9:00 am - 5:00 pm

Board of Directors Meeting
Grand B

Cyberlearning at Community Colleges (C3) Workshop
Newport Beach/Rancho Las Palmas • Symposium • Instructional Strategies & Technologies • 2C

This invitation-only workshop is designed for community college biologists to learn about using and developing cyberlearning resources.

— Samuel Donovan, University of Pittsburgh, Pittsburgh, PA; Kristin Jenkins, NESCent, Durham, NC; Colleen McLinn, Cornell Lab of Ornithology, Ithaca, NY

11:30 am - 12:45 pm

Rapid Immunology based ELISA
Grand K • Exhibitor Demonstration • HS 2C 4C

Students will learn the ELISA (Enzyme Linked Immunosorant Assay) “sandwich” effect by applying antigens, antibodies, and a substrate solution to microtiter wells. This simple and foolproof exercise can be completed in one class period and can be analyzed qualitatively by visual inspection or quantitatively with a microplate reader. This simple and foolproof exercise can be completed in 40 minutes and analyzed by visual inspection.

— Jack Chirikjian, Edvotek; Khuyen Mai, Edvotek

12:00 pm - 5:00 pm

Understanding K-12 Science Learning Progressions and Accessing Online Resources: The NSDL Science Literacy Maps
Orange County 3 • Focus Group

Strand maps take all of the learning goals (from kindergarten through high school) on a particular topic and put them together on one page that shows how they relate to each other and build upon one another. They provide an easy way to envision how students’ understanding can be expected to progress over the course of their education. Digital versions of the maps are available through the National Science Digital Library (NSDL), a national network of digital environments dedicated to fostering STEM education. With just a click or two, users of the Science Literacy Maps on nsdl.org can quickly move from one map to another, see summaries of research on student learning (including misconceptions), and find a list of relevant STEM resources in the NSDL digital collection.

— Francis Molina, AAAS

1:00 pm - 2:30 pm

Experimental Design and Technology Integration Across the AP® Biology Curriculum
Grand A • Exhibitor Demonstration • Instructional strategies/technologies • HS GA

Work with A+ College Ready to learn how PASCO’s AP® Biology solutions can help you create a classroom environment that facilitates authentic student inquiries across all levels of biological organization. This session will focus on a proven model for promoting experimental design and technology integration in the context of the current required AP® Biology labs and the recommended redesigned labs.

— Ryan Reardon, Pasco Scientific

1:00 pm - 4:00 pm

Workshop 13: Free Stem Cell Curriculum Can Cover Many Standards
Gold Key 1&2 • Special Workshops • Biotechnology & Evolution • Cost: $25 • HS 2C 4C

Share, contemplate, and actively engage in this innovative workshop developed to enhance classroom biology inquiry (MS - Under graduate) with the new 21st Century Skills for Science. Participants are asked to bring a laptop. Electronic “handouts” will be available and a social site will be created to extend workshop interaction and sharing.

— Teddie Phillipson-Mower, University of Louisville; Kerry Cheesman, Capital University, Columbus, OH; Tom Lord, Indiana University of Pennsylvania, Indiana, PA; Laurie Henry, University of Kentucky, Lexington, KY

12:00 pm - 4:00 pm

Workshop 17: Using 21st Century Skills to Enhance Your Biology Teaching
Grand G • Special Workshops • Teacher Preparedness • Cost: $55 • GA

Share, contemplate, and actively engage in this innovative workshop developed to enhance classroom biology inquiry (MS - Under graduate) with the new 21st Century Skills for Science. Participants are asked to bring a laptop. Electronic “handouts” will be available and a social site will be created to extend workshop interaction and sharing.

— Samuel Donovan, University of Pittsburgh, Pittsburgh, PA; Kristin Jenkins, NESCent, Durham, NC; Colleen McLinn, Cornell Lab of Ornithology, Ithaca, NY

12:00 pm - 5:00 pm

Understanding K-12 Science Learning Progressions and Accessing Online Resources: The NSDL Science Literacy Maps
Orange County 3 • Focus Group

Strand maps take all of the learning goals (from kindergarten through high school) on a particular topic and put them together on one page that shows how they relate to each other and build upon one another. They provide an easy way to envision how students’ understanding can be expected to progress over the course of their education. Digital versions of the maps are available through the National Science Digital Library (NSDL), a national network of digital environments dedicated to fostering STEM education. With just a click or two, users of the Science Literacy Maps on nsdl.org can quickly move from one map to another, see summaries of research on student learning (including misconceptions), and find a list of relevant STEM resources in the NSDL digital collection.

