The MITS Professional Development Seminar Series is designed for staff, volunteers and other professionals from science, environmental, natural history, technology, art, history and other cultural institutions and centers in New England. Each seminar is a full-day, split into two sessions. The mornings are spent exploring STEM content areas with scientists and policy makers. Afternoon sessions are skill-based, focusing on turning real-life science into exciting, inquiry-based, minds-on, hands-on lessons and activities for your programs with K-12 students and teachers and other youth programs.

The seminars are designed as professional development opportunities to provide content and teaching resources for your staff as well as networking opportunities for professionals in informal education settings. Teachers, science coordinators and other formal educators are also welcome to join us for these seminars. This year we are offering 4 STEM seminars. Join us on January 31st, February 28th and March 21st for seminars in the traditional morning/afternoon format, and on April 25th for a special full-day seminar. All 4 seminars promise to provide an exciting, hands-on professional development opportunity for you and your staff!

Cost: The registration fee for participants is $45 per seminar (includes lunch).
Discounted fees of $125 are offered for attending 3 seminars or $160 for attending all 4 seminars.
Certificates of participation are available for each seminar. PDPs are available for those participating in 2 or more seminar dates.

For more information contact: MITS at 617-328-1515 or mits@mits.org

Registration is required. Please detach and and return form below with Check or Purchase Order to MITS, Inc., 1354 Hancock St., Ste. 302, Quincy, MA 02169 OR register online at www.mits.org.

Registration Form

Name _____

Organization _____ Position _____

Address _____

_____

Phone (work) _____ Phone (cell) _____

Email _____ Alternate Email _____

Please check the seminars you will attend:

☐ Jan 31 $45 ☐ March 21 $45 ☐ All 4 Dates $160*
☐ Feb 28 $45 ☐ April 25 $45 ☐ 3 Dates (Specify) $125*

* *Discounted Rate*

Registration fee includes lunch

Total Amount Enclosed: _____

Museum Institute for Teaching Science
1354 Hancock Street, Suite 302
Quincy, MA 02169

Enhance your STEM toolkit with inquiry-based, hands-on, minds-on investigations!

Museum Institute for Teaching Science

2019
Professional Development Seminar Series

January 31, February 28,
March 21 & April 25

9:30 a.m. - 3: 30 p.m.

Hands - on Minds - on Inquiry - based
Museum Institute for Teaching Science

Higgins University Center, Clark University
Worcester, MA

Thursday, January 31st
Making Connections with Science

Carbon, Climate, and Consensus

Bob Chen, Professor, School for the Environment, and Director, Center for Coastal Environmental Sensing Network, UMASS Boston

Understanding the global carbon cycle and the human perturbation of this cycle on the global scale is critical to understanding past, present, and future climate change. Climate change is currently causing global, regional, and local impacts to our environment, society, and infrastructure. We will explore some of these current and future impacts as well as where there is uncertainty. Finally, we will explore the reports from the Intergovernmental Panel on Climate Change (IPCC) which won the Nobel Peace Prize in 2007. The IPCC presents the data that leads to the scientific consensus that "Warming of the climate system is unequivocal" and that "Human influence on the climate system is clear".

Setting Up Seasonal Nature Journals: Getting Students of All Ages Outdoors and Curious

Clare Walker Leslie, Author

Historically, scientists and explorers everywhere had to keep Nature Journal records, not having the digital equipment we have today to record their observations. With a growing interest in Phenology, Citizen Science, and Climate Change concerns, it has become increasingly important for the Science community to have ongoing records of plant and animal as well as seasonal and weather shifting. Clare will present methods for recording, in both word and image, as well as outdoor nature observation techniques. Clare will demonstrate how participants can use these skills in a variety of educational settings, providing a tool for place-based education. Participants will have a chance to begin their own Nature Journals, with special emphasis on how they can use them for their professional setting as well as personal pursuits. Clare is the author of 12 books on Nature Journaling.

