





- **Experiential Learning and Inquiry for Physical Science Educators (ELIPSE) is the theme for the Georgia Science Teachers Association (GSTA) District 2 & 12 (Northeast Georgia) Conference. This is the seventh year we have organized this workshop for K-12 educators of science.**
- The conference will present inquiry based strategies and technologies to enhance K- 12 student learning. Participants will be actively involved in learning inquiry techniques. The conference is being hosted by UNG - Gainesville, and is sponsored by the Georgia Science Teachers Association (GSTA), University of North Georgia, Brenau University College of Education, Moore's Wealth Management, and Tracy Tesmer Design/Remodeling.

#### Conference Location, Date & Time

- The conference will be held at the Science Building at UNG-Gainesville (3820 Mundy Mill Rd. Gainesville 30503) on Saturday, June 12, 2021, from 8:30 a.m. – 4:00 p.m. Check-in begins at 8:30 that includes a light breakfast selection with the first session starting at 9:00. Lunch will be provided to all participants. Take-away's are available at registration pickup. Door prizes are presented at the closing session. The grand prizes are four \$50.00 gift certificates for Education Innovations and the NSTA Book Store.
- **REGISTRATION for GSTA members is \$10.00, non-members is \$15.00, pre-service/student teachers \$5.00. Cancellations must be received by May 21. otherwise payment will be expected for all registrants. Please make payment via the GSTA website during registration.**

#### Schedule

- The featured keynote presentation topic will be "Flip your script! Engaging Physical Science Students in the Science & Engineering Practices" by Donna Barrett, current GSTA President and renown presenter for *Engaging Science*.
- In addition, there will be a breakout session given by Frank Lock, Retired High School Science teacher from Englewood, Florida titled "Nature of Science, and Astronomy" about an important aspect of science - categorization. Chemists categorize elements, physicists categorize forces, biologists categorize everything. Participants will work through a categorizing activity.
- A special topics session is already included in the program titled "Exploring Nuclear Energetics through Hands-on Fusion and Fission Models" which will include hands on demonstrations involving nuclear reactions presented by David Osmond, Associate Professor of Science Education at the University of North Georgia.
- Another special presenter is from Clare Swinford, Director of NASA Regional Educator Resource Center, with the Museum of Aviation.
- Four 60 minute sessions are scheduled, with three or four presentation choices per time slot.
- The conference will conclude with the presentation of door prizes with four \$50.00 certificates to Education Innovations and NSTA Press as the grand prizes. Winners must be present at the Closing Session.
- Theme of the sessions will be NASA satellite imagery, Astronomy, Physical Science, Inquiry and Engineering in the elementary, middle and high school, as well as STEM and Georgia Standards of Excellence (GSE).
- Additional presenters will include faculty from the University of North Georgia, Brenau University, and GSTA members from District II/XII and around the state.
- Masks will be required for all participants at all times while on campus.
- **Only 80 participants will be allowed to register.**
- Session sign-up will be sent to paid participants before the workshop. Each session will have a limited number of participants based on room occupancy numbers.
- Up to 1 professional learning units (PLU's) is available for participation

**"REGISTRATION" GO TO THE GSTA WEB PAGE FOR UPCOMING EVENTS AND FIND ELIPSE 7.0:**

- <http://georgiascienceteacher.org> (Look at the bottom of the page for "Upcoming Events" to find link for ELIPSE 7.0) Deadline is May 24th, 2021 to insure we have your t-shirt size
- For information contact: April Nelms - [april.nelms@ung.edu](mailto:april.nelms@ung.edu), Frank Lock - [flock@gsu.edu](mailto:flock@gsu.edu), David Osmond - [david.osmond@ung.edu](mailto:david.osmond@ung.edu), Amanda Moffett - [Amanda.Moffett@ung.edu](mailto:Amanda.Moffett@ung.edu), or Karen Henman - [khenman@brenau.edu](mailto:khenman@brenau.edu)

## MISCELLANEOUS INFORMATION

- UNG Public Safety contact information: (706) 864-1500 or [publicsafety@ung.edu](mailto:publicsafety@ung.edu)
- Didn't get a PLU? Email [April.Nelms@ung.edu](mailto:April.Nelms@ung.edu) your full name and mailing address. Put "ELIPSE 7.0 PLU" in subject line.
- Wifi:



Post-Conference Survey:

[https://www.allcounted.com/s?did=s14mtiv71muzx&lang=en\\_US](https://www.allcounted.com/s?did=s14mtiv71muzx&lang=en_US)

## Agenda

REGISTRATION, 8:00AM TO 8:55AM

**REGISTRATION AND BREAKFAST**  
SCIENCE BUILDING ATRIUM

PLENARY SESSION, 9:00AM TO 9:55AM

**WELCOME AND OPENING REMARKS**  
STUDENT CENTER STAGE  
  
FRANK LOCK  
ELIPSE CONFERENCE COMMITTEE

**OPENING PLENARY SESSION**  
STUDENT CENTER STAGE

**"FLIP YOUR SCRIPT!"**

DONNA BARRETT, CURRENT GSTA PRESIDENT AND RENOWN PRESENTER OF ENGAGING  
SCIENCE

PLEASE MAKE YOUR WAY TO THE SCIENCE BUILDING FOR CONCURRENT SESSIONS  
STARTING AT 10:10 AM

SESSION 1 – 10:10 – 11:00 AM

Amanda Moffett – (Middle/Secondary)

