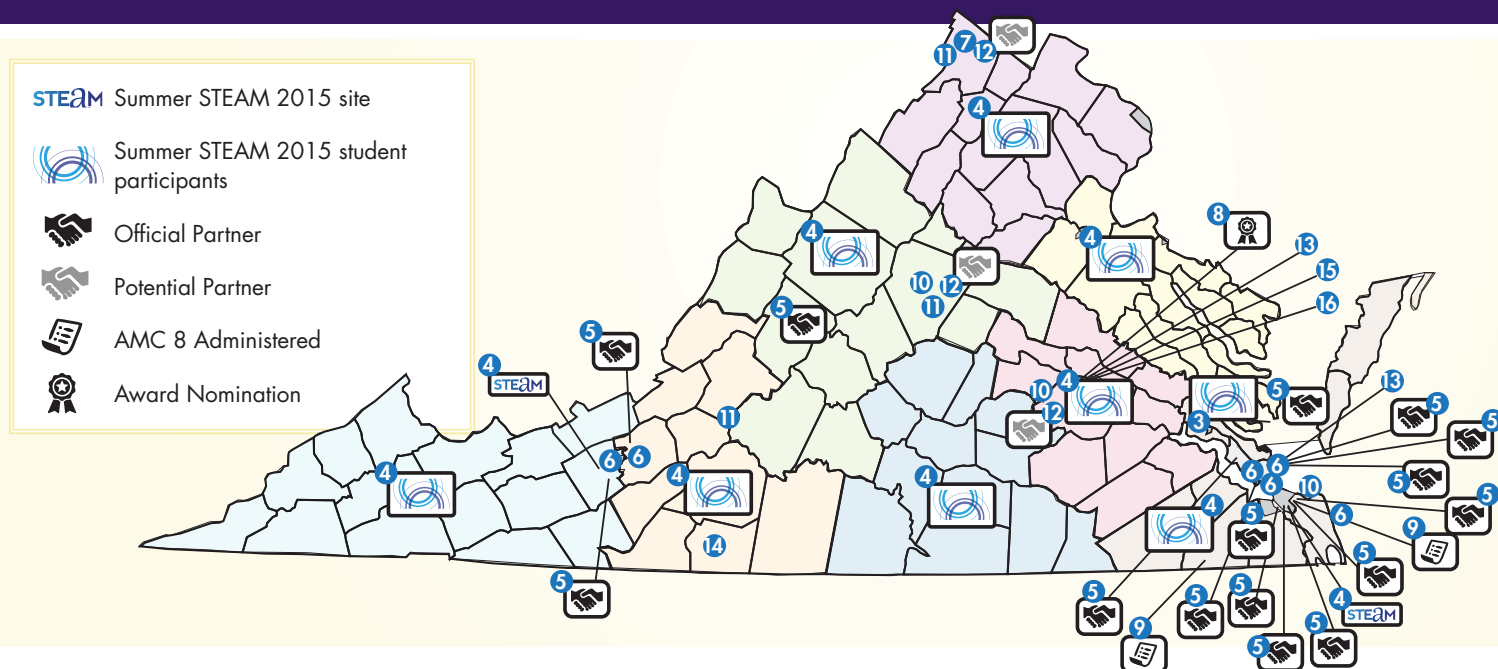


“Thank you for such a fantastic program! My daughter is still talking about the week at ODU and how awesome it was. And she’s going to meet up with some girls that she met at camp in 2 weeks when we go to northern Virginia. Nice connections made along with learning!”

– Mrs. Elizabeth Schlatter, Summer STEAM Parent, Richmond

HIGHLIGHTS FROM PERIOD JULY 1, 2015 - DECEMBER 31, 2015 UNLESS OTHERWISE NOTED

Virginia STEAM Academy's mission is to develop future generations of creative, ethical, and imaginative STEAM leaders who understand and integrate the humanities into their full development. Since inception, the Virginia STEAM Academy has sought, through effective public-private partnership, to coordinate services, share information, and inspire and expose students, teachers, and administrators to STEAM-enrichment opportunities throughout the Commonwealth. Below are examples of how Virginia STEAM Academy partnered with Virginia corridors of excellence from July 1, 2015 – December 31, 2015 unless otherwise noted.