— Francis Molina, AAAS

1:00 pm - 2:00 pm

Workshop 9: DNA Barcoding in Your Classroom
Gold Key 1&2 • Special Workshops • General Biology • Cost: Free • HS
Discover Biology

Fifth Edition
ANU SINGH-CUNDY, MICHAEL L. CAIN

Discover Biology was written with one goal in mind, to show students why biology matters to their lives.

The text’s Engage, Learn, Apply framework overcomes student apathy toward biology, presents core concepts clearly and with just the right level of detail, and shows non-majors how what they’ve learned relates to their lives—turning students into scientifically literate citizens and voters.

- ENGAGE New stories on contemporary topics like Henrietta Lacks and HeLa cells bookend each chapter.
- LEARN A new system of banners, labels, and bubble captions has been added to every figure in Discover Biology, first helping students understand the “big picture” of each concept before they delve into the artwork.
- APPLY Biology in the News features and chapters on topics such as cancer and stem cells and global change apply students' newly acquired knowledge of biology to topics that touch their lives.

SMARTWORK ONLINE HOMEWORK contains high-quality, easy-to-use, visually oriented questions; answer-specific feedback that helps students right when they need it most; automatic grading and item analysis that provide instructors with real-time assessment of student progress; and drag-and-drop and hotspot questions to help bring the visual aspects of biology to life.

Discovering Biology in the Lab

Second Edition
TARA A. SCULLY

Discovering Biology in the Lab cultivates the critical-thinking skills of non-science majors by constantly asking them to consider:

- Why are you doing what you’re doing?
- How do your observations and results connect to the overall objectives of the lab activities and, more broadly, to the biological concepts you’re learning about in lecture and in your textbook?
- How does what you’re learning apply to the real world?

Custom manuals are flexible enough to be used with any textbook and cost only $1 per lab when packaged with Discover Biology and just $4 per lab stand alone.

VISIT THE W. W. NORTON BOOTH #307 TO LEARN MORE
WWNORTON.COM
DNA barcoding is a technique that uses DNA sequences to identify organisms. The procedure is simple and very straightforward and engages students in their own learning - about molecular biology, evolution and the environment they live in. Workshop participants will learn everything they need to know to guide their students in DNA barcoding projects, including extracting DNA from organic materials, amplifying DNA that will provide the “barcode,” analyze amplified DNA via gel electrophoresis, submit the DNA to a commercial sequencing facility and, finally, analyze DNA barcodes using the DNALC’s bioinformatics platform DNA Subway. Participants are encouraged to bring their own samples (such as leaves, muscle tissue, food, etc.) and/or use samples provided.

- Uwe Hilgert, Jason Williams, Jermel Watkins, & Bruce Nash, Dolan DNA Learning Center, Cold Spring Harbor, NY

Workshop 16: Teaching Evolution: Successful Strategies for Challenges in the Classroom
Grand D • Special Workshops • Evolution
Cost: $45 • JH HS

Evolution, stem-cell theory, climate change – these are the focus of recent state resolutions and bills designed to undermine science education. Are these topics really scientifically controversial? How can teachers address these “controversial topics” within the framework of science and modern biology? We provide hands-on activities and role-play opportunities designed to address the nature of science and evolution, and provide additional resources from and the BEACON Center for the Study of Evolution in Action, SETI Institute The National Center for Science Education, The National Academy of Sciences, and UCMP.

