

# Annual Report

## 2021-2022

*“Science is so interesting because of its applications. We can quite literally change the world, improve the quality of life for humans, and expand our knowledge.”*

— HUDAH RANA

Central High School (PA), 12th Grade  
Chemistry Category Presenter at 2022 DVSF

## DEAR FRIENDS,

DVSF is celebrating its 74th Year in 2022, and what an incredible journey we have had getting to this point in our organization's story. As one of America's oldest and most successful science organizations in the country, we strive every year to adapt to new, creative technologies and platforms – and to new circumstances – to continue to reach and serve STEM educators and student researchers from across the Delaware Valley most effectively.

Through the 2021-2022 program year, we began to get back to normal by returning to the Greater Philadelphia Expo Center in Oaks, PA to host our annual research competitions, re-instating teacher workshops, organizing other critical STEM activities, and fully realizing our mission to bring parents, teachers and school administrators, academic institutions, and industry together to mentor, nurture, challenge, and motivate young people. Ultimately, our programs exist to inspire STEM students to create science identities and build pathways to pursue college, careers in STEM disciplines, and good citizenship.

We also faced new challenges this fiscal year, as we navigated through changing public health rules and regulations and faced difficult financial circumstances due to a significant decrease in charitable support. Because of the leadership of DVSF's Board of Trustees, guidance of our staff and partners, and – most importantly – the confidence of and investments by our donors, DVSF persevered and continued to deliver high-quality programs at no cost to teachers, students, and their schools and an incredible STEM research fair and awards ceremony for more than 700 talented, inquisitive, and innovative student presenters.

I hope you enjoy reading DVSF's Annual Report, which features DVSF's programs and activities over the past fiscal year (July 1, 2021 – June 30, 2022), stories of new partnerships, and student research highlights.

With warm regards,



**Bob Solomon**

Executive Director & President

*Ultimately, our programs exist to inspire STEM students to create science identities and build pathways to pursue college, careers in STEM disciplines, and good citizenship.*

# DVSF Mission & Overview

Inspiring future  
leaders and  
innovators

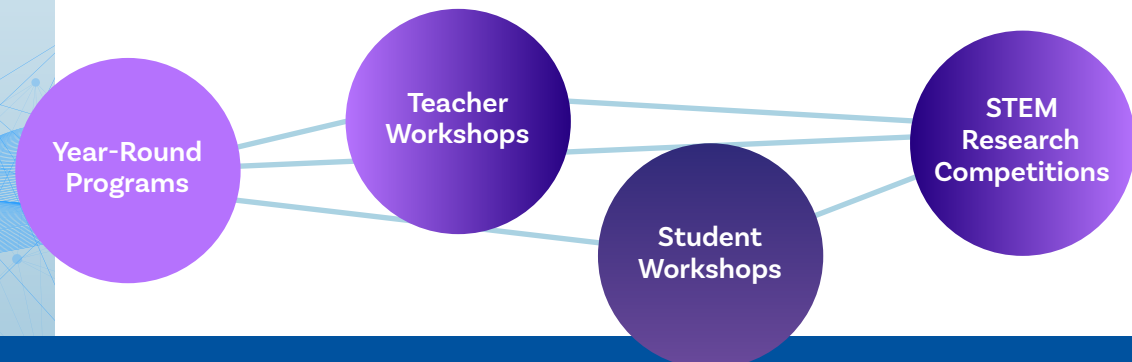
AND

supporting  
STEM teachers  
in Eastern  
Pennsylvania,  
Delaware,  
and Southern  
New Jersey.

Founded in 1949, DVSF strives to bring parents, teachers, and industry together to stimulate and nurture young people so that they grow and develop into contributing members of the community.

DVSF, a 501(c)3 organization, enables students in middle and high schools to *develop a love of science*, *create interest in STEM* at this stage in their lives, *gain confidence* and, finally, move into careers in STEM disciplines. DVSF's year-round programs – including teacher workshops, student workshops, and one of the largest science and engineering research competitions in the United States – provide opportunities to inspire the next generation of innovators and support 6th-12th grade students, mentors, and STEM educators in Eastern Pennsylvania, Delaware, and Southern New Jersey.