Presider:

Room: 262/264

**People Powered Research in the Classroom with Galaxy Zoo**

Crowdsourcing is not just for restaurant reviews and funding goals! With the advent of projects like Zooniverse, anyone with an interest and an internet connection can contribute to real cutting-edge research, driving discoveries in fields as diverse as astrophysics, wildlife biology, and even history. In this session, we will explore the Zooniverse Classrooms toolkit and use it to learn about extragalactic astronomy through participation in a people-powered research project known as Galaxy Zoo.

Karen Henman – (Elementary through Secondary)

Presider:

Room: 201

**NASA James Webb Space Telescope - Launch Coming in October**

Would you like to know about the telescope that will replace the Hubble Telescope? NASA's James Webb Telescope is scheduled to launch this coming October. This presentation will feature some of the new telescopes features.

Donna Barrett – (Middle/Secondary)

Presider:

Room: 216

**Flip your script! Engaging Physical Science Students in the Science & Engineering Practices**

Looking for ways to engage students in the Science and Engineering practices in the GSE? This session will share strategies to move towards engaging students in making sense of physical science concepts. Using concepts such as density, electromagnetism, and law of conservation of mass, we will explore ways to engage in making models, constructing arguments, and analyzing data.

BREAK – 11:00 – 11:10 AM

SESSION 2 – 11:10 – NOON

Karen Henman – (Elementary through Secondary)

Presider:

Room: 201

**Equitable Learning within the Science Classroom**

Diversity, inclusion and equity are current topics relevant to classrooms today. This session will feature ideas, resources, and activities that address the need to support engaging science education within the K-16 setting.

Frank Lock – (Elementary/Middle)

Presider:

Room: 216

**Middle school science activities; Nature of Science, and Astronomy**

An important aspect of science is categorization. Chemists categorize elements, physicists categorize forces, biologists categorize everything. In this part of the presentation participants will work through a categorization activity they can use with their students to give them an experience that demonstrates what categorizing things is about.

The second part of the presentation will introduce participants to a solar system astronomy activity designed for sixth graders that can be adapted for use in fourth grade.

Katherine Mullen – (Middle/Secondary)

Presenter:

Room: 262/264

**Beyond Digital Learning - Taking best practices from a hybrid year back to the face-to-face classroom**

This workshop will explore nearpod, desmos and google forms. It will show you how to use some of the powerful features in these programs and use them with face to face students.

LUNCH – NOON – 12:50 PM

Science Building Atrium

SESSION 3 – 1:00 – 1:50 PM

Max Vazquez Dominguez & Kimberly Davidson (Elementary)

Presenter:

Room:201

**Using catapults to teach position**

In this workshop, we will use catapults to teach about position (two methods: cartesian coordinate system and using angle and distance). This activity is perfect to teach about the engineering process. We will also link this to a literacy activity using children's books.

Jeremy Peacock (Middle/Secondary)

Presenter:

Room: 216

**Melting Ice, Microwaves, and More! Using NSTA's Daily Dos to Engage Students in Minds-On Learning**

NSTA's Daily Dos help teachers minimize barriers to three-dimensional learning and engage all students in sensemaking with relevant phenomena in any setting. The growing list of Daily Dos includes physical science concepts at all grade levels. In this session, you will engage in one of the middle/high tasks with the lesson author and learn about other Daily Do resources including playlists.

Zac Miller – (Secondary)

Presenter:

Room: 262/264

**Geospatial Science and Technology**

Connecting the geospatial industry to K12 Math and Science education. I will also be sharing links to different computer sites to help make the task of connection your own courses easier.

BREAK – 1:50 – 2:00 PM

SESSION 4 – 2:00 -2:50 PM

Patricia Forehand & Claire Swinford (Elementary/Middle)

Presider:

Room: 103

**Mar(s)velous STEM!**

Explore current Mars missions with hands-on STEM activities that support interdisciplinary integration and Georgia Standards of Excellence. Presented by Georgia's NASA Regional Educator Resource Center at the Museum of Aviation.

Frank Lock (Middle/Secondary)

Presider:

Room: 216

**Climate Science Presentations for Middle School and High School Students.**

It is important that students in grades six through twelve have an appropriate understanding of the science of climate change. Climate Reality Project presenter and mentor Frank Lock will introduce participants to lessons that can be used with their students. Active Learning strategies will be used in the presentation. The lessons will be available to the participants following the presentation.

Open session (Middle/Secondary)

Presider:

Room: 262/264

DOOR PRIZES / CLOSING SESSION – 3:00 – 3:45 PM

Dr. Karen Henman, Introduction

Dr. Justin Harvey, GSTA President, Membership Benefits

April Nelms, Closing announcements, PLU Certificates

**Door Prizes!**

## BIOGRAPHICAL INFORMATION

### **Donna Barrett**

Bio coming soon.

