

SAVE the DATE!

The Annual Biology Teacher's Workshop

At Lycoming College is BACK!

It's back with presenters from *HHMI Biointeractive*, our friends *Dr. Margaret Franzen from the Center for Biomolecular Modeling and 3D Molecular Designs*, *Tamica Stubbs from BioRad*, *David Garbe from PSBR* with a new presenter *Erika Fong from MiniONE*. And quite possibly more!

GOALS:

- To update, supplement and develop what you know about the developments unfolding in the world of biology.
- To develop stories and new ideas for your classroom instruction and pedagogy super powers.

You will attend at least 4 sessions which will refresh your skills and teach you new information for your thirsty brain!

Date: November 20, 2018

Time/Schedule:

- Registration begins at 7:45,
- Welcome and Logistics from 8:15 to 8:30; sessions and lunch from 8:30-3:00,
- Closing and door prizes from 3-3:15.

Location: Heim Science Building at Lycoming College

GPS Address: 500 Mulberry Street Williamsport, PA 17701

Registration Link: <https://tinyurl.com/2018BioWrkshp> ,
please have your credit card ready

Registration Fee: \$25, parking, lunch and snacks are free.

Presenters:

Ms. Tamica Stubbs- BioRad

Recently, opioid dependency & abuse have exploded in the U.S. as have the call for improved treatments thereof. In this session, explore how molecular genetics is capitalizing on gene variants to predict addiction risks for opioid abusers and how to use Hardy-Weinberg and Chi Square analysis to understand its significance.

Dr. Margaret Franzen-The Center for Biomolecular Modeling

Dr. Margaret Franzen is back again with her molecular models! This year she's bringing a brand new Chromosome Kit that connects disparate concepts. The models allow students to visualize both DNA and chromosome structure simultaneously, connecting DNA replication with mitosis and meiosis. Students can model crossing over at the nucleotide level and explore how different alleles simply contain differences in their nucleotide sequence, connecting meiosis with genetics. We will also briefly explore chromosomal aberrations. Based on science education research findings, the kits are specifically designed to confront student misconceptions related to these topics. Participants will work with the models, and we'll discuss how the design of the models addresses common misconceptions

HHMI Biointeractive: Bob Cooper

Genome-wide association studies (GWAS) have revolutionized genetics resulting in a deeper understanding of complex diseases. These technologies are laying the groundwork for an era of personalized medicine where each patient will receive treatment customized to their genetic makeup. Learn how scientists use GWAS to locate genes associated with specific diseases.

MiniONE Erika Fong

Who Is Baby Whale's Father? DNA Fingerprinting Solves the Mystery!

Come learn and get hands-on experience on how to teach gel electrophoresis and DNA fingerprinting in your classroom. You will pour, load, and run a gel, capture gel image, analyze the results, and deduce a probable conclusion for a whale of a forensic mystery.

Pennsylvania Society for Biomedical Research: David Garbe

*This workshop is a collaboration between the **Biology and Admissions Departments of Lycoming College, Karen Avery and Tanya Berfield of The Pennsylvania College of Technology and BLaST IU 16.***