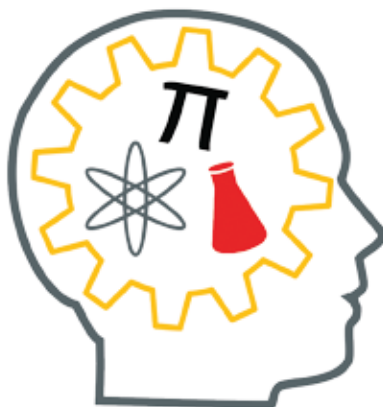


MARYLAND
STEM



FESTIVAL
2016

MARYLAND STEM FESTIVAL 2016 SUMMARY REPORT

NOVEMBER 4-13, 2016

MarylandSTEMFestival.org

 /MarylandSTEMFestival

 @mdstemfest

 @MDStem

The 2016 Team

The Maryland STEM Festival Planning Committee consists of members from diverse STEM organizations across the state:

Phil Rogofsky
Director

Bill Duncan
STEMaction

Jannette O'Neill-Gonzalez
Maryland State
Department of Education

Fellisha Roman
Maryland Out of School Time

Camilla Marshall
Universities Space Research
Association

Dr. Meredith Durmowicz
Stevenson University

Tanesha Boldin
Girls and STEM

The 2016 Advisory Board

Penny Cantwell
Education & Workforce
Development Chair
Ft. Meade Alliance

Dr. Stewart Edelstein
Executive Director
Universities at Shady Grove

Jeffrey Griffin
Director
Governor's Office on
Service and Volunteerism

Ron Gula
Co-Founder
Tenable Network Security

Chris Scolese
Director
NASA Goddard Space
Flight Center

John Short
Executive Vice President
Frostburg University

Renee Winksy
President & CEO
Leadership Maryland

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

Dr. Darryl Pines
Dean
University of Maryland
Clark School of Engineering

Dr. Jeffrey Isaacson
President & CEO
Universities Space Research
Association

Zulma Whiteford
STEM Chair
St. Louis School
Discovery Education Network
Leadership Council

Valerie Gross
President
Maryland Association
Public Library Administrator

Thank You To Our Sponsors and Major Partners

GOLD



SILVER



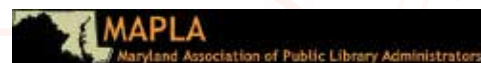
MEDIA SPONSOR



FOUNDING SPONSOR



PARTNER



BRONZE

Bowie State University
Carroll Community College
Coppin State University
Cybercore
Frostburg State

University of Maryland
University College
University of Maryland
Baltimore
Salisbury University
USRA

SUPPORTERS

American Council of
Engineering Companies-Maryland
University of Baltimore
University of Maryland
Baltimore County
Towson University
Wallace Montgomery

We Bring the Festival to You

The Maryland STEM Festival seeks to inspire all Maryland residents to become immersed in Science, Technology, Engineering and Mathematics. It shows that STEM is FUN and STEM is for everyone. The Festival proves that cultural background, geographic location, and level of experience are not barriers to entering the wide world of STEM.

The Festival provides ten days for Marylanders to explore and experience many areas of STEM. The exploration can take place in a library, museum, school, forest, or an open field.

The world economy is becoming more and more STEM dependent. The more STEM skills one has, the more likely they will succeed. The STEM Festival looks to play a role in Maryland maintaining its economic leadership.



Our Hosts



The Festival wouldn't have been a success without the amazing hosts. They gave happily of their time, space and resources. They ranged from first-time hosts to organizations that have been holding



these type of events for many, many years. They deserve an enormous thanks from the attendees. 87% of the hosts felt very positive about the Festival. 96% of the hosts are very excited to host next year.



The Festival kicked off at **HoCo STEM Festival** at Howard Community College on June 5th with Maryland Congressman



(now Senator) Chris Van Hollen and Secretary James Fielder from the Maryland Higher Education Commission.

The Maryland STEM Festival 20+ Club

Ten organizations held 20 or more 2016 Maryland STEM Festival events. Frederick County Public Library led the way with 42 events.

