

GSTA District 2 & 12 Science Teachers Conference
Experiential Learning and Inquiry for Physical Science Educators

E.L.I.P.S.E. 8.0

**Lunch will be provided with takeaways,
conference t-shirt,
& door prizes.**

**Grand Prizes: 4 \$50 gift certificates for
Education Innovations and NSTA
bookstore!**

**University of North Georgia
Gainesville Campus – Science Building**

**3820 Mundy Mill Rd. Gainesville
30503**

**Saturday, March 26, 2022
from 8:30a.m. – 4:00p.m.**

Registration : <http://georgiascienceteacher.org>

MISCELLANEOUS INFORMATION

- UNG Public Safety contact information: (706) 864-1500 or publicsafety@ung.edu
- Didn't get a PLU? Email April.Nelms@ung.edu your full name and mailing address. Put "ELIPSE 8.0 PLU" in subject line.
- Wifi Username: elipseguest **Welcome26!**
- Conference presentations at: https://bit.ly/3lip53_8



Post-Conference Survey:

<https://freeonlinesurveys.com/s/Zl9vr1Q6>

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

J.B. SHARMA
ELIPSE CONFERENCE COMMITTEE

OPENING PLENARY SESSION
STUDENT CENTER STAGE

“STARTING WITH ‘WHY’ TO INSPIRE SCIENCE LEARNING”

JEREMY PEACOCK

Business, social, and political leaders know that if they "start with why" then they can inspire people to take action. Likewise, we can inspire our students to learn by leading with the why. At the same time, we can stoke students' curiosity and help them learn to ask the right questions to find meaning and relevance all around them. In doing this, we can help our students be better learners and give them the tools they need to make our world a better place. I'll share some approaches we can use to do this in every science classroom.

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

Cristina Washell – (K-12)

Presider:

Room: 201

Making the Science Curriculum Accessible to All: Using UDL to Support Students with Special Needs

Through this presentation, participants will review various ways in which K-12 teachers can use the Universal Design for Learning (UDL) framework as a way of supporting all learners, especially those with special needs. Participants will explore ways in which the UDL framework can be implemented into science lessons. Although there is no agreed upon science education model that is designed to meet all students' needs, the UDL framework can be used to teach to the strengths of all students, whether they have special needs or not. Through the use of accommodations and modifications that are at the heart of UDL, participants will explore how science teachers can adapt their practices in a way that supports students with varied abilities and experiences. The presenter will share strategies and approaches that support students with special needs in the science classroom and participants will engage in several instructional activities that illustrate how UDL can be used to support all learners.

Karen Henman & Julie Carbaugh (K-5)

Presider:

Room: 213

Perfect Pairs: Using Fiction and Nonfiction Picture Books to Teach Science

In this session, you will learn about integrating both fiction and nonfiction picture books in elementary classrooms into lessons along with some engaging hands-on activities.

David Osmond (6-12)

Presider: Frank Lock

Room 216

Hacking the Brain to Control Robots

This session will be playing with a brain body interface to understand one of the more shocking ideas in biology. Our body uses electricity to send information over long distances and to control our body's many functions. We will work together to construct a representation of how our brain interacts with its environment.

J.B. Sharma – (6-12)

Presider: Karen Henman

Room: 213

Exploring Landsat Multispectral Satellite Imagery for use in K12 Science Courses using the Google Earth Engine (GEE)

Satellite imagery is a very powerful educational tool that is relevant to several disciplines like physics, physical/environmental science and geography. The NASA/USGS Landsat Imagery is available free on platforms like the Google Earth Engine (GEE). Participants will be apprised about the nature of multispectral imagery, the type of remotely sensed data

available on GEE and observing land cover change on our planet. There will be active exploration of the imagery along with observations of land cover change with 'movies' made using Landsat imagery over several decades. The workshop will end with a discussion by the participants about how Satellite imagery can be incorporated in the courses that they teach. This workshop will be interactive and it is preferred that the participants get 'trusted tester' access to GEE by going to the website: <https://earthengine.google.com/> and clicking on the 'Sign Up' tab on the top right of the webpage. Please do this at least a couple of days in advance of the workshop.

Justin Harvey – (6-12)
Presider: Amanda Moffett
Room: 216

Exploring Electrical Resistance with Ohm's Law

In this session we will work through an investigation that allows students to develop a conceptual model of electrical resistance and develop Ohm's Law through their lab data. The lesson centers around a phenomenon that students try to explain by investigating why lights might have different brightness.

