

NSTA Regional Conference 2019

# Free Teacher Workshops

Presented by Bio-Rad Laboratories

Step-by-Step, Hands-on Experience

Cincinnati, OH

Duke Energy  
Convention Center

November 14–17

Thursday | November 14

Room 200	Title	Description
11 AM–12 PM	<b>Modern Biology Is Revolutionizing Human Lives! Are Your Students Prepared?</b>	Glowing cats? Personalized medicine? Designer babies! Empower and prepare your students to think critically as modern biology revolutionizes medicine, industry, and human lives. Learn from a leader in biotechnology education how to build your bioscience lab program step-by-step with equipment, supplies, and student credentials.
2–3 PM	<b>Learn to Infuse NGSS Science/Engineering Practices with an Engaging Activity</b>	This workshop will focus on illustrating the science and engineering practices described in the NGSS framework through the engaging pGLO Bacterial Transformation activity.
3:30–4:30 PM	<b>Think Like an Engineer in Your Biology Class</b>	Incorporate NGSS science and engineering practices in your biology class by engaging students to define the problem of world hunger. Considering constraints, students will design a treatment plan (solution), in the form of an evidence-based argument, for protein-energy malnutrition.

Friday | November 15

Room 200	Title	Description
8–9 AM	<b>Investigate Photosynthesis and Cellular Respiration with Algae Beads for GenBio</b>	Use algae beads in a colorimetric assay to study photosynthesis and cellular respiration. Learn how students can observe a phenomenon, ask meaningful questions, design and carry out their own experiments to understand how these processes are connected.
9:30–10:30 AM	<b>Are Increased Incidences of Infection the Result of Climate Change?</b>	Why does climate change matter? Find out which suspected microbes are associated with increased reports of infections and why they may be more common as the temperature on Earth increases.
11 AM–12 PM	<b>The Opioid Epidemic: Exploring the Genetic Associations of Opioid Abuse</b>	Opioid abuse is prevalent in the U.S. Students take on the role of researchers as they design an experiment utilizing a fast electrophoresis protocol of pre-amplified DNA samples that predicts addiction risks for opioid abuse, treatment, and implications to precision medicine based on a patient's genotype.
2–3 PM	<b>It's in Their DNA! Teach Personalized Medicine with Students' Own DNA</b>	Experience a hands-on classroom activity where students work with their own genes and PCR in the context of personalized medicine, the wave of future disease treatment.
3:30–4:30 PM	<b>Mushroom Ecology and Why It Matters for Biofuel Production</b>	With rising greenhouse gases, bioengineers apply observations in mushroom ecology toward finding a biofuel solution. In this hands-on workshop, use an inquiry-based approach as you extract enzymes from mushrooms and optimize reaction rates for biofuel production.

Come visit us at **Booth #219**

Can't make a session? Don't miss out — download the FREE presentations from [bio-rad.com/explorerworkshops](http://bio-rad.com/explorerworkshops)

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