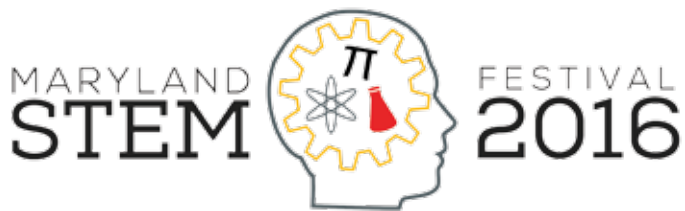
Other organizations that were members of the 20+ club include:

- Baltimore County Public Library
- Carroll County Public Library
- Enoch Pratt Public Library
- Howard County Public Library System
- Montgomery County Public Library System
- Prince George's County Parks and Recreation
- Prince George's County Public Memorial Library

NASA hosted 13 on-line events and broadcasted a Heliophysics program to twelve libraries across the state.

We hope other organizations will join this club next year!





40,000 estimated attendance



480 Separate Events



250 different locations and the Internet



24 Counties and Baltimore City



1 Fantastic Festival

Opening and Closing Ceremonies

The 2016 Maryland STEM Festival opened with a joint Maryland Science Center and National Aquarium program on November 4th.

The program began with speeches and activities at the Science Center. Paul Fipps, Chief Information Officer and Executive

Vice President, Global Operations, Under Armour, Dr. Kiki Sanford, *This Week in Science* and Phil Rogofsky, Maryland STEM Festival Director, spoke. The program continued with activities at the Aquarium and a taping of the national podcast *This Week in Science* featuring Dr. KiKi, Blair and Justin.



The 2016 Maryland STEM Festival ended on November 13th at the Thurmont Regional Library with an Earth Science Extravaganza.

The Frederick Keys mascot joined attendees in a variety of indoor and outdoor activities.

Allegany County Public Library presents “RoBo Jam!”



The ROBO Party was On! The future of robotics was explored with fun, interactive experiments on November 8th. Students brought LEGO lions to life with WeDo Robotics! Students made human pianos out of friends using Makey Makey circuitry!

American Council of Engineering Companies– Maryland presents ACEC STEM Fair



Engineering companies across Maryland came together to feature an entire day of cutting-edge STEM activities for students in middle to high school. The event was held at the historic and prestigious Engineers

Club. Nearly 100 students took part in this day of displays/presentations, motivational keynotes, and engaging networking event offering both inspiration and education.

Baltimore County Public School presents “BCPS STEM Expo”



The BCPS STEM Expo took place at the beautiful facilities of Lyons Mill Elementary, a newly constructed Baltimore County school entering its second year. It took place in conjunction with the Lyons Mill Fall Classic VEX IQ robotics tournament. Over 300 students and parents attended this mix of hands-

on activities, information sessions for students and parents, and companies volunteering their time to reach out to our school community. A few of the STEM highlights were video game design, renewable energy, forensics, and MakersSpace.

Carroll County Library presents “STEM Day at Taneytown Branch Library”



There was a full day of STEM activity at the Taneytown Library on November 7th where 180 students and parents participated. Two local robotics teams demonstrated their robots—which fascinated many and mesmerized the youngest attendees! There

was a reading of the Three Billy Goats Gruff with STEM activities for the very young. Mad Science of Washington DC presented Things That Go Boom! There were NASA Moon Rocks, a Van De Graff Generator, Legos, and more.

Garrett County presents the “STEM Lab”



Students celebrated the Maryland STEM Festival in Oakland by exploring the Library's STEM Lab on November 9th. For this special event, the Library meeting room was transformed into a lab space where



children from 6 to 13 explored a variety of activities including electrical circuits, coding, Osmo, Makey Makey, Ozobot, stop motion animation, and geometric Christmas ornaments.

Howard County Public Library presents “Coding for Community: A Civility Hackathon”



In celebration of this year's Choose Civility theme, Kindness is Contagious: Creating Community, Choose Civility hosted a Hackathon for teams of students, innovators, and creators. Teams developed ideas and generated solutions



for challenges proposed by Choose Civility Alliance Partners and Advocates. Students worked with mentors from the tech community spending up to five hours learning awesome new skills.

Maryland National Capital Parks and Planning Commission presents “S.T.E.A.M. Festival Kick-Off”



Maryland National Capitol Parks and Planning and Prince George's County Department of Parks and Recreation partnered to bring fun, FREE, and stimulating S.T.E.A.M. (Science, Technology, Engineering, Arts, and Math) based events. On November 5th, the organizations held a kick-off for their own STEAM Festival. The event highlighted the different events that were to be held during the STEM Festival. This included *Creative Cosmetics*; *Guts, Nuts and Bolts*; and *Ultimate Secret Formula Lab*.