- 1 Matched the state's resources (\$400,000 from inception) with private sector cash and in-kind contributions.
- 2 Profiled student ambassadors who pay forward their Virginia STEAM Academy experience. Early profiled ambassadors hail from Norfolk, Chesapeake, Fairfax County, Chesterfield County, and Winchester Public Schools.
- 3 Co-authored a chapter with College of William and Mary, School of Education Associate Professor Christopher Gareis in the recently released book, *STEM Education for High-ability Learners*. The edited book is co-published with the National Association for Gifted Children and Prufrock Press.
- 4 Served more than 130 students at Summer STEAM 2015, including nine, 9th grade Citizen Leader Ambassadors. (Have served more than 300 students since hosting inaugural Summer STEAM in 2013.) Students represented every region in the Commonwealth. For those young scholars Virginia STEAM Academy could not serve, Virginia STEAM Academy provided a list of statewide summer STEAM-enrichment programs, many of which were offered by Virginia STEAM Academy partners.
- 5 Since inception, secured six official **university** partners: College of William and Mary, School of Education; Virginia Polytechnic Institute and State University; Old Dominion University; Virginia Military Institute; Norfolk State University; and Radford University; six **science and engineering** partners: NASA Langley Research Center; Thomas Jefferson National Accelerator Facility; National Institute of Aerospace; Virginia Modeling, Analysis and Simulation Center; Hampton Roads Sanitation District; and Peninsula Technology Incubator; one **health system** partner: Riverside Health System; one **arts** partner: Chrysler Museum of Art; and one **cyber risk management** partner: Sera-Brynn. Each partner supports curriculum design and delivery, research mentorship, and joint funding pursuit where there is mission match.
- 6 Offered several highly popular Summer STEAM courses, including for two consecutive years, Rockets, Ships and the Material Science Behind. This course was team taught by NASA Langley and Newport News Shipbuilding engineers and scientists; Math Modeling and Math Reasoning taught by Virginia public school teachers; Wonders of Water, a water conservation and restoration course taught by Hampton Roads



Sanitation District; Agricultural Life Sciences Quest taught by Virginia Tech faculty; Mathematical Patterns in Nature taught by Old Dominion University faculty; Cyber Security and Nanoscience taught by Radford University faculty; Computer Engineering with Christopher Newport University faculty; and Entrepreneurship with Peninsula Technology Incubator and, separately, Virginia Tech Pamplin College of Business, the Pamplin Business Leadership Center, and the Apex Systems Center for Innovation and Entrepreneurship. Past course offerings include Physics, taught by Virginia public school teachers and Thomas Jefferson National Accelerator Facility; Encryption, taught by Virginia Modeling, Analysis and Simulation Center; Forensic Anthropology, Bioarcheology and Forensic Science, taught by Radford University faculty.

- 7 Presented the vision for the Virginia STEAM Academy to approximately 15 thought leaders in the Winchester region. Senator Jill Vogel gave opening remarks along with Dean Miles Davis, Shenandoah University Harry F. Byrd, Jr. School of Business. A local Citizen Leader spoke of her experience at Summer STEAM. The focus of the meeting was on the value of leveraging Winchester's corridor of excellence for statewide STEAM talent development.
- 8 Selected as one of the Virginia Mathematics and Science Coalition's 2016 Programs that Work awardees. The award spotlights Virginia STEAM Academy's signature Summer STEAM program and specifically its 2015 course H2WoW: Wonders of Water delivered by Hampton Roads Sanitation District (HRSD). HRSD lead instructor and two Summer STEAM 2014-2015 instructors and public school teachers provided letters of support.
- 9 Administered 100 American Mathematics Competition 8 (AMC 8) test booklets to Suffolk and Norfolk public school students and a homeschool student. Three years' worth of Summer STEAM student application data show Northern Virginia students take the AMC 8 at a significantly higher rate than others applying to Summer STEAM. According to the Mathematical Association of America (MAA) website, more than 50 schools host the AMC 8 in Northern Virginia compared to zero on the Southside of Hampton Roads. MAA reports that the AMC 8, 10, and 12 are America's longest-running and most prestigious mathematics competitions. Each year over 350,000 students in roughly 6,000 schools participate in the MAA AMC contests. More and more colleges are considering students' AMC scores as part of

their admissions review process. Students who take the AMC 8 get a head start in preparing for the AMC 10 and 12. Survey results from Virginia STEAM Academy's local school points of contact will inform understanding of student readiness, interest and future outreach through the Academy's statewide Parent Advisory councils.

- 10 Networked at numerous symposia, including the Virginia Chamber of Commerce Forum on Transportation and Trade, Norfolk; Virginia Chamber of Commerce Forum on Workforce Development, Richmond; and Virginia Partnership for Out of School Time, Charlottesville.
- 11 Co-designing Summer STEAM 2016's Girls Only Session with a Summer STEAM Citizen Leader. Contributing faculty hail from Shenandoah University, University of Virginia, and Hollins University. Summer STEAM 2016 sessions are slated for Old Dominion University, Washington & Lee University in collaboration with Virginia Military Institute, and Shenandoah University.
- 12 Actively exploring partnership opportunities with Shenandoah University, University of Virginia School of Engineering and Applied Sciences, and Science Museum of Virginia.
- 13 Providing mentorship opportunities to two Virginia STEAM Academy alumni through the National Institute of Aerospace. Mentees are researching NASA Langley's 100 greatest achievements from a Generation Z perspective, scripting the selected radio spots, and providing voiceover. Preparing a second mentorship opportunity through the Science Museum of Virginia. Mentee will train and deliver science demonstrations at a Hampton Roads-area library.
- 14 Preparing to launch a pilot online learning module based on the Math Reasoning Readiness Challenge questions generously developed by Summer STEAM 2013-2015 instructor and master math teacher, and outstanding Summer STEAM ambassadors. Henry County Public Schools will field test the pilot online module.
- 15 Designing a spring professional development symposium at the Science Museum of Virginia in collaboration with Nancy Davies, founding head, Orchard House, Richmond; Science Museum of Virginia; University of Richmond Museums; Partners in the Arts, University of Richmond; Professor Caren Diefenderfer, Hollins University; and Rebecca Zook, New York Times-recognized and Virginia-based math tutor.
- 16 Repeating Reunion Day in Richmond where Summer STEAM students and parents meet with their delegates, senators, and education and finance committee members.





