Free Teacher Workshops

Presented by Bio-Rad Laboratories

Step-by-Step, Hands-on Experience

NSTA — Richmond, VA | Greater Richmond Convention Center

October 16–18, 2014

Bring Biotechnology into your classroom today with hands on labs.

Biotechnology: A Laboratory Skills Course

Bio-Rad Workshop Schedule

Pre-registration is not required. Conference attendees simply show up at the workshop room.

Thursday, October 16

▶ **See reverse for course descriptions**

1:00 to 2:30 PM, Room E23 A/B

Identify Patient Zero of a Zombie Apocalypse (1.5 hrs)

3:00 to 4:30 PM, Room E23 A/B

Effortlessly Integrate Inquiry with Glowing Bacteria (AP Big Idea 3) (1.5 hrs)

Friday, October 17

8:30 to 10:00 AM, Room E23 A/B

What Fish is That? Have Fun With PCR, Fish Flashcards, and Jeopardy to Perform DNA-based Identification (1.5 hrs)

10:30 AM to 12:00 PM, Room E23 A/B

DNA Detectives — Who Killed Jose? (1.5 hrs)

1:30 to 2:30 PM, Room E23 A/B

Are Worms Smarter Than Your Students? (AP Big Ideas 1, 2, 3, 4) (1 hr)

3:00 to 4:00 PM, Room E23 A/B

Communicating Science Through Lab Notebooking (1 hr)

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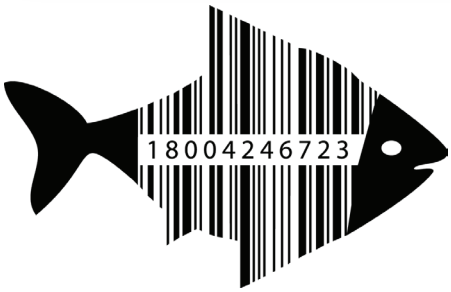
Visit us at **Booth #618**



BIO-RAD

*Visit us on the Web at **explorer.bio-rad.com** or call us at 1-800-4BIORAD (1-800-424-6723)*

Biotechnology Explorer™

Thursday, October 16 Room E23 A/B

1:00 to 2:30 PM

Identify Patient Zero of a Zombie Apocalypse (1.5 hrs)

Explore how a zombie virus could spread through the population with this hands-on classroom lab using the power of an ELISA assay. The highly specific nature of antibodies allows researchers to develop tests for almost any biological molecule that elicits an immune response. Learn about how to use an ELISA to monitor transmission and track the spread of the disease!

3:00 to 4:30 PM

Effortlessly Integrate Inquiry with Glowing Bacteria (AP Big Idea 3) (1.5 hrs)

How comfortable do your students feel about engaging in inquiry? Join us to learn new ways to advance inquiry in the classroom — from guided to open inquiry — by establishing a strategy that integrates essential and real-world scientific practices that will encourage your students to direct the scientific investigation. From generating scientifically reasonable questions to developing the procedure to interpreting the data, the glowing bacteria from pGLO™ will lead the way.

Friday, October 17 Room E23 A/B

8:30 to 10:00 AM

What Fish is That? Have Fun With PCR, Fish Flashcards, and Jeopardy to Perform DNA-based Identification (1.5 hrs)

Your students won't even know they are learning when you use games to explore barcoding of fish species. Learn how to extract genomic DNA, amplify it with PCR, and classify species using sequencing and bioinformatics to determine if that fish you just bought is really what the label says it is. Also learn about the International Barcode of Life initiative which uses this technology, and find out how your students can contribute to this global genetic repository for barcodes of all species.

10:30 to 12:00 PM

DNA Detectives — Who Killed Jose? (1.5 hrs)

In this hands on lab solve a theatrical crime scene using biotechnology skills such as DNA gel electrophoresis, restriction digestion and pipetting. Learn about the Innocence Project and how the wrongly accused can be exonerated.

1:30 to 2:30 PM

Are Worms Smarter Than Your Students? (AP Big Ideas 1, 2, 3, 4) (1 hr)

How do genes influence behavior? Use the model organism, C. elegans (a nematode) to answer this question in an engaging activity that compares normal and mutant worm behavior in a classical conditioned learning experiment (think Pavlov's worms). We will explore worm taste preferences in a simple and fast chemotaxis assay, and examine the connection of our worm mutant to human diseases. Come see this great alternative AP fruit fly behavior lab!

3:00 to 4:00 PM

Communicating Science Through Lab Notebooking (1 hr)

Maintaining a proper lab notebook is key to communicating processes and findings to build on results. It's also been the difference in being awarded patents. Find out what the critical elements are to properly document results and how to assess student notebooks using a rubric.