- Louise Mead, BEACON Center for Study of Evolution in Action, East Lansing, MI, and Pamela Harman, SETI Institute, Mountain View, CA

Workshop 1: Wolf to Woof: A Non-confrontational Strategy for Teaching Evolution
Orange County 1 • Special Workshops • Evolution
Cost: $70 • HS

Looking for an alternative to teaching evolution as a war against creationism? Learn how to use dogs as your teaching focus for this important subject.
- Susan Crockford, University of Victoria, BC, Canada

Outreach Coordinator & Informal Educator (OCIE) Symposium
Grand H • Symposium • E HS

Join other “teachers without classrooms” for this networking and professional development workshop! Entitled “Marketing 101 for OCIE Members: How to put your best foot forward following these expert strategies,” this symposium will help your program stand out! Hear about advertising, marketing, and recruiting strategies from an expert museum and exhibit designer, Ben Dickow, the Creative Director and Content Developer from Lexington Design/Fabrication.

2:00 pm - 3:15 pm

Achieving Conceptual Understanding: Strategies for Teaching AP Biology in a New Framework
Grand J • Exhibitor Demonstration • HS

A concept-based approach need not neglect depth of topic coverage. BIOZONE’s authors describe innovative approaches to teaching the four big ideas in AP Biology. A thematic, interdisciplinary approach utilizing contextual examples and case studies encourages understanding of core content and develops the inquiry based skills demanded of today’s science students.

Using Aplia for Biology: Developing Critical Thinkers for the Dynamic Science
Orange County 2 • Exhibitor Demonstration

Improve outcomes and increase student engagement with Aplia for Biology. See how our online learning solution fosters student comprehension (not memorization) of life science concepts via focused assignments and interactive problem sets. Diverse, automatically graded questions feature multimedia resources and detailed student feedback.
- Tom Ziolkowski, Cengage Learning

Wildlife & Beach Tide Pool Ecotour and Seal & Sea Lion Rescue Center – Laguna Beach and the California Riviera
Field Trip • Cost: $85

Explore the sea animals in the tide pools of famous Laguna Beach, and then visit the Pacific Marine Mammal Center for an exclusive tour of this seal and sea lion rescue center. Learn more about what’s needed to save a seal’s life and the rehabilitation process. Lastly, visit a wildlife viewing cove overlooking the California Riviera. A photo of a seal or sea lion and conservation/environmental tip guide on making a difference are all included.
2:00 pm - 4:00 pm

Come and Learn How to Fingerprint Your Own DNA/Affordable Classroom PCR that works
Grand K • Exhibitor Demonstration • HS 2C 4C

Participants will learn fundamentals of how to prepare their own DNA for fingerprinting, and how these procedures can be integrated into classroom experiments utilizing affordable Polymerase Chain Reaction (PCR) and electrophoresis. Teachers will prepare a PCR sample, separate amplified DNA by gel electrophoresis stain with InstaStain™, a safe, non-liquid method that reduces time and mess. Non-DNA based identification methods that are adaptable for classroom experiments will also be discussed.

– Jack Chirikjian, Edvotek; Khuyen Mai, Edvotek

2:45 pm - 4:00 pm

Using Data Collection Technology to Achieve Authentic Inquiry Experiences in AP® Biology Lab 5, Cell Respiration
Grand A • Exhibitor Demonstration • Instructional strategies/technologies • HS GA

Learn how PASCO’s AP® Biology solutions can help you create a classroom environment that facilitates authentic student inquiries, and also save you time and money. This session will focus on promoting experimental design and technology integration in the context of the current required AP® Biology cell respiration lab and the recommended redesigned labs.

– Mark Little, Broomfield High School, Pasco Scientific

4:00 pm - 6:00 pm

Four-Year Section Executive Committee Meeting
Grand J

6:00 pm - 8:00 pm

NABT Meet-N-Greet
Marriott Bar - Degrees

Join us at Degrees to kick back and kick off the 2011 NABT Conference. Greet old friends and meet new ones at this informal gathering. Talk with the movers & shakers of NABT and learn how to become one yourself. This is the perfect way to start having a great time as soon as you arrive in Anaheim.

HHMI Night at the Movies with Sean Carroll
Marquis Ballroom North

You are invited to HHMI’s Night at the Movies with Sean Carroll, featuring the premiere of The Making of the Fittest, a series of short films created to help your students get a firm grasp on core evolutionary concepts like natural selection, and to expose them to cutting-edge research on topics like how new genes evolve while other genes just fade away.

Life Happens!

Donate to the National Association of Biology Teachers and join us in celebrating outstanding biology and life science education.

To learn more, visit www.nabtdonations.org.