DVSF provides a *platform for inquiry-based learning*, the pursuit of answers, and the acquisition of new skills, serving thousands of young scientists, technologists, engineers, and mathematicians from all social and economic backgrounds. The philosophy behind our programs is that students *learn science by doing science*.

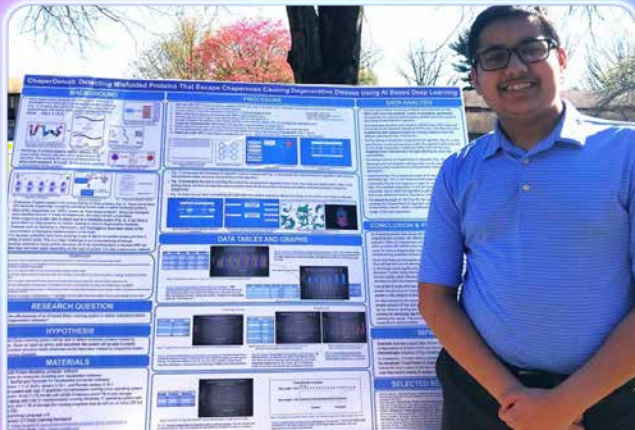


*“The ability to imagine something and then make it into reality is the reason why I like science, especially engineering. I can dream, then apply it to my interest.”*

— **LUCAS PHILIP**

Germantown Academy (PA), 10th Grade  
Engineering Category Presenter at 2022 DVSF

# Student Spotlight



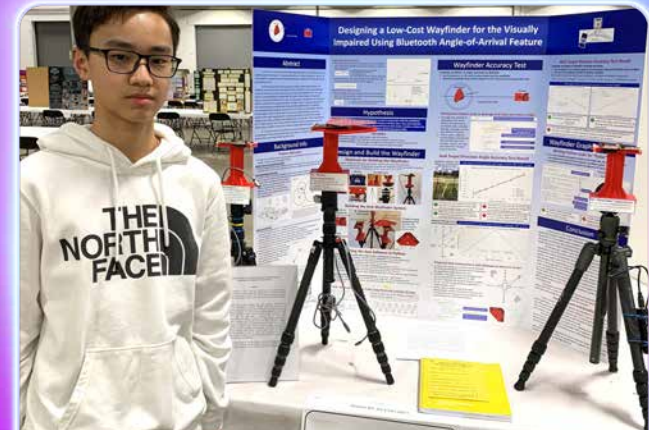
**Verdant Malik**

**6th-8th Grade**  
**DVSF Gold Medalist**

**SPRINGHOUSE MIDDLE SCHOOL**

**Category:** Medicine and Health

**Project Title:** "Chapter Detect: Detecting Misfolded Proteins That Escape Chaperones Causing Degenerative Disease Using AI Based Deep Learning"



**Brandon Cai**

**9th Grade**  
**DVSF Gold Medalist, 2022 ISEF Finalist**

**PARKLAND HIGH SCHOOL**

**Category:** Engineering

**Project Title:** "Designing a Low Cost Wayfinder for the Visually Impaired Using Bluetooth Angle-of-Arrival Feature"

# Key Activities

## LOCAL FAIRS

DVSF supports 13 “local” fairs and provides expert guidance related to strategic planning, student project review, fair organization, and other resources as needed.

Since all students can only earn the opportunity to advance to and compete at DVSF’s regional event by winning at their local fairs, DVSF closely collaborates with the local fair directors and STEM leaders. DVSF organizes and hosts an Advisory Board, which is comprised of local fair directors and other school and agency leadership to share ideas, develop coordinated plans, and learn from one another related to fair administration and technologies.

