2017 Maryland **STEM**
Festival Summary Report

MARYLAND
STEM
FESTIVAL
2017
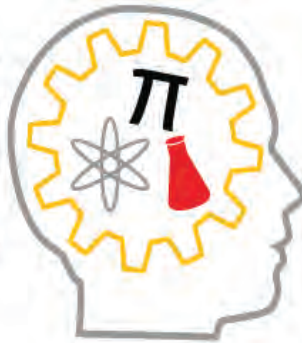
FESTIVAL CHAMPION UNIVERSITY OF MARYLAND 1856 **COLLEGE OF AGRICULTURE & NATURAL RESOURCES**

PRESENTED BY USRA

MarylandStemFestival.org   ✉ /MarylandSTEMFestival

✉mdstem**fest**@gmail.com   🐦@mdstemfest   📷 mdstem

2017 PLANNING COMMITTEE

- Phil Rogofsky, Maryland STEM Festival
- Bill Duncan, USRA STEMAction Center
- Jess Rowell, STEMJourney
- Dr. Meredith Durmowicz, Stevenson University
- Justin Park, Intergalatic Education
- Jannette O'Neill-Gonzalez, CONEXIONES
- Brittany Lassiter, Prince George's County Parks and Recreation
- Tanesha Bolden, Girls and STEM

2017 ADVISORY BOARD

- Penny Cantwell, Education & Workforce Development Chair, Ft. Meade Alliance
- Hans Reimer, Councilman, Montgomery County Council
- Jeffrey Griffin, Former Director, Governor's Office on Service and Volunteerism
- Dr. Karen B. Salmon, Superintendent, Maryland State Department of Education
- Chris Scolese, Director, NASA Goddard Space Flight Center
- Anita Anderson, Executive Director, Leadership Maryland Workshop
- Dr. Angela Moran, Director of the STEM Center for Education & Outreach, US Naval Academy
- Dr. Victor McCrary, Vice President for Research & Economic Development, Morgan State University
- Jamie Semple, Senior Director, Envision
- Dr. Jeffrey Isaacson, President & CEO, Universities Space Research Association
- Zulma Whiteford, STEM Chair, St. Louis School, [provide school location followed by a comma and the state followed by a comma] Discovery Education Network Leadership Council
- Valerie Gross, President. Maryland Association Public Library Administrators

Festival Supporters
- University of Baltimore
- American Council of Engineering Companies

About the 2017 Festival

The Maryland STEM Festival concluded its successful third year. It continues to make STEM as much fun and accessible as possible. The Festival organizers feel that STEM is for everyone. STEM needs to be embraced by the widest possible audience for Maryland to continue to succeed. The Festival reaches out to all Maryland residents. Some of the groups on which we placed increased emphasis this year included Rural Marylanders, Hispanic Americans, African Americans, and the Disabled.

In response to having been asked to lengthen the Festival, this year we expanded it to 13 days. One of the major reasons for the expansion was to include Halloween to provide an opportunity to tie-in our Spotlighted Area, Agriculture. Among those making this request was the Festival's biggest partner, the Maryland Public Library Community.

Each year we spotlight a different area of STEM. This year we spotlighted STEM and Agriculture. Agriculture holds a critical role in Maryland's economy, history and culture. Unfortunately, many people do not connect the extensive use of STEM with producing the food we eat. Even people in the agriculture community do not often recognize these connections. By spotlighting "Ag", we hope to bring more of the agriculture community, particularly rural Maryland, to the Festival to help alleviate these misconceptions. We thought it fitting to use a drone in our material this year because drones are being used in agriculture for soil analysis, planting crops, spraying, irrigation and crop monitoring. The Festival opened and closed with Ag-focused events. In addition, the Festival included over 50 events that focused on Agriculture and STEM.

We want to thank our Festival Champion, University of Maryland College Park, School of Agriculture and Natural Resources (AGNR) and our Presenting Institution, Universities Space Research Association (USRA) for their support. AGNR initiatives include advancing innovative, profitable, and sustainable agricultural production systems, ensuring a clean and healthy Chesapeake Bay and establishing a healthy food system and ensuring global food and nutritional security. USRA is a non-profit organization charged to advance space-related science, technology and engineering and dedicated to promoting STEM to all ages.

Phil Rogofsky, Director

Over **50,000** attendees

Over **570** Events

Over **200** separate hosts

23 Counties and Baltimore City participated

1 FANTASTIC FESTIVAL

Opening Event

The Festival opened on October 31st at the Maryland State Fairgrounds in Timonium with the Ag and STEM Summit. The Opening Ceremony was sponsored by US Department of Agriculture, Agriculture Research Service.