Montgomery College presents “Chemistry for Scouts”



“*Chemistry for Scouts*” was a hands-on opportunity for Boy and Girl Scouts to earn chemistry-related merit badges. Local Girl Scout, Cub Scout and Boy Scout troops and individual Scouts went to Montgomery College’s Rockville campus to participate

in activities in the Chemistry Department’s teaching laboratories. Over 140 scouts attended the event and worked on Super Science, Adventures in Science, Chemistry, Nuclear Science, Home Scientist and Science of Style badges.

National Cryptologic Museum presents “Bring STEM to Life”



The National Cryptologic Museum celebrated STEM throughout history of making and breaking secrets on November 10th. NSA's museum showcases major advancements in communication and computer technologies. Attendees tried



some of the old and some of the new developments in encryption, biometrics, robotics, and math. Over 300 students and parents made and broke codes and ciphers with fun math brain teasers.



Noodles and Company



Noodles and Company was not only a major financial sponsor of the Festival, but hosted multiple events during the Festival. They hosted events featuring robotics,



food, and astronomy in and around their restaurants in Montgomery, Carroll, and Anne Arundel counties.

Patuxent River Naval Air Museum presented “STEM Day at the Museum”



On November 12th, the Patuxent River Naval Air Museum teamed up with the Naval Air Systems Command (NAVAIR) STEM outreach office to bring a variety of interactive displays and hands-on activities



to the museum. Students learned about the ways new aircraft and systems are designed and tested, and got hands-on with drones, model rockets and paper airplanes

Prince George's County Memorial Library presents “Walk across Maryland (on a Giant Map!)”



Kids of all ages came to Bowie Library on November 12th to experience the Old Line State in a new way. They took a “feet-on” approach to geography. National Geographic certified educators supervised this drop-in event designed to increase



geographic awareness. What better way to teach young people the limitless depth of geography than with a giant map of Maryland to explore, hop around, compete, collaborate and have lots of fun?

Springfield Middle School presents “The Great Desert Island Challenge”



Activities were built around the story of a shipwrecked traveler stranded on a deserted island. Washington County Students competed in three different challenges to help them get back to

civilization. They tested their engineering chops by creating items or structures that could withstand water, weight and a leafblower.

Talbot County presents “Maryland STEM Festival Kick-Off”



Over 500 people attended the Talbot County STEM Festival kickoff event on Sat. Nov. 5. The Talbot County Public Library partnered with Talbot County Public Schools, Chesapeake Bay Maritime



Museum, Easton Utilities, Target, Phillips Wharf, and Maryland Science Center. The County-wide program included activities and demonstrations on astronomy, aviation, energy conservation and local wildlife.

University of Maryland Eastern Shore presented “STEM Night at UMES”



Somerset County Public Schools and The University of Maryland Extension 4-H STEM partnered for a night of exciting, hands-on STEM activities on November 9th! Over 300 students and parents attended the event.

The most frequent comment heard was that they will need a bigger room for this event next year. Probably the most interesting and popular activity was the lemonade made by human power.

USRA presented “Hands on Learning at USRA”



Over fifty 9-12 year olds and their parents came to USRA’s Headquarter in Columbia on November 12th to explore STEM. USRA and NASA’s Goddard Space Flight Center partnered to provide a day of hands-on science exploration. The students saw the NASA Mobile Machine Shop, designed their own bottle rockets, and heard about the exciting work happening at Goddard from leading USRA Scientists and Engineers.



Join us **November 3-12, 2017** for the **3rd Maryland STEM Festival**

Step into the World of **Science, Technology, Engineering** and **Mathematics**.

BE A SPONSOR

We need your financial support to make the Festival happen. Join a growing list of the state's leading corporations, educational institutions, and charitable foundations that support efforts to further STEM. They recognize the remarkable impact of STEM on our state's economy and the quality of life for Marylanders!

BE A HOST

It's easy and it's fun. Almost any organization can host any event. Just run an event that focuses on explaining or showing the joy of a Science, Technology, Engineering or Mathematics area.

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

 /MarylandSTEMFestival

 @mdstemfest

 @MDStem