100  
teachers

1,275  
6th-12th grade  
students

151  
schools

participated in science and  
engineering fairs in PA, DE, and NJ

\*2022 student and project data was not available from the George Washington Carver Science Fair (Philadelphia County, PA) or Jersey Shore Science Fair

## STUDENT SPOTLIGHT



## Rayna Malhotra

10th Grade  
DVSF Gold Medalist, 2022 ISEF Finalist

MORAVIAN ACADEMY

Category: Biochemistry

Project Title: “Biochemical Interactions of siRNA Based Gene Silencing to Augment Elastogenesis in Abdominal Aortic Aneurysms”

# DVSF SCIENCE AND ENGINEERING RESEARCH COMPETITIONS

Students who win in their local fairs earn the right to compete at the annual Delaware Valley Science Fair that is comprised of five research competitions that are affiliated with Society for Science, including a fair each for 6th-8th grades, 9th grade, 10th grade, 11th grade, and 12th grade.

Individual students choose research projects from 14 STEM disciplines, including:

- behavioral/ social sciences
- computer sciences
- engineering
- microbiology
- biochemistry
- consumer sciences
- environmental
- physics
- botany
- earth/space sciences
- mathematics
- zoology
- chemistry
- medicine/ health

Students may also enter DVSF's event as a team of two to three students. The high school teams compete with one another in a unique competition at DVSF, separate from the affiliated fairs by grade level, and may present projects from the aforementioned STEM disciplines. At the regional level, students' topics and methodology are reviewed by the DVSF Scientific Review Committee to guarantee proper scientific safety procedures and federal guidelines are being followed.

The judging process is key, as students will receive valuable feedback and project evaluations from industry experts. This input is essential for students to continue their research or in helping students redefine their research for a future project.

At the 2022 DVSF Regional Event:



**716** students presented  
690 research projects.



**310** volunteer judges  
evaluated projects and provided  
feedback to students.



DVSF distributed **more than**  
**\$15,000**  
in prizes to 1st, 2nd, and 3rd Place  
winners in each category.



**267** scholarships totaling  
**\$407,000** were awarded to 11th and  
12th grade students from university  
partners and private donors.



**\$27,425** in  
special awards were distributed by  
**53 professional societies and  
organizations** who partner with DVSF  
to support student researchers.

# NATIONAL AND INTERNATIONAL COMPETITIONS



**Broadcom MASTERS® (Math, Applied Science, Technology, and Engineering for Rising Stars) is a program founded and produced by the Society for Science that seeks to inspire young scientists, engineers, and innovators who will solve the grand challenges of the future.**

Broadcom MASTERS® is the only middle school STEM competition that leverages Society-affiliated science fairs as a critical component of the STEM talent pipeline. DVSF is a part of that pipeline, and 32 of our middle school students (6th-8th grades) entered in 2022 to compete among more than 1,800 students from 48 states, Washington, DC, and three US territories (Puerto Rico, Guam and Virgin Islands).

Announced in September 2022, two students from Delaware Valley Science Fairs were selected to join a total of 30 Broadcom MASTERS® Finalists. The finalists are competing for more than \$100,000 in awards, including the top Samueli Foundation Prize of \$25,000.

**32**  
**middle school**  
**students**

(6th-8th grade) advanced  
to the 2022 Broadcom  
MASTERS®





**Regeneron International Science and Engineering Fair (ISEF) provides a global stage for the best and brightest young scientists and engineers around the world.**

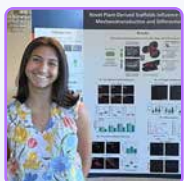
Founded on the belief that advances in science are key to solving global challenges, Regeneron ISEF supports and invests in the next generation of leading STEM thinkers who are generating ideas and acting as catalysts for the change needed to improve the well-being of all people and the planet.

12 high school DVSF medalists earned an all-expense paid trip to the 2022 Regeneron ISEF in Atlanta, GA and competed for awards, prizes, and scholarships. Of these twelve outstanding students, four were ISEF Finalists and received a total of six awards, including the First Place Grand Award Best Biochemistry Project.