This summit aimed to encourage students to consider STEM related agriculture careers. Nearly 500 middle school students participated in the activities presented by the University of Maryland's School of Agriculture and Natural Resources, US Department of Agriculture, Maryland Department of Agriculture and others. WBAL TV Meteorologist Ava Marie helped kick off the program and two panel discussions about the connection between STEM and agriculture were also included.

STEM Awareness Events, Wilde Lake Middle School, November 4

The Festival held two successful events on November 4th to encourage STEM engagement in African American and Hispanic communities. These events brought professionals and educators from the communities to inspire their youth to follow STEM careers. The African American STEM Awareness Event was held in the morning with Lt. Governor Rutherford attending. The Hispanic STEM Awareness was held in the afternoon with Governor Hogan attending. The Hispanic STEM Awareness Event was sponsored by Maryland Hispanic Chamber of Commerce.

Plans are underway to hold these events in multiple locations next year.

# Blue Collar STEM Conference, B & O Railroad Museum, November 6
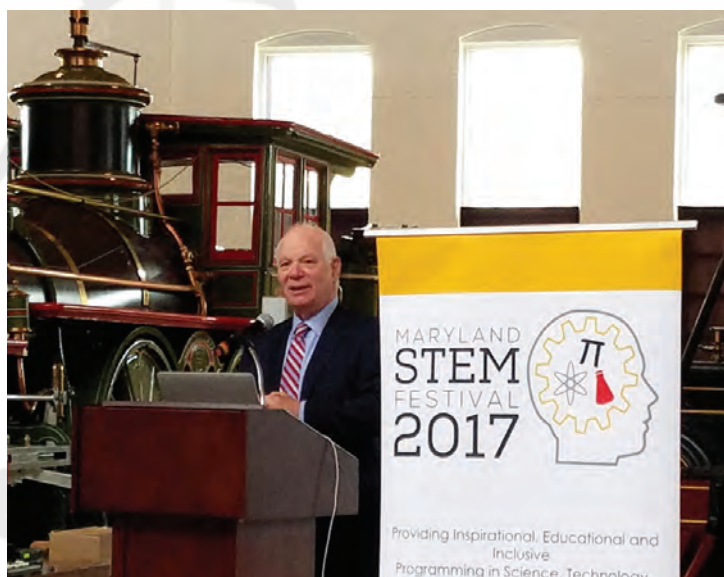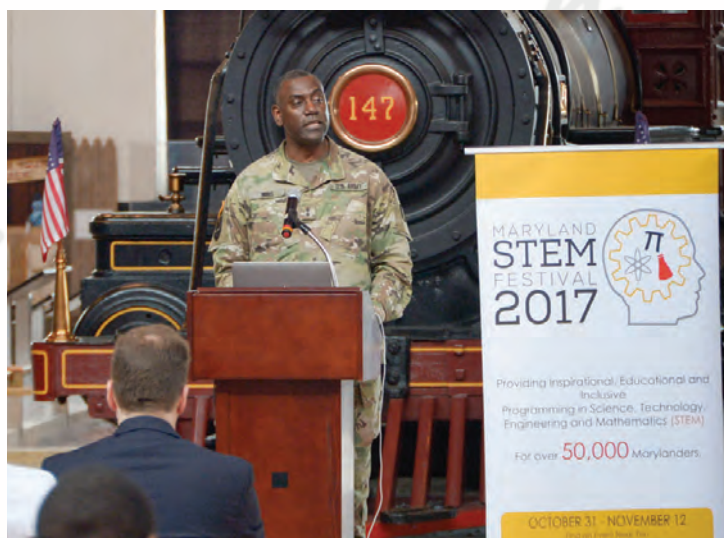
The Maryland STEM Festival hosted one of the first events that focused on the variety of jobs and careers that don't require a four-year college degree, but do require extensive STEM expertise and skills. Over 100 attendees listened to leaders from industry, labor, government, education and the military discuss this critical topic. Major General Cedric T. Wins, RDECOM, and David Etzwiller, President, Siemens Foundation, were the keynote speakers. Planning is underway for a two-day Blue Collar STEM Conference in 2018.

# STEM Night and Open House, St. Joan of Arc School, November 9

Over 100 children of all ages engaged in a variety of STEM activities such as designing Mars rovers and projecting constellations on the wall. These activities arose out of the project connecting the middle school version of the novel, "The Martian."

