

# MAST 2022 Fall Conference Schedule

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## Friday, October 21, 2022

9:00 – 9:25 **Opening Session with President Sarah Pappalardo**

9:30 – 10:30 **Session 1**

10:40 – 11:10 **Session 2**

11:15 – 11:45 **Session 3**

11:55 – 12:55 **Session 4**

1:00 – 1:15 **Closing Session with President Sarah Pappalardo**

1:20 – 3:00 **Social time/Bringing MAST into the future**

## Session Descriptions

### **Session 1a - Mind-blowing and Masterful Manipulatives - Colleen Sommer; ExploreLearning**

Come learn more about online simulations to help engage, motivate and improve student learning. Gizmos are interactive math and science virtual labs and experiments for grades 3-12. Over 400 Gizmos are aligned to the latest standards and help educators bring powerful new STEM learning experiences to the classroom. This is a 60 minute presentation.

### **Session 1b - Removing the educational barrier of 3D model design - Spero - Scott Sheffield II; Scai Software LLC**

Spero a 3D modeling software that removes the educational barrier of 3D design. Using videogame controls and a point-and-click method, it allows anyone, of any age, to easily build 3D printable models that can also be used in game development. This is a 60 minutes hands-on workshop.

### **Sessions 1c - An Introduction to Genetic Counseling - Patrick Semesky; University of Maryland Medical Center**

This presentation will focus upon what a genetic counselor does, how to become a genetic counselor, and possible career paths within the field. A case example will also be provided to give attendees a better understanding of the genetic counseling process. This is a 60 minute presentation.

### **Sessions 1d - Forensic Chemistry: Poisoned Wine at a Party - Nus Hisim**

Analyze crime scene evidence using spectroscopy and chemistry concepts and see the application of Beer's law in an engaging experiment.

### **Session 2a - Infusing Climate Change and Climate Justice into 6th Grade Science Curriculum - Bess Caplan; The Howard County Conservancy**

The Howard County Conservancy, in partnership with NOAA and Howard County Public Schools, is developing a unit for 6th grade science that includes climate change and climate justice. Climate kNOWledge uses climate science, local examples of extreme weather events, and hands on data collection to inform student action project decisions. This is a 30 minute presentation.

### **Session 2b - Agrownomics, teaching Agriculture with a video game! - Phil Rogofsky and Tony Powell; Maryland STEM Festival**

Gamifying the agricultural experience is an incredible way to sneak learning into fun, while introducing children to the agricultural career possibilities & learning where their food actually comes from! AGROWNOMICS introduces all of this and more in a video-game setting that is both challenging AND fun! This is a 30 minute presentation.

### **Session 2c - Presidential Award of Excellence in Math and Science Teaching - George McGurl; Burleigh Manor Middle School**

Each year the National Science Foundation sponsors the PAEMST Award. application process, and professional development opportunities available to both applicants and awardees. The award and presentation is open to all educators K-12. This is a 30 minute presentation.

### **Session 2d - How Do Pollinators and Climate Change Issues Perform with NGSS? - Lolita Kiorpes; Charles County Public Schools**

Gain some background knowledge and use cross curricular activities that blend engineering practices with pollinators and climate change. See how news articles, graphing, technology, creativity, and modeling combine easily as a hands-on project incorporating NGSS. Give students ways to understand the importance of pollinators and the perils facing honeybees. This is a 30 minute presentation.

**Session 3a – Building Leaders in Climate Action - Jessica Kohout and Ann Strozyk; Howard County Conservancy**

Climate change is the biggest threat affecting our collective futures. It is imperative that we help provide students with the tools to understand climate science, impacts and solutions. The Youth Climate Institute can provide a framework to build changemakers. This is a 30 minute presentation.

**Session 3b – Environmental Action Civics - Sarah Jennings; Earth Force**

Educators, MWEE recipients, informal educators - join us to learn about how to course plan and facilitate a student-led environmental action project that infuses civics and leads to meaningful change of policy and practice, in partnership with the community and interested parties. This is a 30 minute presentation.

**Session 3c – Making the M in STEM Meaningful - Andria Walker; Harford County Public Schools**

Do you feel like the M in STEM gets left out? Take a look at innovative and inspirational math lessons and resources provided through the National Museum of Mathematics and the Rosenthal Prize for Innovation and Inspiration in Math Teaching. This is a 30 minute presentation.

**Session 3d – Promoting Application of Computational Thinking strategies into Teacher Academy of Maryland (TAM) Classrooms - Chelsea McClure; Towson University**

Teacher Academy of Maryland (TAM) teachers were participants in a professional development series to build confidence in and application of computational thinking (CT) in the High School classroom. This series included CT professional development, lesson application, and curriculum collaboration throughout a 3-month period. Links to Science & Engineering Practices, examples of CT implementation within the classroom setting using Scratch visual programming language and website, teacher reflections on the application of CT, and student artifacts will be shared. This is a 30 minute presentation.

**Session 4a – Presidential Awards Informational Session - Jeremy Haack; Maryland State Department of Education**

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) is the highest recognition a K-12 educator may receive for outstanding science, technology, and engineering instruction in the United States. PAEMST nominations will be open for 7-12th grade teachers in the fall of 2022. The session will walk participants through the PAEMST nomination and application process. This is a 60 minute presentation.

**Session 4b – Masters of Safety Talk - James A. Kaufman, PhD; Laboratory Safety Institute**

This presentation is a collection of advice for improving lab safety from a wise group of folks who never worked in a lab. But, their words can help us today to improve our safety programs. Their understanding of human nature leads us down the path to further grow the culture

The seminar is conducted by Dr. James A. Kaufman, Founder and President Emeritus of the Laboratory Safety Institute. Lab managers throughout the world have enjoyed hearing Dr. Kaufman's unique approach to excellent lab safety programs. For five decades, Dr. Kaufman has made thinking about health and safety an energizing and enjoyable experience. Don't miss this special opportunity. This is a 60 minute presentation.

**Session 4c – How Students can L.E.A.R.N. Science the Fun Way! - Joselyn Whetzel; Legends of Learning**

Science is about one's approach to learning. An approach that can be applied to other areas of life to help students assess and understand the world around them. It all starts with how they L.E.A.R.N. and breaks down to: literacy, engagement, activity assortment, research and notetaking. This is a 60 minute presentation.

**Session 4d – What's your Local Geology, and What are your Earth & Space Science Questions? - Martin F. Schmidt, Jr.; McDonogh School**

After a short presentation on Maryland geology to help teachers understand their local geology, we will open this up to Earth & space science content questions, for answers and science resources. We'll follow-up individually as needed. What do you need? This is a 60 minute presentation.