Still to Come...

ONLINE LEARNING PILOT

With generous in-kind film and production support by Analytical Mechanics Associates, Virginia STEAM Academy captured Summer STEAM students discussing their strategies for solving complex math problems developed by master math teacher Mr. Vern Williams (Fairfax County Public Schools and Summer STEAM Instructor 2013-2015). The pilot module will be provided to Henry County Public Schools for field testing.

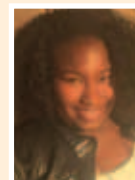
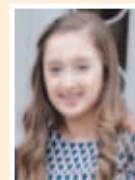
MENTOR MATCH

Virginia STEAM Academy's oldest Summer STEAM Ambassadors are now 10th graders. Many are looking for mentor opportunities that will strengthen their technical and leadership skills. Virginia STEAM Academy is being very thoughtful in its proposed mentor-match offerings. Virginia STEAM Academy will assess effectiveness with a small group of Ambassadors and expand as appropriate.

National Institute of Aerospace is working with two Summer STEAM Ambassadors to research NASA Langley's 100 most significant contributions from a Generation Z perspective, under the mentorship of Innovation Now Program Manager Becky Jaramillo.

Citizen Leader Alana Coghlan (Chesapeake Public Schools) is co-designing the Virginia STEAM Academy's first girls-only Summer STEAM session at Shenandoah University.

Citizen Leaders Saket Bikmal and Aneesh Kotnana (Fairfax County Public Schools) under the guidance of master math teacher Mr. Vern Williams developed original math problems to supplement Virginia STEAM Academy's pilot online learning module.



Student Ambassadors Becca Russell ('13, '14, and Citizen Leader '15, Rockbridge County Public Schools), and Soraya Byrdsong ('15, Henrico County Public Schools)



PROFESSIONAL DEVELOPMENT

Virginia STEAM Academy's inaugural professional development symposium is being designed in collaboration with Nancy Davies, founding head, Orchard House, Richmond; Science Museum of Virginia; University of Richmond Museums; Partners in the Arts; Professor Caren Diefenderfer, Hollins University; and Rebecca Zook, New York Times-recognized and Virginia-based math tutor. The interactive, fast-paced symposium will be held Tuesday, March 22, 2016 at the Science Museum of Virginia in Richmond. It will focus on strategies and research to ignite student engagement and success in math.

BOARDING HIGH SCHOOL

After careful consideration, the Board of Directors has determined to build upon the success of and support for Virginia STEAM Academy's signature summer program, Summer STEAM. With additional funds, Virginia STEAM Academy will enhance Summer STEAM, add non-residential, multi-week math boot camps, strengthen its mentor-match offerings, and expand its online and professional development offerings. The success of these programs and services, coupled with advocacy by students, parents, educators, and businesses in Virginia STEAM Academy school-community corridors of excellence, will help make the case for a single-site, statewide STEAM-focused boarding high school.

SUMMER STEAM 2016

Virginia STEAM Academy will host three Summer STEAM sessions in 2016, including a girls-only session.



Investing Today in Tomorrow. It matters.

AUDIT REPORT

Statement of Activities

JANUARY 2011 - DECEMBER 2015

Revenue and Support

Contributions & Grants	\$697,026
In Kind Services	\$216,684
Interest Income	\$35

Total Revenue and Support **\$913,745**

Expenses

Funds Development	\$64,105
Insurance	\$4,318
Legal & Professional Fees	\$87,352
Lobbying Fees	\$17,233
Software & IT Services	\$17,825
Sub-contracted Services	\$134,851
Summer STEAM Academies	\$219,282
Supplies & Other	\$22,179
Taxes & Licenses	\$3,359
Travel & Conferences	\$12,741
In Kind Services	\$216,684
Total Expenses	\$853,754

Change in Net Assets **\$59,991**

Statement of Financial Position

DECEMBER 31, 2015

ASSETS

Current Assets

Cash	\$8,640
Accounts Receivable	\$51
Grants Receivable	\$54,545
Total Current Assets	\$63,236

LIABILITIES and NET ASSETS

Current Liabilities

Accounts Payable	\$3,245
Total Current Liabilities	\$3,245

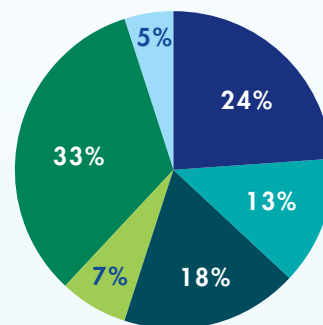
Net Assets

Unrestricted	\$5,446
Temporary Restricted	\$54,545
Total Net Assets	\$59,991

Total Liabilities and Net Assets **\$63,236**

Programmatic Spending by Category

1/1/2011 - 12/31/2015

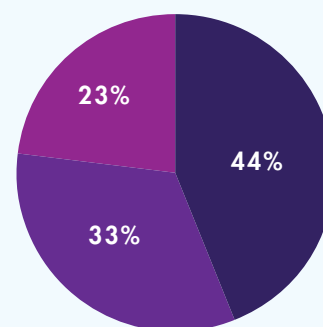


100% = \$853,754

Strategic Planning and Implementation	\$200,733
Legislative & Fund Development	\$105,116
Site, Buildings & Grounds	\$154,688
Teaching & Learning Committee	\$61,091
Summer STEAM Academies	\$283,572
Human Capital Committee	\$48,554