Photos by Kevin J. Parks, © 2017 Catholic Review Media, www.catholicview.org. Used with permission.vb.
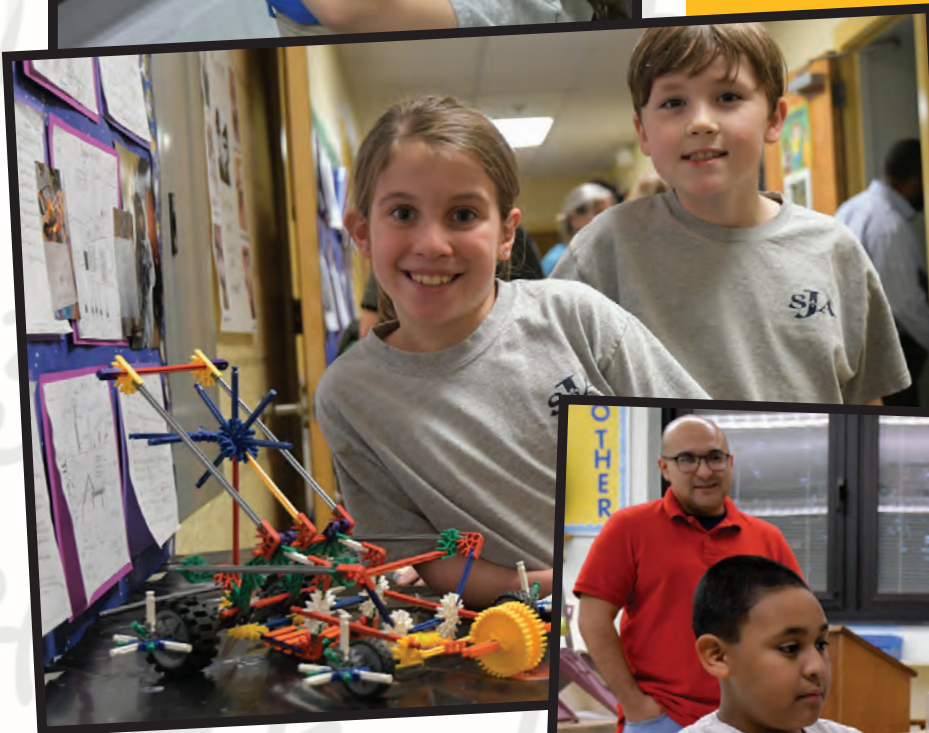
Tech Trek, Carrol County, November 4

A collection of events known as 1st Annual Tech Trek were offered to celebrate the STEM Festival. Among the Carroll Technology Council (CTC) members that participated were the Carroll County Department of Economic Development, Carroll County Public Library, Mid-Atlantic Gigabit Innovation Collaboratory (MAGIC) and the Community Media Center. MAGIC ran the successful Fourth Capture the Flag Cybersecurity Competition. The libraries ran a variety of activities including robotics and 3-D printing demonstrations.
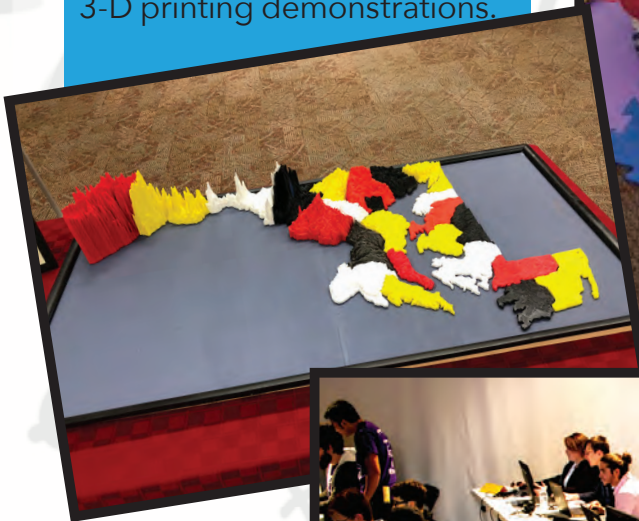
Challenge Island: Antarctic Iceberg, Stevenson Library, November 2

Preschoolers took a trip to Antarctica where they learned about the distinct physical features and the physical and behavioral adaptations that help penguins stay warm in the frigid climate as well as how they move through the snow. The students worked in groups to design a penguin toboggan ride. Additionally, the children used wind power to move the paper boats that they designed.

