ABBREVIATION KEY

E: Elementary School
MS: Middle School
HS: High School
2Y: Two-Year College
4Y: Four-Year College
GA: General Audience

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11:00 AM – 3:00 PM

**The Science of Shedd Aquarium Meeting in Lobby for Bus • Field Trip** (SOLD OUT) • GA

Shedd Aquarium has been a Chicago institution since 1930, but it is more than a destination. It is a premier research facility! Dive in to learn more about Shedd Aquarium during this special trip highlighting the science behind the scenes.

11:00 AM – 3:30 PM

**2672 Writing Assessments that are Relevant, Engaging, and Evaluate Outcomes**

*Chicago Ballroom IX** LEVEL 4 • General Biology • Special Workshop (Tickets Required) • HS, 2Y, 4Y

Participants will focus on writing measurable learning objectives, and learn how to create a “fair” test by populating it with multiple-choice items at several cognitive levels that are assessing outcomes equitably.

Peggy Brickman, University of Georgia, Athens, GA; Rebecca Orr, Collin College Plano, TX; Melissa Csikari, HHMI, Chevy Chase, MD

11:30 AM – 2:00 PM

**NABT Board of Directors Meeting & Leaders Lunch**

*Columbus A&B** LEVEL 3 • Invitation Only • Special Program • GA

12:30 PM – 3:30 PM

**2668 Using and Creating BioInteractive Video Case Studies**

*Chicago Ballroom X** LEVEL 4 • Curriculum Development • Special Workshop (Tickets Required) • HS, 2Y, 4Y

HHMI BioInteractive features video case studies that encourage students to think scientifically (formulate hypotheses, construct explanations). Come and learn how to use, customize, or create your own video case study.

Phil Gibson, University of Oklahoma, Norman, OK; Annie Prud’homme-Genereux, Capilano University, North Vancouver, BC, Canada; Laura Bonetta, HHMI Chevy Chase, MD

**2552 Designing Courses to Integrate Student-centered Learning: A Constructivist Workshop for College and High School Instructors**

*Michigan A** LEVEL 2 • Instructional Strategies • Special Workshop (Tickets Required) • HS, 2Y, 4Y

Come explore a high-rigor toolkit of non-lecture instructional strategies for high school and college courses to reimagining your biology instruction based on national standards and authentic science practices.

Stephen Traphagen, Oak Park and River Forest High School, Oak Park, IL; Julie Minbiole, Columbia College Chicago, IL; Jim Lane, Mahtomedi High School, Mahtomedi, MN; Kirstin Milks, Bloomington South High School, Bloomington, IL; Margaret Silliker, DePaul University, Chicago, IL

**2621 Evolution of Data in Biology Education: From Data to Data Science**

*Mississippi** LEVEL 2 • General Biology • Special Workshop (Tickets Required) • HS, 2Y, 4Y

Come explore resources for teaching data science practices, and join a community discussion on the role of data science in biology education and its relationship to the current curriculum.

Kristin Jenkins, BioQUEST, Boys, MD; Stacey Kiser, Lane Community College, Eugene, OR; Vedham Karpakakunjaram, Montgomery College, Rockville, MD; Brad Williamson, University of Kansas (retired), Lawrence, KS

2583 American Modeling Teacher Association (AMTA) Presents: Energy in Biology

*Missouri** LEVEL 2 • General Biology • Special Workshop (Tickets Required) • HS


Tanea Hibler, Brophy College Preparatory, Phoenix, AZ; Clarissa Furlong, South-Western City School District, Grove City, OH; Renee Ashlock, Arizona School for the Arts, Phoenix, AZ

2441 Using Guided Inquiry to Teach Anatomy and Physiology Core Concepts

*Ohio** LEVEL 2 • Anatomy & Physiology • Special Workshop (Tickets Required) • HS, 2Y, 4Y

Participants will explore inquiry-based activities addressing anatomy and physiology core concepts. In these activities, students use scientific process skills to develop their understanding of principles such as homeostasis and communication.

