

Virginia Association of Science Teachers
2022 Professional Development Institute
*"Reconnecting to Virginia's Space, Place,
and Contributions to Science"*



**THURSDAY AFTERNOON PRECONFERENCE WORKSHOPS
NOVEMBER 10, 3:15 PM-5:00PM**

Preregistration is required, cost is \$5.00 per workshop (nonrefundable),

The deadline to register for a workshop is October 31.

Register for a workshop when you register online for the PDI.

Register for only one workshop since all three meet simultaneously.

<https://vast.wildapricot.org/2022pdi>

Elementary School Workshop

Building Science and Math Lesson Integration with STEM Challenges

This session will dive into a model STEM lesson where science and math concepts are equal partners in understanding a phenomenon or solving a problem. Participants will be engaging in constructing a model, testing their model, and collecting data. Next, we'll look at the need to present this data in a way to promote explanation which moves the participants into a math mini-lesson on data and measurement.

Presenters: Angie Meredith and Pam Caffery, Hand2Mind

Middle School Workshop

Balloon Aerodynamics Challenge

The NASA eClips Team will introduce and model the Balloon Aerodynamics Challenge that places students in the role of scientists and engineers as they design, measure, build, test and redesign a neutrally buoyant helium balloon system. Through this problem-based approach, the participants will explore foundational concepts of force, motion and Newton's Laws. Team building skills of collaboration, creativity and critical thinking will set the stage for this design-based experience.

Presenters: NASA eClips Education Team, National Institute of Aerospace Center for Integrative STEM Education
Dr. Sharon Bowers, Senior STEM Educator, Joan Harper-Neely, STEM Education Specialist,
Betsy McAllister, Hampton City School Educator in Residence

High School Workshop

Introduction to Small Unmanned Aircraft Systems (sUAS, or Drones)

The Virginia Space Grant Consortium coordinates several programs that train teachers on how to integrate geospatial technology and small unmanned aircraft systems (sUAS) into the classroom. This workshop will give teachers an introduction to sUAS, the new VDOE course, and the FAA Part 107 Remote Pilot Certificate. The target audience is high school teachers with little knowledge of sUAS. Teachers will be introduced to various applications of sUAS and perform some safe hands-on drone flying.

Presenters: Chris Carter, Deputy Director, Virginia Space Grant Consortium

Dr. Scott Bellows, Technical Programs Coordinator, Virginia Space Grant Consortium

Julie Young, Program Head--Mechanical Engineering Technology and Unmanned Systems, Thomas Nelson Community College