**12**  
**high school**  
**students**

earned an all-expense paid trip to the 2022 Regeneron ISEF in Atlanta, GA

**At the 2022 Regeneron International Science & Engineering Fair (ISEF), four of our finalists placed in the Grand Awards, with two of them also receiving Special Awards.**



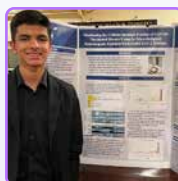
**Maya Butani**

1st Place Biochemistry and 3rd Place National Anti-Vivisection Society (NAVS) Special Award



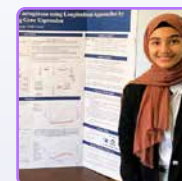
**Okezue Bell**

2nd Place Biomedical Engineering and 1st Place International Council of Systems Engineering INCOSE Special Award



**Rayan Jawa**

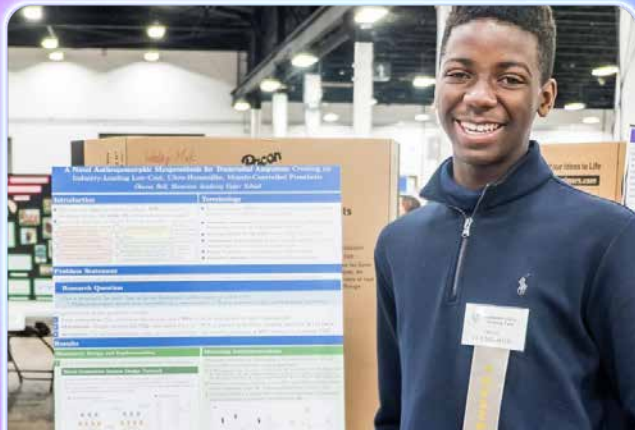
3rd Place Microbiology (12th Grade Bronze Medalist at DVSF)



**Maryam Abdel-Azim**

4th Place Microbiology (10th Grade Silver Medalist at DVSF)

# Student Spotlight



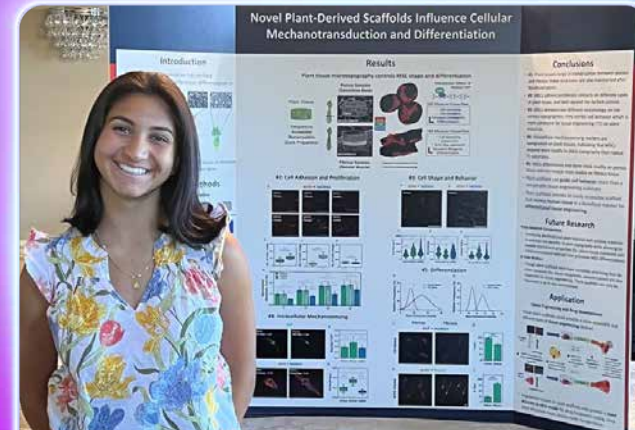
**Okezie Bell**

**11th Grade**  
**DVSF Gold Medalist, 2022 ISEF Finalist**

**MORAVIAN ACADEMY**

**Category:** Engineering

**Project Title:** "A Novel Anthropomorphic Myoprostheses for Transradial Amputees"



**Maya Butani**

**12th Grade**  
**DVSF Gold Medalist, 2022 ISEF Finalist**

**MOORESTOWN HIGH SCHOOL**

**Category:** Biochemistry

**Project Title:** "Novel Plant-Derived Scaffolds Influence Cellular Mechanotransduction and Differentiation"

# New Partnerships

In 2022, DVSF embarked on an exciting initiative in collaboration with Drone Legends and WHYY.

DVSF and Drone Legends created a new STEM educational initiative in partnership with WHYY's Pathways to Media Careers Program, which is open to Philadelphia students ages 16-19 who have completed at least one year in a WHYY media education program.

Drone Legends and WHYY established a DVSF-specific Spring 2022 curriculum that included providing drone pilot instruction, photography and videography skill development, and journalism practicums to complete on-site interviews.



Following their training and preparation, WHYY program students joined Drone Legends and DVSF onsite at the Greater Philadelphia Expo Center on Judging Day (Wednesday, April 6, 2022) to complete drone videography capturing DVSF's students' entry into the presentation hall and interactions throughout the day with one another and volunteer judges as well as on-the-floor interviews with DVSF students, volunteer judges, Trustees, and staff members.