Giving By Category

1/1/2011 - 12/31/2015



100% = \$913,745

Virginia General Assembly	\$400,000
Individuals, Businesses & Foundations	\$297,026
In Kind	\$216,684
Interest Earned	\$35

Based on the unqualified opinion of the audit report rendered by Barnes, Brock, Cornwell & Painter PLC.



COMBINED GIVING

JANUARY 2011 THRU DECEMBER 2015

Alphabetical Listing by Category

\$50,000 plus

Huntington Ingalls Industries
Virginia General Assembly

\$20,000 to \$49,999

Birdsong Charitable Foundation
Hampton Roads Sanitation District
Lewis Family Trust
Towne Bank

\$5,000 to \$19,999

Allfirst Industrial General Contractors
Mac & Sandra Birdsong
BOSH Global Services
Ezzell Family Fund
Caroline and Brian Martin Fund
Old Point National Bank
Peninsula Community Foundation
Pruden Foundation
Suffolk Foundation
WM Jordan Company
Zel Technologies

\$1000 to \$4,999

Anonymous
Anonymous
Richard Bennett Trust
BOSHWAY Foundation
Carilion Clinic
Mary Ann and John Eure
John Franklin
Hampton Roads Ventures
Mary and Louis Haddad Foundation
National Technical Association
North Suffolk Rotary Club
Suffolk Community Hospital Foundation
Suffolk Education Foundation
STIHL
Taylor Education Consulting

Jaya Tiwari and Charles Armentrout
Virginia Space Grant Consortium
Wilbanks Smith & Thomas Asset Management, LLC

all other donations

Alpha Kappa Alpha Sorority, Rho Eta Omega
American Institute of Aeronautics & Astronautics
Anonymous
Mr. Robert Atwood, In Memory
Susan Blackman
Eric Blackmon
Drs. C. Clifford and Donna Boyd
Samuel C. Brown, Jr., In Memory
Cape Henry Rotary
Jim Cheng
Student Ambassador Bryce Clemons
Sherri Crawford
Gwendolyn Defilippi
Student Ambassador Gavin Estrella
Student Ambassador Haley Faison
Student Ambassador Omar Faison
Student Ambassador Joshua Felton
Student Ambassador Jeffrey Gu
Student Ambassador Joy Gu
John Gudgel
William Haley
Chet & Sandy Hart
Brian & Stacey Heller
Student Ambassador Gabrielle Heller
Student Ambassador Garrett Heller
Tammi Hellwig
Ivy Foundation of Hampton
Jack and Jill of America, Norfolk Chapter
Student Ambassador Sherzoy Jan
Thomas Jandl
Grace Jordan

Student Ambassador Maggie Jordan
Robert Johnson
JNX Innovations
Sharon Kelleher
Kathleen Killion
Student Ambassador Aneesh Kotnana
Yaning Liu
Student Ambassador Edwin Lu
Qiang Lu
John and Tricia Su Moy
Student Ambassador Laney Moy
Student Ambassador Anjali Nair
Newport News Rotary Foundation
N-Vision Designs, LLC
Peninsula Camp Foundation
Peninsula Engineers Council
Thomas Pinelli
Sreenivas Ratna
Student Ambassador Sumanth Ratna
Student Ambassador Ayush Rautwar
Jeff Reynolds
AJ Robertson
Student Ambassador Becca Russell
Student Ambassador Samantha Russell
Wenyao Shi & Ying Zhao
Susan and Chris Skully
Smithfield Kiwanis Club
John Thomas
Student Ambassador Oliver Tu
Student Ambassador Gwen Tupelo
Student Ambassador Jonah Tupelo
Keith & Greta Vander Vennett
Philanthropic Fund
Tammy Wiles
Jennifer Wolstenholme
Wythe Fund
Anthony Yanez and Elizabeth Schlatter
Larry Yang
Student Ambassador Mia Yang

As careful as we try to be, occasionally and regrettably we err and fail to note all of our supporters. Please forgive us and let us know of any errors or omissions.

IN-KIND GIVING

Virginia STEAM Academy would like to thank the following businesses, universities and individuals for graciously providing in-kind guidance, support, goods and services from inception through December 2015.

