WHAT ARE SUMMER PROFESSIONAL DEVELOPMENT INSTITUTES?

The Wade Institute for Science Education offers unique professional development courses each summer that connect you with hands-on, minds-on, inquiry-based activities that will increase your STEM content knowledge. Choose from a variety of locations and themes across Massachusetts. Spend a week with fellow teachers on-site at multiple partner organizations, and experience effective, inquiry-based science learning! We’ll provide you with the practical skills you need to integrate more hands-on, minds-on science learning into your curriculum. You’ll leave the course with a deeper understanding of inquiry, and new techniques to reinforce your students’ natural curiosity and spark their interest in STEM. Together, we’ll ensure that young learners discover STEM content in an intuitive, impactful way.

• Learn directly from scientists and education professionals to expand your knowledge in a variety of STEM topics.
• Visit each partner organization’s site, and explore science, technology and engineering content by engaging with industry professionals and in inquiry-based activities.
• Discover resources from museums, science centers and higher education institutions in your community that you can utilize throughout the school year.
• Take on the role of a student as you investigate science content and collaborate with your peers both in the field and in the classroom.
• Participate in content and skill-based development sessions aimed at strengthening your students’ interest in and passion for STEM.
• Explore what the Science and Engineering Practices look like in the classroom.
• Earn Professional Development Points (PDPs) while you improve your confidence in teaching science, and even take an institute for graduate credit.

registration costs:
$425 per participant
$400 per participant if attending in a team with one other teacher from your school district
$375 per participant if attending in a team with 2 or more other teachers from your school district
Early Bird Discount Available - submit payment before April 15th to receive an additional $25 off registration.

pdps and optional graduate credit:
Framingham State University (Cape Cod & Southeast Regions): $225 for 3 credits and 67.5 PDPs
Fitchburg State University (all regions except Berkshire): $295 for 3 credits and 67.5 PDPs
Massachusetts College of Liberal Arts (MCLA) (Berkshire Region): $150 for 3 credits and 67.5 PDPs
40 PDPs are available without graduate credit.

questions? please contact us at 617-328-1515, or wadeinstitute@wadeinstitutema.org

for more detailed information and to register, visit www.wadeinstitutema.org.

2019 Summer Professional Development Institutes

Wade Institute for Science Education (formerly MITS)
1354 Hancock St., Ste. 302
Quincy, MA 02169
www.wadeinstitutema.org
Berkeley Region

THINKERS AND TINKERERS: USING BIOMIMICRY TO TEACH ENGINEERING AND LIFE SCIENCE

One Week Institute for Grades 3-8 Educators

Incorporate yourself in the world of innovation and problem solving

Discover how nature's designs can connect science content to real-world design challenges to produce models, tools and prosthetics, and learn how to bring the design challenge to students

Examine examples of biomimicry to explore how nature's own innovations can help us tackle health and environmental challenges

Meet with research and design engineers to learn how they develop high-performance plastic and metal prosthetics, and observe how they use polarized light to test the stress strength of a product

Experience how the engineering design process works to produce anatomically correct models of human organs and other products for medical study and testing

Learn how to create a science center at your school to build these experiences into inquiry-based investigations for students.

Partners & Collaborators: Flyiing Cloud Institute (lead Institute), Massachusetts Institute of Technology, Haskins Hall, Mass Audubon’s Pleasant Valley Wildlife Sanctuary, Sabic Manufacturing, The Chamberlin Group

Dates: July 8-12, On-site Introductory Session June 15, Call-back date will be set during the course

Inquiry and Innovation: HOW SCIENCE INFORMS ENGINEERING SOLUTIONS

One Week Institute for Grades 3-8 Educators

Interact with engineering and design staff from local companies and learn how they problem-solve and design products and services for the creation of everyday items, automobiles, defense, energy and medical industries

Explore the role that Materials Science plays in manufacturing and how it informs the design process