Following Judging Day at DVSF, Drone Legends edited footage and provided incredibly unique videos of the STEM research competitions from a new aerial viewpoint. And the WHYY team produced two short videos for DVSF to use in marketing efforts and on social media channels.



**CHECK OUT THE 2022  
DVSF VIDEO >**

*A special thanks to Scott Buell, Drone Legends – Owner & Founder; Craig Santoro, WHYY – Director of Educational Programs; Steven Dixon, WHYY – Manager of Media Instruction; and Sue Frey, DVSF Trustee and Institutional Advancement Committee Chair for making this partnership a reality and to the WHYY student team and DVSF volunteers!*

# Year-Round Resources

## Mentorship Program

DVSF's community of mentors—comprised of parents, teachers, DVSF alumni, and sponsors—are available to advise and support students on an individual basis. The Mentorship Program is designed to give students access to more technical expertise, equipment, and guidance on developing safe procedures.

> [Learn more about the Mentorship Program](#)

## DVSF Science Fair Workshops

Delaware Valley Science Fairs offers free science workshops to teachers and students on a wide variety of topics, from getting started in understanding inquiry and its application to student science research (science fairs!) to forming testable, investigable questions to setting up a project for statistical analysis and appealing to judges.

> [Learn more about teacher and student workshops](#)

## DVSF Alumni Programs

DVSF Alumni actively participate in webinars, networking receptions, and panel discussions throughout the year as well as serve as coaches and mock judges with DVSF student medalists competing at ISEF. All DVSF alumni programs are virtual to accommodate our alumni who are located across the country and around the globe.

> [Learn more about DVSF Alumni programs](#)



# FY2022 Supporters

## Program Year 2021-22 Supporters

Charitable donations to DVSF are tax deductible and provide meaningful support to enrich and sustain DVSF programs in Eastern Pennsylvania, Delaware, and Southern New Jersey. DVSF gratefully acknowledges its supporters.  
*List updated August 2022.*

### President's Circle

Donations of \$25,000+



### Major Gift Contributors

Donations of \$10,000 - \$24,999

- Botstiber Foundation
- Bullpen Capital
- Constellation
- Corteva Agriscience
- Dow
- DuPont
- FMC Corporation
- Universal Display Corporation (OLED)
- USciences
- West Pharmaceutical Services, Inc.

### Sustaining Donors

Donations of \$5,000 - \$9,999

- Bristol Myers Squibb Foundation

### Contributors

Donations of \$1,000 - \$4,999

- Air Products Foundation
- Broadcom Foundation
- Joseph Bussenger
- Exelon - Employee Matching Gift Program
- Donald Feith
- Susan Frey and Dr. William Studt
- Linda Higginbotham\*
- John and Marie Cwik Family Foundation
- Lewis Kinter & Terry Timberlake-Kinter
- Dr. & Mrs. Gerald Liebling
- Merck Foundation
- Gerald D. Quill
- Society for Science
- Fred & Susan Thompson

### Friends of DVSF

Supporting DVSF with gifts of \$100 and above, a complete Friends of DVSF list is located at [DVSF.org/benefactors](https://dvsf.org/benefactors).

\* DVSF Trustee

# FY2022 Trustees List

## Board of Trustees, 2021-22

### Officers

Paul Martino | Bullpen Capital  
*Chairman*

Bob Solomon, Ph.D. | Delaware Valley Science Fairs, Inc.  
*President*

Louise S. Smith, CPA | Countryside Consulting, Inc.  
*Treasurer & Vice President*