Analytical Mechanics Associates, Inc.	HBA Architectural & Interior Design, Inc.	Peninsula Technology Incubator*
Aregee	Huntington Ingalls Industries	Radford University*
Barnes, Brock, Cornwell & Painter PLC	Jones, Blechman, Woltz and Kelly, P.C.	Riverside Health System*
Chesapeake Bay Foundation	Math Enrichment Services	Saunders & Ojeda, P.C.
Chrysler Museum of Art and Chrysler Glass Studio	McDermottWard	Thomas Jefferson National Accelerator Facility*
College of William and Mary, School of Education*	Metro Media Productions	Tidewater Wooden Boat Association
Copico Printing Services	Autumn Reinhardt-Simpson	Virginia Military Institute*
Wendy Geer	Friends of Autumn Reinhardt-Simpson	Virginia Modeling, Analysis and Simulation Center*
Conrad and Marie Haas	NASA Langley Research Center*	Virginia Polytechnic Institute and State University*
Chet Hart	National Institute of Aerospace*	Virginia Space Grant Consortium
Elizabeth River Project	Newport News Shipbuilding, a division of Huntington Ingalls Industries	WHRO
Fort Monroe National Monument	Norfolk State University*	Zel Technologies, LLC
	Old Dominion University*	

*Official Partners of Virginia STEAM Academy

Board Members

Jack Ezzell, Board Chair
Grace Chung Becker, Vice Chair
E. Dana Dickens, III, Treasurer/Secretary
Caroline Martin, Co-founder and Past Board Chair
Judy K. Stewart, Co-founder, President & CEO
Jim Cheng
Louise Epstein
Troy Siemers

Summer STEAM Design Team

Jim Batterson, retired NASA Engineer
Tracee Carmean, retired Vice President and administrator, Education, Riverside School of Health Careers, Riverside Health System
Allison Crean Davis, founding partner, New Legacy Partnerships, LLC
Sally Fisk, past Executive Director for Institutional Outreach, Thomas Jefferson National Accelerator Facility

Mihyeon Kim, Director, Pre-Collegiate Learner Programs
College of William and Mary

Tina Manglicmot, Coordinator of K12 Math & Science, Curriculum & Instruction, Isle of Wight County Schools

Caroline Martin, Co-founder and Past Board Chair, Virginia STEAM Academy

*Anne Moore, Associate Vice President, Learning Technologies, Virginia Tech

Rasha Morsi, Director of the Creative Gaming and Simulation Lab, Associate Professor of Engineering, Norfolk State University

C. Michael Ross, Principal Architect, HBA, Architecture and Interior Design, Inc.

Judy Stewart, Co-founder, Board member, President & CEO, Virginia STEAM Academy

Lisa Surles-Law, Education Administrator, Thomas Jefferson National Accelerator Facility

Vern Williams, Gifted and Talented Program Math Educator, Fairfax County Public Schools

*To review and comment

Standards-Setting Panel Participants

Jim Batterson, retired NASA Engineer

Oktay Baysal, Dean, Batten College of Engineering, Old Dominion University

Sharon Bowers, Educator in Residence, Virginia Beach City Public Schools, National Institute of Aerospace

Tracee Carmean, retired Vice President and administrator, Education, Riverside School of Health Careers, Riverside Health System

Allison Crean Davis, Founding Partner, New Legacy Partnerships, LLC

Tracy Cross, Executive Director, Center for Gifted Education, College of William and Mary

Sally Fisk, past Executive Director for Institutional Outreach, Thomas Jefferson National Accelerator Facility

Joe Garofalo, Associate Professor, Curry School of Education, University of Virginia

Meagan Herald, Assistant Professor of Mathematics, Virginia Military Institute

Yolanda Hinton, former Army Science Board Study Manager

Benjamin Knapp, Director, Institute for Creativity, Arts, and Technology and professor in the College of Engineering's Department of Computer Science, Virginia Tech University

Stephen Knisley, Professor of Mechanical and Aerospace Engineering Batten Endowed Chair in Biomedical Engineering, Old Dominion University

Page Laws, Professor of English and Dean of the Honors College, Norfolk State University

*Susan Magliaro, University Professor of Educational Psychology, Virginia Tech University

Caroline Martin, Co-founder and Past Board Chair, Virginia STEAM Academy

Jennifer McClain, Manager, Career Pathways, Newport News Shipbuilding

Rasha Morsi, Director of the Creative Gaming

and Simulation Lab and Associate Professor of Engineering, Norfolk State University

Laura Nelson, Director of Science, Portsmouth Public Schools

Michael Ross, Principal Architect, HBA Architecture and Interior Design

Colleen Seremet, Virginia STEAM Academy Steering Committee member, Chair, Standards-Setting Panel, Co-chair, Teaching and Learning

John Shifflett, Director, Leadership, Technical, and Professional Development, Newport News Shipbuilding

Anne Spence, Assistant Professor, Mechanical Engineering at University of Maryland-Baltimore County

Dixie Stack, Consultant, Teaching and Learning subcommittee

Judy Stewart, Co-founder, Board member, President & CEO, Virginia STEAM Academy

Lisa Surlles-Law, Education Administrator, Thomas Jefferson National Accelerator Facility

Sharon Webb, Math Teacher, Thomas Jefferson High School for Science and Technology and past Albert Einstein Fellow, US Department of Energy

Don Williams, Technology Instructor, Hampton City Schools

*Confirmed Panelist to contribute at a later date

Business Leaders Symposium Participants

PRESENTERS

John Shifflett, Director, Leadership, Technical, and Professional Development Newport News Shipbuilding