[donnajbarrett@gmail.com](mailto:donnajbarrett@gmail.com)

### **Kimberly Davidson**

Bio coming soon.

[kimberly.davidson@ung.edu](mailto:kimberly.davidson@ung.edu)

### **Patricia Forehand**

Bio coming soon.

[pforehand@museumofaviation.org](mailto:pforehand@museumofaviation.org)

### **Justin Harvey**

Bio coming soon.

[president@georgiascienceteacher.org](mailto:president@georgiascienceteacher.org)

### **Karen Henman**

Karen Henman moved from Indiana in 2010 to Gainesville, Georgia to teach Science Methods at Brenau University. Prior to her move she taught middle school, life, earth, physical, and integrated science for 33 years. During that time she held various offices in the Hoosier Association of Science Teachers, including President and Conference Chair. Karen received her Bachelors of Science in Science Education from Ball State University, Masters in Science Education from Indiana University and Ph.D. in Curriculum, Instruction and Technology in Science Teaching and Learning from Indiana State University.

[khenman@brenau.edu](mailto:khenman@brenau.edu)

### **Frank Lock**

From 1974-1979 Frank taught middle school science outside of Niagara Falls, NY. From 1979 – 2009, he taught chemistry, physics and astronomy at Lemon Bay H.S. in Englewood, FL. In 2003, he received the Distinguished Service Award from the Florida Section of AAPT. He was selected as Charlotte County Schools 2005 Teacher of the Year, awarded the Pittcon Citation for Excellence in Science Teaching in March of 2006, and was selected as a member of the NASA Network of Educator Astronaut Teachers in 2004. Frank retired in 2009, and relocated to Gainesville, Georgia. From August, 2014, through May, 2018 he was the PhysTEC Teacher in Residence in the Georgia State physics and astronomy department. Frank is a STEPUP Physics ambassador, and a Climate Reality Project presenter.

[lockphys@gmail.com](mailto:lockphys@gmail.com)

### **Zac Miller**

Bio coming soon.

[zac.miller@ung.edu](mailto:zac.miller@ung.edu)

### **Amanda Moffett**

Dr. Amanda Moffett is an Assistant Professor in the Department of Physics and Astronomy at UNG (Gainesville campus). Amanda completed her Ph.D. at the University of North Carolina at Chapel Hill in 2014 with dissertation research focused on constraining galaxy evolution models with large-scale galaxy survey observations. Amanda then served as a postdoctoral researcher at the University of Western Australia and a Stevenson Postdoctoral Fellow at Vanderbilt University. Now at UNG, Amanda continues to investigate the physical processes governing galaxy formation and evolution as a collaborator on multiple large galaxy survey projects.

[amanda.moffett@ung.edu](mailto:amanda.moffett@ung.edu)

### **Kathryn R. Mullen**

Kathryn R. Mullen has been teaching for 15 years. She currently is in her second year teaching High School Physical Science to 8th graders at Trickum Middle School. Prior to that she taught High School Chemistry and Environmental Science at Southwest DeKalb High School and Meadowcreek High School. Ms. Mullen took a 9 year break from teaching between years 4 and 5. She spent time teaching HIV, AIDS and STD education, conducting an perinatal transmission of HIV study and writing NEPA documents for civil engineers. She is the

[kathryn\\_mullen@gwinnett.k12.ga.us](mailto:kathryn_mullen@gwinnett.k12.ga.us)

District 12 representative for the Georgia Science Teachers Association. She also is a Physical Science coordinator for Gwinnett County. She is passionate about literacy in the classroom and making science fun.

**Jeremy Peacock**  
Bio coming soon.

[peacock.jeremy@gmail.com](mailto:peacock.jeremy@gmail.com)

**Clare Swinford**  
Bio coming soon.

[cswinford@museumofaviation.org](mailto:cswinford@museumofaviation.org)

**Max Vazquez Dominguez**

[max.vazquezdominguez@ung.edu](mailto:max.vazquezdominguez@ung.edu)

Max Vazquez Dominguez is an assistant professor of science at the University of North Georgia. He has worked in numerous science and literacy programs with middle school science teachers, ESOL teachers, emergent bilingual students and their families. His research interests include using the emergent bilingual students' interests and passions in the teaching/learning process, family involvement, science and soccer, the use of the space to enhance science learning, and bilingualism in science.

## SPECIAL THANKS TO OUR SUPPORTERS

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UNG, College of Education  
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Georgia Science Teachers Association, District 2 and District 12  
UNG, Foundation  
Student Volunteers  
Faculty Volunteers

## CONFERENCE SURVEY

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[https://www.allcounted.com/s?did=s14mtiv71muzx&lang=en\\_US](https://www.allcounted.com/s?did=s14mtiv71muzx&lang=en_US)

Make plans to attend ELIPSE 8.0 in 2022!