Girls Who Code Night Out, Calvert High School, November 8

Girls Who Code led 50 girls in a variety of activities to increase their interest in Computer Science. The attendees included several Girl Scout troupes and computer science teachers. Shane Wines from Calvert High School and Ashley Smith from Patuxent High School planned and organized the event along with the members of the Girls Who Code Clubs that they sponsor.
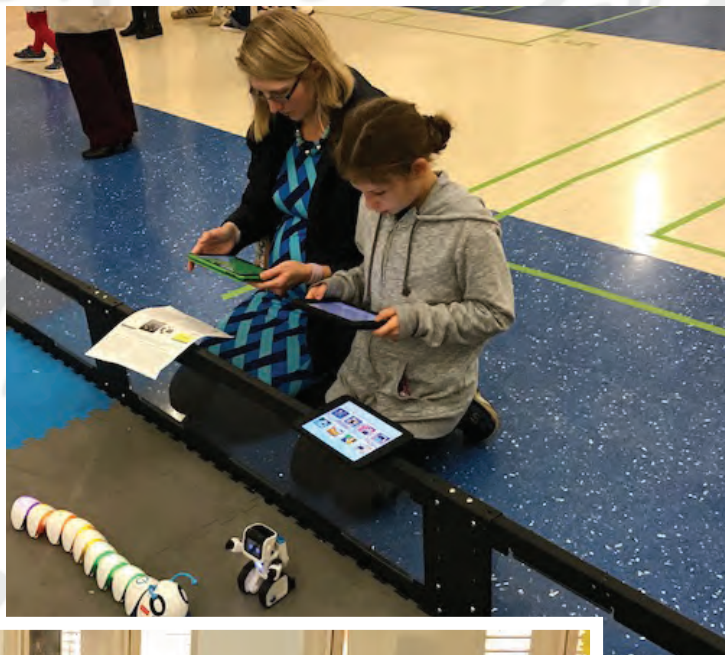
Montgomery College Family Math Expo, Montgomery College, November 11

The Montgomery College Family Math Expo returned for a second year with more board games, app games, and math activities for the whole family. The Expo included a 30-minute workshop on how to build mathematical thinking and problem-solving habits through board-gaming at home. Nearly 200 people attended the event. The special presenters from Labyrinth Games and Art of Problem Solving were a big hit.

Fort Meade Alliance STEM Family Night, Arundel Mills Mall, November 8

The Fort Meade Alliance event gave local elementary and middle school students and their parents a chance to experience the amazing world of science, technology, engineering and math! Over 500 attendees experienced cutting edge equipment, technology and STEM ideas including virtual reality, drones, robotics and a 3D pancake printer.

2017 STEM Festival, Hagerstown Community College, November 4

Over 300 attendees attended this fun and educational day that included a variety of STEM-related exhibits, hands-on activities, and friendly competitions. There were a wide range of activities for all age groups in the STEM Building, a state-of-the-art STEM building.

Keys to Empowering Youth, University of Maryland, November 4

Women in Engineering ran a program for 40 middle school girls. The girls took part in labs that made brown sugar ice cream, built straw bucket towers, created magnetic slime, and developed a balloon rocket car.

MARYLAND STEM FESTIVAL 2017

Join us
October 26 - November 11, 2018
for the
4th Maryland STEM Festival

Help the Festival enter a new era as it becomes a 501(c) (3) corporation with a full-time Director. In 2018, the Festival will spotlight Military STEM Careers. Military STEM Careers cover a wide range of areas including Health Care, Information Systems, Environmental Science, and Civil Engineering.

BE A SPONSOR

We need your financial support to bring STEM to all Marylanders. Join the state's leading corporations, government agencies, and educational institutions that support efforts to further STEM. Help recognize the remarkable impact of STEM on our state's economy and the quality of life for Marylanders! We have a GoFundMe Campaign as well!
https://www.gofundme.com/phil-rogofsky-director

BE A HOST

It's easy and it's fun. Almost any organization can host an event. Just run an event that focuses on explaining or showing the joy of a Science, Technology, Engineering or Mathematics area. We will be happy to help you plan your event and connect you with resources.

BE A PARTICIPANT

With over 600 anticipated events independently hosted across the state, there is something for everyone. Check out as many events as you can and help spread the excitement of STEM. Most events are free! For more information, e-mail us at **mdstemfest@gmail.com.**

MarylandStemFestival.org

✉ mdstemfest@gmail.com

📘 /MarylandSTEMFestival

🐦 @mdstemfest

📷 mdstem