Judy Stewart, Co-founder, Board member, President & CEO, Virginia STEAM Academy

Caroline Martin, Co-founder and Past Board Chair, Virginia STEAM Academy

ATTENDEES

Bonita Anthony, Old Dominion University, Jim Batterson, retired, NASA engineer, Tracee Carmean, Riverside Health System, Fred Farris, Virginia Living Museum, Ellen Fifthian, MD, Hampton Roads Educational Consulting, Sharyn Fox, Whitman, Requardt & Associates, LLP, David France, Kimley-Horn and Associates, Inc., Christopher Gareis, The College of William & Mary, Kevin Hinman, Leadership Training International, Yolanda Hinton, Army Science Board, Mary Ann Hoppa, Mitre, Delegate Matthew James, Workforce Development, Christoph Leemann, Gretchen LeFever, Health IT Consortium, Deborah Lohmeier, Burgess & Niple, Diane Moore, Leadership Training International, Peggy Myatt, York County, Linda Rice, Hampton Roads Community Foundation, Todd Roberts, Chancellor of the North Carolina School of Science and Mathematics, Brad Rogers, Moreland Advisors, Inc., Bill Shore, GlaxcoSmith-Kline, Javaid Siddiqi, Deputy Secretary of Education, Office of the Governor, William Warner, retired Newport News Shipbuilding, Jamie Weist, Kimley-Horn and Associates, Inc., Chet Hart, retired Health System COO & CFO

Hampton Roads Advisory Committee

James Batterson, retired, NASA Engineer

Sandra DeLoatch, Provost, Norfolk State University

E. Dana Dickens, III, Treasurer/Secretary, Virginia STEAM Academy

Jack Ezzell, Chair, Virginia STEAM Academy

Shelly Fitzgerald, Executive Vice President, BOSH Global Services

Len Fleisig, Partner, Willcox & Savage

Dulcie Grabarczyk, Parent Representative

David Harnage, Chief Operating Officer, Old Dominion University

Mihyeon Kim, Clinical Assistant Professor and Director, Pre-collegiate Learner Programs, College of William & Mary

Wayne Lett, retired Superintendent, Newport News Public Schools

Caroline Martin, Co-founder and Past Board Chair, Virginia STEAM Academy

Scott Miller, General Manager, America Cloud Services, Microsoft

Tommy Norment, State Senator, Virginia General Assembly

Lonnie Schaffer, Vice President for Academic Affairs, Thomas Nelson Community College

Linda Shifflette, Superintendent, Hampton City Schools

Rob Shuford, Chief Operating Officer, Old Point National Bank

Judy Stewart, Co-founder, Board member, President & CEO, Virginia STEAM Academy

Lisa Surlles-Law, Science Education Administrator, Thomas Jefferson National Accelerator Facility

Rashard Wright, Designee for Dr. Katrise Perera, Superintendent, Isle of Wight County Schools

Human Capital Student Admissions Subcommittee Members and Presenters

SUB-COMMITTEE MEMBERS

Charles "Chuck" Armentrout, retired Colonel, past Director of Manpower, Personnel and Services, Headquarters Air Combat Command, Langley Air Force Base

Jim Batterson, retired, NASA Engineer

Grace Chung Becker, Vice Chair, Virginia STEAM Academy

Tracee Carmean, retired Vice President and Administrator, Education, Riverside School of Health Careers, Riverside Health System

Charlie Hill, retired Executive Vice President, Human Resources, Landmark Communications

Caroline Martin, Co-founder and Past Board Chair, Virginia STEAM Academy

Dave Sawyer, retired Educator and Superintendent and Founder, Thomas Jefferson High School for Science and Technology

Judy Stewart, Co-founder, Board member, President & CEO, Virginia STEAM Academy

Diana Williams, Education Advocate

Vern Williams, Gifted and Talented Program Math Educator, Fairfax County Public Schools

PRESENTERS

Charles "Chuck" Armentrout, retired Colonel, past Director of Manpower, Personnel and Services, Headquarters Air Combat Command, Langley Air Force Base

Tiffani Bright, Informatics Consultant and Meyerhoff Scholar alumnae, University of Maryland, Baltimore County

Tracee Carmean, retired Vice President and Administrator, Education, Riverside School of Health Careers, Riverside Health System

Scott Conklin, Director of Admissions, Episcopal High School of Virginia

Joann P. DiGennaro, President, Center for Excellence in Education

Charlie Hill, retired Executive Vice President, Human Resources, Landmark Communications

Letita Mason, Director of Admissions, North Carolina School of Science and Mathematics

John Sokolowski, Executive Director, Virginia Modeling, Analysis and Simulation Center

Linda Vahala, Associate Dean, Frank Batten College of Engineering and Technology, Old Dominion University

Daniel Wubah, Provost, Washington and Lee University; past Vice President for Undergraduate Education and Deputy Provost, Virginia Tech

Human Capital Faculty Subcommittee Members

Judy Stewart, Co-founder, Board member, President & CEO, Virginia STEAM Academy

Caroline Martin, Chair/Facilitator, Co-founder and Past Board Chair, Virginia STEAM Academy

Tracee Carmean, Co-facilitator, retired Vice President and Administrator, Education, Riverside School of Health Careers, Riverside Health System

