



Science Coach
EDUCATE • INNOVATE • ACHIEVE

BIOSCIENCE RESEARCH WEBINAR SERIES

For teachers of 6-12 grade authentic research classes

OCTOBER 17

3:30-4:30 PM CST

Care Protocols & Use Scenarios for the Model Organism *C. Elegans*

PRESENTER: **Ms. Elizabeth "Betsy" Boedeker**

In this webinar, Betsy will share her extensive knowledge on the care of *C. Elegans* and delve into their critical role in scientific research. Information will be provided on the essentials of maintaining and nurturing these microscopic nematodes, from culturing and feeding to their unique lifecycle. She will also highlight some of the applications of *C. Elegans* as model organisms. Whether you're an experienced researcher or simply intrigued by the power of this tiny creature to advance scientific understanding, this webinar offers an exciting journey into *C. Elegans* care and their primary role in cutting-edge research.

JANUARY 23

3:30-4:30 PM CST

Digital Microcredentials, Practical Assessment, and Skills-First Hiring: Modernizing the Traditional Education/Workforce Pathway

PRESENTER: **Ms. Angela Consani**

This presentation explores the innovative dynamics of identifying, assessing and onboarding organizational talent. As educational pathways evolve, digital microcredentials have emerged as a powerful tool for skill and knowledge acquisition. These bite-sized, specialized certifications offer learners the flexibility to certify their expertise incrementally. This session will explore practical assessment methods and their advantages. Learn how these micro-credentials might be included as part of an authentic research course.

NOVEMBER 28

3:30-4:30 PM CST

Navigating the World of *Drosophila* Care

PRESENTER: **Ms. Stacey Walker**

This session will delve into the fascinating world of *Drosophila*, commonly known as fruit flies. We will explore the intricacies of *Drosophila* care, from their housing and dietary requirements to their lifecycle and genetics. Discover how these tiny creatures have become indispensable tools in scientific research, serving as model organisms for a wide range of biological studies. Whether you're a seasoned researcher or just curious about the role of *Drosophila* in advancing scientific knowledge, this webinar promises to provide valuable insights into the care and primary scientific applications of these remarkable insects.

FEBRUARY 27

3:30-4:30 PM CST

Public Speaking Skills for Effective Communication of Scientific Research

PRESENTER: **Dr. Teresa Boman**

Even the best of research projects can be diminished when a presenter is not confident in their public speaking ability. Confidence when speaking can improve how well others understand you and ensure that the take home message remains with your audience. This session will provide tips and tricks to make sure that your student researchers feel confident when presenting their research.

MARCH 27

3:30-4:30 PM CST

Exploring the Ethical Uses of Generative AI in Authentic Research Classrooms

PRESENTER: **Dr. Jonathan Barlow**

Generative AI technologies have exceeded early timeline performance expectations, including ideation and problem-solving, thus providing a tool to transform the research landscape. Generative AI tools are impacting academic settings, offering assistance to students and instructors alike. This presentation will not only explore the remarkable potential of generative AI but also emphasize the crucial role educators play in shaping students' responsible and ethical utilization of this technology for positive academic outcomes. Join us for an eye-opening discussion that empowers the next generation of researchers.

COST: \$75/session • \$300/entire series
sciencecoach.org/webinars



SCIENCE COACH PRESENTERS



Dr. Jonathan Barlow

Associate Director of the Data Science Program and Assistant Professor, Mississippi State University

Jonathan Barlow is Associate Director of the Data Science Program and an Assistant Teaching Professor. Previously, Barlow was an associate director at NSPARC, a research center at Mississippi State University. Before joining Mississippi State in 2012, he worked for 15 years in the private sector. With a background in industry and university research, Barlow has more than 25 years of experience in software development, data modeling, data-intensive applications, and data analysis. Barlow received his Ph.D. from Saint Louis University. His data science research interests involve natural language processing and the ethics of artificial intelligence.



Elizabeth "Betsy" Boedeker

Director, Center for Plant & Life Sciences, St. Louis Community College

Betsy Boedeker is an experienced molecular biologist with more than 30 years experience, and is an engaging college professor. She has a demonstrated history of successful project and personnel management. She is highly skilled in curriculum development, delivery, and mentorship of students. She possesses exceptional knowledge in the technical aspects related to assay design, execution, troubleshooting and data analysis with Quantitative Polymerase Chain Reaction (qPCR), droplet digital PCR, Molecular Biology, Biotechnology, and Cell Culture.



Dr. Teresa Boman

Associate Professor of Biology & Environmental Health at Missouri Southern State University

Teresa Boman has been teaching at MSSU for ten years. She also serves as the regional co-director for the Missouri Junior Academy of Sciences (Southwest region) and the state co-director for the Missouri Junior Academy of Sciences. She enjoys research and is currently focused on Microplastics in Missouri's waterways. When not at work, she likes to spend time with her four kids and husband on the family farm.



Angela Consani, CEO of BCSI

Angela Consani is the former coordinator/PI of the Kansas City Kansas Biomanufacturing Training Laboratory (KCKBTL) funded by NSF-ATE. A unique partnership between Kansas City Kansas Public Schools and Kansas City Kansas Community College, KCKBTL paved pathways from the high school to higher education and into professional careers in the life sciences. As CEO & co-Founder of the Bioscience Core Skills Institute, Mrs. Consani services the national biotechnology education and training community as a thought leader and advisor in the biotechnology microcredentialing space. Mrs. Consani also serves as non-profit co-chair of the Workforce Activities Committee for NIIMBL and is a board member for University of Kansas-Edwards Bioscience Workforce Education Board (BioWEB).



Stacey Walker, Laboratory Services Supervisor, Stowers Institute for Medical Research

Stacey Walker joined the Institute in 2012 and has served multiple roles within the Fly Stock Facility and Lab Services. In 2018, she was appointed Laboratory Services Supervisor, where she oversees the Fly Stock Facility team which provides services to the labs and technology centers that utilize *Drosophila*. These services include managing the state-of-the-art fly transfer robot, the preparation of high-quality fly food media, and the housing and maintenance of numerous *Drosophila* stocks.



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Sessions will be recorded and a link will be made available after the event.



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