Robert Hranek | Arcfield  
*Secretary & Vice President*

### Trustees

- Steven V. Abramson | Universal Display Corporation
- Dick Close | Retired School Teacher
- Mark DiRado | Constellation
- Henry Disston | DVSF President Emeritus
- Debra Dunne | Attorney
- Brian M. Forster, Ph.D. | Saint Joseph's University
- Susan Frey | Retired from Pfizer, Inc.
- Louis L. Hegyes | Retired College Administrator
- Linda Higginbotham | GSK (GlaxoSmithKline)
- Ambra Hook | STEM Educational Consultant
- Joseph Maglaty, Ph.D. | Retired from Merck
- Allen P. Marks, Ph.D. | Retired from Rohm & Haas Company
- Peter Miller, Ph.D. | Thomas Jefferson University
- Steven C. Pomerantz, Ph.D. | Janssen Research & Development
- Vojislava Pophristic, Ph.D. | Rowan University
- Gerald D. Quill | Retired from East River Bank
- Raymond W. Sweet, Ph.D. | Retired from Janssen, Biotechnology Consultant
- Patti Taylor | SAP America, Inc.
- A. Frederick Thompson, Ph.D., P.E. | Retired from Roy F. Weston, Inc.

# Financial Snapshot

## Statements of Financial Position

June 30, 2022 and 2021

<b>ASSETS</b>	<b>2022</b>	<b>2021</b>
Cash	\$ 458,641	\$ 565,157
Contributions receivable	19,385	7,015
Prepaid expenses and other	2,827	30,916
Investments	441,966	497,997
<b>Total assets</b>	<b>\$ 922,819</b>	<b>\$ 1,101,085</b>
<b>LIABILITIES</b>		
Accounts payable and accrued expenses	\$ 35,124	\$ 28,464
<b>NET ASSETS</b>		
<i>Without donor restrictions</i>		
• Board designated for endowment purposes	378,645	431,060
• Undesignated	407,741	516,517
	786,386	947,577
<i>With donor restrictions</i>	101,309	125,044
<b>Total net assets</b>	<b>887,695</b>	<b>1,072,621</b>
<b>Total liabilities and net assets</b>	<b>\$922,819</b>	<b>\$ 1,101,085</b>

# Statements of Activities

Years ended June 30, 2022 and 2021

REVENUES AND SUPPORT			2022			2021		
	Without Donor Restrictions	With Donor Restrictions	Total	Without Donor Restrictions	With Donor Restrictions	Total		
Contributions	\$ 233,311	\$ 9,500	\$ 242,811	\$ 247,756	\$ 13,000	\$ 260,756		
Contributed goods and services	-	-	-	10,769	-	10,769		
Government grants	19,385		19,385	-	-	-		
Other	1,387	-	1,387					
Endowment draw	503	(503)	-	652	(652)	-		
Net assets released from restrictions	29,527	(29,527)	-	33,537	(33,537)	-		
<b>Total revenues and support</b>	<b>284,113</b>	<b>(20,530)</b>	<b>263,583</b>	<b>292,714</b>	<b>(21,189)</b>	<b>271,525</b>		
EXPENSES			2022			2021		
Programs	293,051	-	293,051	193,038	-	193,038		
General and administrative	55,976	-	55,976	50,044	-	50,044		
Fundraising	45,211	-	45,211	45,286	-	45,286		
<b>Total expenses</b>	<b>394,238</b>	<b>-</b>	<b>394,238</b>	<b>288,368</b>	<b>-</b>	<b>288,368</b>		
<b>Change in net assets before other changes</b>	<b>(110,125)</b>	<b>(20,530)</b>	<b>(130,655)</b>	<b>4,346</b>	<b>(21,189)</b>	<b>(16,843)</b>		
OTHER CHANGES			2022			2021		
Investment income (loss)	(51,066)	(3,205)	(54,271)	98,132	4,593	102,725		
<b>Change in net assets</b>	<b>(161,191)</b>	<b>(23,735)</b>	<b>(184,926)</b>	<b>102,478</b>	<b>(16,596)</b>	<b>85,882</b>		
NET ASSETS			2022			2021		
Beginning of year	947,577	125,044	1,072,621	845,099	141,640	986,739		
<b>End of year</b>	<b>\$ 786,386</b>	<b>\$ 101,309</b>	<b>\$ 887,695</b>	<b>\$ 947,577</b>	<b>\$ 125,044</b>	<b>\$ 1,072,621</b>		

*Inspiring future leaders and innovators and  
supporting STEM teachers in Eastern Pennsylvania,  
Delaware, and Southern New Jersey since 1949*



[dvsf.org](http://dvsf.org)