Jack Ezzell, Chair, Virginia STEAM Academy

Charles "Chuck" Armentrout, retired Colonel, past Director of Manpower, Personnel and Services, Headquarters Air Combat Command, Langley Air Force Base

Vicki K. Crisp, LARC-E4 Director, Systems Analysis and Concepts at NASA Langley Research Center

Mekbib Gameda, Vice President for Diversity and Inclusion, Eastern Virginia Medical School

Christopher R. Gareis, Assoc. Prof. of Educational Leadership, College of William & Mary, School of Education

Linnea Haase, Math Instructor, Norfolk Public Schools

Wayne Lett, retired Superintendent, Newport News Public Schools

Cathy Veal, Vice President for Strategy and Advancement, Illinois Mathematics and Science Academy

Vern Williams, Gifted and Talented Program Math Educator, Fairfax County Public Schools

Michael Ross, Principal Architect, HBA Architecture and Interior Design

Teaching and Learning Curriculum and Outcomes Measures Subcommittee

Linnea Haase, Math Instructor, Norfolk Public Schools

John Shifflett, Director, Leadership, Professional and Technical Development, Newport News Shipbuilding, a division of Huntington Ingalls Industries

Troy Siemers, Board member, Virginia STEAM Academy, Department Head and Professor, Applied Mathematics, Virginia Military Institute

Lisa Surles-Law, Education Administrator, Thomas Jefferson National Accelerator Facility

Sharon Webb, Sub-committee Co-facilitator, Albert Einstein Fellow, US Department of Energy; Math Instructor, Thomas Jefferson High School for Science and Technology, Fairfax County

Sam Wheeler, Albert Einstein Fellow, US Department of Energy; Physics Instructor, North Carolina School of Science and Mathematics, Durham, NC

Vern Williams, Gifted and Talented Program Math Educator, Fairfax County Public Schools

Caroline Martin, Co-founder and Past Board Chair, Virginia STEAM Academy

Jack Ezzell, Chair, Virginia STEAM Academy

Judy Stewart, Co-founder, board member, President & CEO, Virginia STEAM Academy

Teaching, Learning & Faculty Subcommittee

Advisor Hungsin Chin, Supervisory Chair, Alabama School of Fine Arts (ASFA); Russell Math & Science Center, Birmingham, Alabama

Caroline Martin, Co-founder and Past Board Chair, Virginia STEAM Academy

Judy Stewart, Co-founder, President & CEO, Virginia STEAM Academy

Jack Ezzell, Board Chair, Virginia STEAM Academy

E. Dana Dickens, III, Treasurer/Secretary, Virginia STEAM Academy

Grace Chung Becker, Vice Chair Virginia STEAM Academy

Chuck Armentrout, (Retired) Colonel, United States Air Force

Vicki K. Crisp, LARC-E4 Director, Systems Analysis and Concepts at NASA Langley Research Center

Christopher R. Gareis, Ed. D Assoc. Prof. of Educational Leadership, College of William and Mary, School of Education

Mekbib Gameda, Vice President for Diversity and Inclusion, Eastern Virginia Medical School

Linnea Haase, Math Instructor, Granby High School

Wayne Lett, Retired Superintendent of Schools, Newport News Public Schools

Mike Ross, Principal, HBA Architecture & Interior Design, Inc.

John Shifflett, Director, Leadership, Professional and Technical Development, Newport News Shipbuilding

Troy Siemers, Board member, Virginia STEAM Academy, Department Head and Professor, Applied Mathematics, Virginia Military Institute

Lisa Surles-Law, Education Administrator, Thomas Jefferson National Accelerator Facility

Cathy Veal, Vice President for Strategy and Policy, Illinois Mathematics and Science Academy

Sharon Webb, Sub-committee Facilitator, Math Instructor, Albert Einstein Fellow, US Department of Energy

Vern Williams, Math Instructor, Longfellow Middle School

Sam Wheeler, Physics Instructor, Albert Einstein Fellow, US Department of Energy



Jack Ezzell, Chair



Grace Chung Becker, Vice Chair



E. Dana Dickens, III, Treasurer/Secretary



M. Caroline Martin, Co-founder and Past Board Chair



Judy K. Stewart, Co-founder, President & CEO



Jim Cheng



Louise Epstein (Elected to the Board March, 2016)



Troy Siemers (Elected to the Board March, 2016)

VIRGINIA STEAM ACADEMY BOARD OF DIRECTORS

The Virginia STEAM Academy emerged from the vision of co-founders Judy Stewart, PhD, and Caroline Martin, RN, MHA. Stewart is an independent education consultant and President of Taylor Education Consulting, Inc. Her work in the area of education policy research has led to extended contracts with federal education research and development agencies, state departments of education, and local school divisions around issues related to educator quality and quantity. Locally, she has served on several nonprofit boards. Stewart was a member of the Civic Leadership Institute, Class of 2013.

Martin is the retired Executive Riverside Health System/ CEO, Riverside Regional Medical Center. Some of her major accomplishments during her tenure include serving as the executive of the Schools of Professional Nursing and Allied Health Education, the creation and management of Riverside's Wellness Division, Human Resource Development, Child Care and Learning Centers, and oversight of the risk management, safety and protection and accreditation programs. Since her retirement she has served in leadership positions on many nonprofit boards and was named Suffolk Citizen of the Year, 2012.