Discover how engineers, modern-day problem solving and design challenges, such as building and improving sensor technology, manufacturing precision parts and controlling production costs

Develop the tools and techniques used to monitor shifts in local wildlife populations that are a result of climate change, and learn how to incorporate the same tools and techniques into your own classroom investigations

Participate in design challenges and experience open-ended problem solving through new design iterations

Learn how technological advances can be used to build awareness of environmental issues

Visit local research scientists using technology in the field as they gather real-time data to investigate changes in natural phenomena

Partners & Collaborators: Massachusetts Technology and Life Sciences (lead), Audubon, New England Aquarium, Woods Hole Oceanographic Institution, University of Massachusetts Boston

Dates: July 15-19, On-site Introductory Session June 22, Call-back date will be set during the course

North Central Region

EXPLORING INNOVATIVE SOLUTIONS TO ENVIRONMENTAL CHALLENGES THROUGH GREEN CHEMISTRY, BIOMIMICRY AND REAL WORLD TECHNOLOGIES

One Week Institute for Middle and High School Educators

Discover how green chemistry, the science of creating safe, energy efficient and non-toxic processes and products, is providing solutions for the environmental challenges facing our society today

Explore how biomimicry applications are informing the design of everyday items, including safer hair dyes and electrical goods that encourage growing, to build awareness of environmental issues

Gain an understanding of how Harvard Forest gathers and uses real-time data to investigate how forests are helping to offset climate change and protect biodiversity

Visit the Zoo-Art Mobile to learn how this tool is being used to build environmental awareness around the issue of ocean plastics

Examine how industry and academia are working to understand climate change and design materials to use less carbon dioxide

Build your understanding of the environmental challenges associated with plastics

Investigate how agricultural waste and mushroom mycelium can be used as alternative materials used in the manufacture of everyday items to replace plastics

Meet and connect with research and design engineers to learn how they develop high-performance plastic and metal prosthetics, and observe how they use polarized light to test the stress strength of a product

Partners: Beyond Benign (lead Institute), Fitchburg State University, The Revolving Museum, Harvard Forest, Massachusetts Audubon’s Wareham Meadow Wildlife Sanctuary

Dates: July 15-19, On-site Introductory Session June 22, Call-back date will be set during the course

Housing is available for this region.

Cape Cod Region

GO UNDER THE SEA WITH STEM: INVESTIGATING MARINE LIFE FROM OPEN OCEAN TO COASTAL SHORES

One Week Institute for Middle and High School Educators

Discover how technology and engineering have advanced the study of marine animal science as you explore the natural history of many diverse, fascinating and often mysterious marine animals of the Massachusetts shoreline

Engage with scientists in the field and discover new tools, methods and approaches used to make marine biology and technology more accessible to your students

Dive into inquiry-based learning with the deep ocean frontier as your backdrop

Meet at the interface of laboratory science and field research to investigate influenza in the wild seal population

Learn how biomimicry applications are informing the design of everyday items, including safer hair dyes and electrical goods that encourage growing, to build awareness of environmental issues

Partners & Collaborators: Mass Audubon, Cape Cod National Seashore, Lloyd Center for the Environment, Atlantic White Shark Conservancy, Tufts University, Woods Hole Oceanographic Institution, Massachusetts Maritime Academy

Dates: July 15-19, On-site Introductory Session June 22, Call-back date will be set during the course

Housing is available for this region.

Southeast Region

Science By Connections

Connect with STEM resources across the Commonwealth of Massachusetts and explore our searchable database of STEM providers.

Search by grade level, subject, program type, region and MA Standards for addressed for field trips, study visits, in-school, and online programs for classrooms as well as professional development opportunities for yourself.

Teachers can search by grade level, region, program type and content standards for local learning opportunities offered by Massachusetts-based nonprofits and STEM organizations. The site also links to the latest in STEM education, and promotes the state’s regional STEM Networks.

Start your search for STEM resources today on www.sciencebyconnections.org!