Thursday, February 28th
Learning From Our Cities

Biodiversity is Everywhere: Exploring the Ecology of Our Cities and Towns

Paige Warren, Professor, Department of Environmental Conservation, UMASS Amherst

Most people in the world now live in cities or in suburbs and other surrounding settlements. Thus, most of us experience nature in the daily green spaces we encounter in our yards, parks, playgrounds, and in the trees along our streets. A surprising variety of wild animals and plants can be found in these urban places. Who are these creatures? What effect does urbanization have on them? And what effect does it have on us? What can we do to improve conditions for both wildlife and people in the city? We will discuss what biodiversity is, and how the study of urban biodiversity can illustrate basic concepts in ecology and conservation.

Biodiversity is Everywhere! Enhance Your Audience Engagement with Local Biodiversity

Marie Studer, Director of Encyclopedia of Life and Learning and Education Group, Museum of Comparative Zoology, Harvard University

Biodiversity is all around us! Learning about, and connecting with, our local biodiversity is important no matter if we live in urban settings, suburban environments or rural landscapes. You will learn about interactive ways to engage your audiences from both informal and formal settings in learning about native and invasive organisms, rare and threatened species and the everyday life around us. EOL Biodiversity Cards and the iNaturalist observation platform can be easily customized for any location and project. Learn how you can use this tool and resources in your institution for both student and adult audiences. This will be an interactive session where all participants will use the EOL Biodiversity Card Maker, make some observations using the iNaturalist app and learn about the 2019 City Nature Challenge, which welcomes participation from everyone, everywhere.

Thursday, March 21st
Science Story Tellers

New England and the Origins of American Environmentalism

Chad Montrie, Professor, College of Fine Arts, Humanities and Social Sciences, UMASS Lowell

While many people recognize New England as the birthplace of the Industrial Revolution, few know that it is also where the first stirrings of environmental awareness happened. Starting in the early 19th century, manufacturing transformed the landscape and introduced new environmental hazards. In response, a public health movement was born, states passed laws to control pollution, and scientists pioneered methods for protecting people from water- and airborne pathogens. We will explore that history through the lives of Henry Ingersoll Bowditch, the first head of the Massachusetts State Board of Health, and Ellen Swallow Richards, the first woman to teach at MIT. Together, they laid the groundwork for establishing the Lawrence Experiment Station, where work that dramatically impacts the health of millions still takes place.

Integrating STEM and the Humanities: A Role Playing Game

Kris Boudreau, Paris Fletcher Distinguished Professor, Department of Humanities and Arts, Worcester Polytechnic Institute

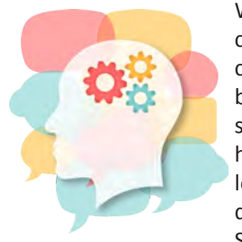
Discover and participate in a role-playing game designed by WPI students and faculty that simulates a "wicked problem" from 19th-century Worcester, MA. Participants will learn about STEM-humanities integration and will test out a role-playing game that gives equal weight to science, engineering, and the humanities (history, theatre, philosophy, literature). We will spend some time on student learning outcomes and different assignments designed to teach information literacy, problem definition, negotiations, urban history, and engineering. Participants will receive access to the game for use in their institutions.

Thursday, April 25th
Science On the Brain

Join us for a special, full-day,inquiry-based, hands-on, minds-on seminar!

Minds On Brains: Making the Connection

Robert Payo, Teacher Professional Development Coordinator, Denver Museum of Nature & Science



Whether you're working with children or adults, making connections between how the brain works to research-based strategies for teaching can be a helpful tool in planning your next lesson, activity or professional development experience. Starting with a brief overview of brain function, we'll explore topics that include working memory and retention, the importance of movement, and other strategies that help to support learning. We'll take on these subjects, reflecting on our own practice and personal experiences, as well as research that supports and affirms good teaching practices through the lens of brain and cognitive research. Come join the fun of discovering more about how our brains work and function and be inspired by how you can apply this in your teaching and programming development.

New Name, Same High-Quality Content: the Museum Institute for Teaching Science is changing our name to the Wade Institute for Science Education, starting in January 2019. Sign up for our online mailing list to stay up-to-date with Wade Institute programs and announcements!

For more information on the Professional Development Seminar Series and to register, visit www.mits.org.