When the Virginia STEAM Academy filed its original articles of incorporation and applied for its nonprofit 501(c)(3) status, the initial board was comprised of the Co-founders Caroline Martin, president, Judy Stewart, and James Batterson. An original Virginia STEAM Academy Steering Committee member, Batterson has been a K-12 school board member, educator, NASA engineer and strong proponent for early and integrated engineering in the STEM curriculum. Batterson resigned from the board in 2013 but not before the board elected Jack Ezzell. Batterson continues to be an advocate and active advisor (serving on the Virginia STEAM Academy Hampton Roads Advisory Committee).

Ezzell, an early Virginia STEAM Academy champion and Steering Committee member, is Founder and CEO of Zel Technologies, an international firm specializing in providing advanced technology solutions to critical enterprise problems. Ezzell brings to bear his knowledge of the need for STEAM leaders. He currently serves on the board of directors for Sentara Healthcare and VersAbility (formerly Arc of the Peninsula), where he is former chair, and has served as Rector of Norfolk State University for

two terms. Ezzell received WHRO's 2013 Pioneer Award.

In September 2014, the board welcomed E. Dana Dickens, III to its membership. Dickens, another original Steering Committee member, played a key role in securing bipartisan legislator support for the Virginia STEAM Academy. Dickens is the former Mayor of Suffolk and immediate past President and CEO of the Hampton Roads Partnership. Prior to joining the partnership, he owned and directed First Service Insurance. He was recently appointed to Governor McAuliffe's Small Business Commission.

In February 2015, the board welcomed Grace Chung Becker. Becker served on Virginia STEAM Academy's Human Capital Student Admissions sub-committee. Becker's legal career includes former Acting Assistant Attorney General, Civil Rights Division, U.S. Department of Justice in the Bush Administration; prosecutor, Criminal Justice Division of the Justice Department; Criminal Counsel, U.S. Senate Judiciary Committee; Assistant General Counsel, U.S. Sentencing Commission; and as associate at the law firm of Williams and Connolly. Becker currently works with several nonprofits on education policy issues, including the Virginia Governor's Standards of Learning Innovation Committee. She has served as President of the Fairfax County Association for the Gifted, President of the Thomas Jefferson High School for Science and Technology and a variety of Fairfax County School Board committees.

In April 2015, the board welcomed Jim Cheng. Cheng has over 25 years experience as a technology entrepreneur, angel/private capital investor, business leader and a senior state government executive. He currently is associated with New Richmond Ventures, and Blue Heron Capital, teaches Entrepreneurship at the UVA Engineering School and is Of Counsel to the Law firm of Lee & Hayes. He also serves on numerous boards and advisory boards of non-profit organizations, tech startups and mid-sized companies. In addition, Cheng continues to advise companies on economic development issues and on investing in the US. From January 2010 to January 2014, Cheng was the Secretary of Commerce and Trade for the Commonwealth of Virginia. As a senior member of the Governor's cabinet, his portfolio included 13 agencies ranging from economic development, housing, employment, export, licensing, tourism, small business, mining and energy.

In December 2015, the board unanimously elected Jack Ezzell as Chair, succeeding Virginia STEAM Academy first Board Chair Caroline Martin. Grace Chung Becker was elected Vice Chair. E. Dana Dickens, III was elected Treasurer/Secretary.

In March 2016, the board welcomed Louise Epstein and Troy Siemers, PhD. Epstein is a board member and past president of the Fairfax County Association for the Gifted (FCAG), a founder and budget chair of the Fairfax Education Coalition, a board member and chair of the Education & Youth Committee of the McLean Citizens Association, and an adviser to Class Size Counts-Fairfax. Before Epstein's children graduated from high school, Epstein served on the Fairfax County School Board's Gifted and Talented Advisory Committee, as PTSA president for Thomas Jefferson High School for Science & Technology (TJHSST), as president of the TJHSST Academic Boosters, and as a Northern Virginia Schools & Scholarships Committee chair for the Harvard College admissions office. Epstein worked as a tax lawyer for fifteen years before becoming a full-time volunteer on education-related groups and efforts.

Since 1999, Siemers has been affiliated with the Virginia Military Institute. In 2008, Siemers was named Head of VMI's Applied Mathematics Department. He has contributed to the university's New Faculty Orientation, Curriculum and Instruction, and Academic Planning and Review committees, and has led the committee for compiling the SACS Compliance Certification report as part of the 10-year reaccreditation cycle with SACS (Southern Association of Colleges and Schools). He has authored Matlab and Mathcad, and been the contributing author to Calculus 1, Calculus 2, and Calculus 3, all texts used in VMI classes as part of the Affordable Print and Electronic textbook (APEX) consortium at VMI and other schools. Siemers has published as co-author on papers in/on: an automated parking patent, timing jitters in lasers, and game theory, and has co-authored manuscripts and/or given presentations on protein structure, immigration modeling, and liquid crystals.

Board members bring strong expertise in education, operations, government relations, legal and nonprofit board leadership. The board remains committed to expanding to reflect statewide representation.



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