Murray Jensen, University of Minnesota, Minneapolis, MN and Kerry Hull, Bishop’s University, Sherbrooke, QC, Canada
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| 12:30 PM – 3:30 PM continued | **2517 Storylining in Biology for Coherent Instruction**  
Superior A  LEVEL 2 · General Biology  
· Special Workshop (Tickets Required)  
· MS, HS, GA  
Storylines led by engaging phenomena improve student engagement and understanding of the overarching biological concepts. Using phenomena to anchor instruction and lead instruction are modeled in this workshop.  
Jason Crean, Lyons Township High School and Saint Xavier University, Western Springs, IL; Michele Koehler, Riverside-Brookfield High School, Brookfield, IL; Kristin Rademaker and Kathy Van Hoeck, All Species Education Consulting, Woodridge, IL | |  | |
| 1:30 PM – 3:30 PM continued | **2660 Practice & Learn – Laboratory Techniques in 10 Minutes!**  
Superior B  LEVEL 2 · Science Practices  
· Special Workshop (Tickets Required)  
· HS, 2Y, GA  
Join us for 10 minutes (or more)! Go through a hands-on speed demonstration of popular classroom techniques, learning tips to help you. Take away techniques, classroom resources, and promos.  
Crystal Risko, Dhani Biscocho, and Scott Eddleman, Carolina Biological Supply Company, Burlington, NC | |  | |
| 1:00 PM - 3:30 PM | **2490 20 in 20: The Next Generation**  
Erie  LEVEL 2 · General Biology  
· Special Workshop (Tickets Required)  
· MS, HS, GA  
Come try numerous 20-minute inquiry based activities that are sure to engage and excite your students. You and your students will be glad you did!  
Whitney Hagins, MassBioEd/BioTeach, Cambridge, MA | |  | |
| 2:30 PM – 3:30 PM | **Graduate Student Workshop: Poster Presentation Practice Session**  
Gold Coast  LEVEL 3 · Invitation Only ·  
Special Program · GA  
Graduate and undergraduate students invited! Come meet fellow biology students and receive feedback on presentation skills for the poster competition this Saturday! Refreshments are provided! Information about a special social event for graduate and undergraduate students will also be shared.  
Coordinated by the NABT Student Committee | |  | |
| 3:00 PM – 3:30 PM | **NABT Open Forum**  
Mayfair  LEVEL 2 · Committee Meeting · GA  
The volunteer leaders and executive director of NABT will lead this interactive discussion highlighting the “state of the association.” Learn more about the projects and programs that support you as a biology educator and share your ideas as well. Everyone is welcome to get more involved with NABT.  
Jaclyn Reeves-Pepin, NABT, Colorado Springs, CO | |  | |
| 3:00 PM – 3:30 PM | **NABT/BSCS AP & Academy Meet Up**  
Sheraton Ballroom I  LEVEL 4 ·  
Invitation Only · Special Program · GA  
Participants of the NABT/BSCS Teacher Academies are invited to “meet up” and network with other academy leaders and attendees to enjoy a light snack before opening session.  
Sponsored by  
Carolina Biological Supply Company, Burlington, NC | |  | |
4:00 PM – 5:30 PM

GENERAL SESSION SPEAKER
Savannah Martin
See page 8 for biography.

Says Who? Disrupting the Feedback Loops of Authority and Legitimacy in Scientific Knowledge Production and Science Education
Chicago Ballroom VI & VII LEVEL 4 • Special Speaker • GA

Historically, most STEM fields have been unwelcoming to scientists from under-represented communities and they can continue to be unwelcoming to marginalized scholars today. This is largely due to the unaddressed colonial roots of western science and the failure to acknowledge how these foundations result in Eurocentric biases that value western epistemologies above all others.

The Summer Internship for Indigenous Peoples in Genomics (SING) is a week-long program aimed at disrupting the historic underrepresentation of Indigenous scientists and Indigenous ways of knowing in science research. Biological anthropologist and Siletz Tribal member Savannah Martin will discuss her experiences as both a participant and faculty member of SING, how her research has been shaped by exposure to and affirmation of Indigenous epistemologies, and how these experiences have resulted in a more ethical, engaged approach to research and science communication. Additionally, Savannah will provide examples of steps individuals can take to disrupt Eurocentric narratives and hierarchies presently dominating scientific knowledge production and science education, to realize a more inclusive and intellectually robust field for current and future scholars.

5:30 PM – 7:30 PM

Exhibit Hall Grand Opening Reception
Riverwalk A & B LEVEL 2 • Special Event • GA

Welcome to the “windy city” with a special reception in the 2019 NABT Exhibit Hall. Our vendor and partner community will showcase the latest and greatest resources for teaching biology, helping you find those familiar favorites and new innovations.

6:30 PM – 7:30 PM

NABT Past President’s Advisory Council Meeting & Reception
President’s Suite • Invitation Only

ARE SCIENCE FAIRS IN YOUR STUDENTS’ FUTURE?

Science fairs allow students to transform classroom knowledge into real-world results. At the National Anti-Vivisection Society, we’re excited to see students using their talents to advance science in innovative, humane ways.

Each year at the International Science and Engineering Fair (ISEF), the world’s largest pre-college science competition, NAVS presents its Humane Science Award to exceptional students who develop or use non-animal research methodologies for their projects.

When your students take part in local science fairs, encourage them to select projects that advance humane science—maybe they’ll be the next recipients of NAVS’ Humane Science Award.

Cash prizes totaling $17,500 will be awarded. Learn more at www.NAVS.org/ISEF.

National Anti-Vivisection Society / 53 W. Jackson Blvd., Suite 1552 / Chicago, IL 60604 / navs.org

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