Frank Lock – (K-12)
Presider: David Osmond
Room: 201

Look, No Hands! An Easy Formative Assessment Strategy

Formative assessment in the classroom is important to gauge student learning. Look, No Hands (LNH) is a formative assessment strategy that is easy to implement and can provide important information for teachers about student misconceptions, as well as depth of understanding. It can be used with third grade students (and perhaps younger) through twelfth grade students, in any subject. This presentation will provide participants with information about the strategy, and they will experience what their students experience when it is used. Suggestions will be provided for implementing the strategy. One important aspect of LNH is that teachers experience good social interactions with their students, and students have the opportunity to develop and improve their social interaction skills. This presentation will provide participants with information about the LNH formative assessment strategy, and experience what their students experience when it is used.

LUNCH – NOON – 12:50 PM

Science Building Atrium

SESSION 3 – 1:00 – 1:50 PM

Lesley Simanton-Coogan (K-12)
Presider: Frank Lock
Room:201

UNG Coleman Planetarium: Exploring Field Trip Resources

The UNG Coleman Planetarium offers low cost field trips for students to learn about the universe from a unique perspective. The planetarium dome allows us to create a realistic simulation of the day and night sky from North Georgia, and our recently upgraded (January 2020) full-dome digital projection system allows us to fly into space to visit the Sun, Moon, and planets close up. Come learn about the standards covered in our planetarium field trip

shows for K-12 students and the exciting resources offered by your local planetarium for unforgettable space exploration.

Denise Webb (Elementary - Secondary)

Presider: David Osmond

Room: 216

Staging Family Science Nights

Staging Family Science Nights will show you details on how to run a successful Family Science Event, whether you're looking for new ideas for an established science night or planning your first one. It is useful for teachers at all levels. The goal for these events is to create an informal learning environment that will generate enthusiasm and enjoyment of science among the entire family, that includes quality science content and practices. This program is a great way to bring together the entire community!

Amanda Moffett (K-12)

Presider: Clare Swinford

Room: 213

Machine Learning for Everyone with Scratch

Machine learning and other related computer programming concepts are ubiquitous in our modern world, used for everything from facial recognition to email spam filtering technologies. In this session, we will explore the use of a visual programming interface, known as Scratch, to teach basic computer programming and machine learning principles through bite-sized projects such as teaching a computer how to play a game or recognize specific text and image features.

BREAK – 1:50 – 2:00 PM

SESSION 4 – 2:00 -2:50 PM

Kathryn Mullen – (6-12)

Presider: Lesley Simanton-Coogan

Room: 213

It's a Phenomenal World

This presentation looks at various phenomena you can use in a Physical Science Classroom. It will include techniques to use to introduce and use phenomena.

Clare Swinford and Patricia Forehand – (K-12)

Presider: David Osmond

Room: 201

Women in Space through the Artemis Generation

The Women In Space through the Artemis Generation Workshop will focus on the women in NASA who have influenced the discovery and exploration of new worlds in space. The workshop will provide you with tools and hands on activities to use in the classroom to help your students understand the positive impact that women have had (and continue to have) in the real world while providing you with STEM ideas to use in your schools to influence all students to reach for the stars!

Frank Lock
Presider:
Room: 216
Climate Science

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. Participants will use Active Learning strategies during the presentation. Power point presentations used for the lessons will be available to the participants following the presentation.

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

Dr. Karen Henman, Introductions

Frank Lock, Closing announcements, PLU Certificates
Door Prizes!

CONTACT INFORMATION

Cristina Washell	cristina.washell@ung.edu
Frank Lock	lockphys@gmail.com
J.B. Sharma	jb.sharma@ung.edu
Justin Harvey	justin.harvey@gcpsk12.org
Kathryn Mullen	davidandkat3@hotmail.com
Clare Swinford	cswinford@museumofaviation.org
Patricia Forehand	pforehand@museumofaviation.org
Lesley Simanton-Coogan	lesley.simantoncoogan@ung.edu
Denise Webb	dewebbsciencegal@gmail.com
Amanda Moffett	amanda.moffett@ung.edu
Karen Henman	khenman@brenau.edu
Julie Carbaugh	jcarbaugh1@brenau.edu

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Faculty Volunteers
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CONFERENCE SURVEY

Post-Conference Survey: <https://freeonlinesurveys.com/s/ZI9vr1Q6>

Make plans to attend ELIPSE 9.0 tentatively on January
28th 2023!

