

Massachusetts Environmental Education Society Presents:

2018 Annual Conference

Conference Schedule

8:00 a.m. – 8:45 a.m.

- ⇒ Registration
- ⇒ Coffee and Breakfast
- ⇒ Exhibits

8:45 a.m. – 9:00 a.m.

- ⇒ Welcome
- ⇒ Annual Meeting

9:00 a.m. – 9:30 a.m.

- ⇒ Keynote Speaker

9:45 a.m. – 11:00 a.m.

- ⇒ Session A

11:15 a.m. – 12:30 p.m.

- ⇒ Session B

12:30 p.m. – 1:45 p.m.

- ⇒ Lunch
- ⇒ Roundtable Discussions
- ⇒ Exhibits

1:45 p.m. – 3:00 p.m.

- ⇒ Session C

3:15 p.m. – 4:30 p.m.

- ⇒ Session D

Over the past several years the MEES Board has been tackling an ever-growing pile of excellent workshop proposals, making hard choices and trying to select the best of the best, all the while knowing that great workshops are being left out of each conference.

This year we decided that more time was needed—there were many great workshop proposals and not enough time slots! In an experiment, we are adding lunchtime roundtables—a way to include a few more workshops but in an informal setting that encourages discussion and interaction.

We hope this provides added value to the conference for those seeking more time in the learning setting. We recognize that your time is limited and this conference may be your only time to really dive into professional development.

Let us know how it goes! And enjoy the conference, the workshops, the conversations, and the joy of being surrounded by like-minded environmental education professionals!

Cheers to 2018!

The MEES Board of Directors

REGISTRATION | 8:00 a.m.—8:45 a.m.

Registration begins at 8:00 a.m. in the foyer of the Hogan Campus Center. Please visit the registration table to collect your name tag and a schedule.

Once registered, please enjoy coffee and breakfast and feel free to mingle with conference attendees and our great Exhibitors.

EXHIBITS | Available All Day

Please be sure to visit the Exhibitors and spend time meeting them and learning about great opportunities for professional development, educational resources, and inspiration.

WELCOME | 8:45 a.m.—9:00 a.m.

Please **find a seat** in the main Ballroom by 8:45 a.m.. MEES President Ann Gisinger will provide opening remarks and manage the MEES Annual Meeting.

Following the welcome there will be announcements from the following environmental education leaders and organizations:

- North American Association for Environmental Education
- New England Environmental Education Alliance
- Secretary's Advisory Group for Environmental Education
- MEES Share & Shine

KEYNOTE | 9:00 a.m.—9:30 a.m.

Joan Walsh is Mass Audubon's Gerard A. Bertrand Chair of Natural History and Field Ornithology. She has been watching—and learning from—birds for 35 years and was the Director of Bird Monitoring at Mass Audubon from 2006-2017. During her career she has focused on research that has direct implications for bird conservation. Join her at the 2018 MEES conference to learn about the [*State of the Birds*](#) in Massachusetts and their future while facing a rapidly changing climate.

DOUBLE SESSION A + B

9:45 a.m.—12:30 p.m.

A+B: Making & Tinkering: Inspiring STEM Learning

Kay Lisseck and Colleen Kelley, Hitchcock Center for the Environment

Join us for some hands-on tinkering! Tinkering can be a fun and exciting way to engage in serious STEM learning and problem-solving. As the first step to Engineering and Design, tinkering allows us to learn about the properties of materials, what tools can do, and connects science, technology, and art. This session will include time and materials to do some tinkering, take on a design challenge with recycled materials, and reflect on the learning process. Strategies for designing making and tinkering sessions, resources, and a facilitation guide will be provided.

SESSION A | 9:45 a.m.—11:00 a.m.

A1: Communicating Ocean Acidification

Carolina Bastidas and Juliet Simpson, MIT Sea Grant

Ocean acidification is one of the most challenging climate change impacts to communicate. Join us in a hands-on workshop for high school students, including a short introductory presentation with slides, followed by four activities illustrating the chemistry of acidification and its effects on marine organisms. We would like to provide this resource to teachers and informal science educators for use both in and outside the classroom. Also, we would like to discuss attendee's vision, based on similar learning experiences, for how this workshop can be modified for different audiences and forms of delivery to meet all participants' needs.

A2: Clean Space for a Green Planet: A New Curricular Approach to Environmental Education

Beverly Bachelder, Douglas Middle School and Robert Bachelder, Worcester Area Mission Society

Learn about the vital connection between a clean space environment that is home to Earth-observing satellites and a green planet that is home to sustainable communities. Satellite observations are essential for understanding climate change and providing early warning of crop failures and water shortages. But space debris poses a growing threat to spacecraft and requires us to address difficult technological problems and policy issues before orbits become too congested to navigate. Pre-K – High School lesson plans and resources on this topic that are aligned with the 2016 Massachusetts Science and Technology/Engineering Curriculum Framework will be distributed to participants.



SESSION A | 9:45 a.m.–11:00 a.m.

A3: SAGEEE Meeting & Environmental Literacy Professional Learning Network

Kris Scopinich, SAGEEE and Mass Audubon

The purpose of SAGEE, Secretary's Advisory Group on Energy and Environmental Education is to foster environmental literacy within the Commonwealth of Massachusetts; to support the Secretary of the Executive Office of Energy and Environmental Affairs (EOEA) on opportunities related to energy and environmental literacy; and to serve as a coordinating forum among agencies and organizations concerned with the environment in the Commonwealth. Our current work aims to support, recognize, and promote best practices in building environmental literacy across Massachusetts. A short SAGEE meeting to share our latest efforts and accomplishments will be followed by the launch of a NEW Environmental Literacy Professional Learning Network (PLN). The Environmental Literacy PLN will be a network of informal and formal educators who are committed to identifying and scaling up effective models for increasing environmental literacy in formal and informal learning environments. Our primary goal is to focus on key strands in the new STE standards that directly address environmental literacy outcomes and how teachers, schools, districts, and informal institutions can work together to increase environmental literacy in the Commonwealth. In this session, we will begin drafting the network's desired outcomes and activities through collaborative brainstorming. If you want to get engaged in what's happening with promoting environmental literacy in Massachusetts, please join this session.

A4: The Art of Facilitating Observation: Strategies to Deepen Scientific Engagement

Anna Crocker, Christina Chappell and Kathy Kennedy, EcoTarium

How can looking closely at a famous painting and a live turtle help learners of all ages develop local environmental literacy? Could making observations about a mystery object help students grow both their natural curiosity and respect for classmates? At the EcoTarium, we incorporate a facilitation technique called Visual Thinking Strategies (VTS) into some of our educational programs to create open-ended, student-driven discussions that build skills such as collaboration, critical thinking and arguing based on evidence. Come participate in VTS discussions and start to think about how VTS can help your students develop deeper personal connections to nature.

A5: Breaking Down Barriers and Bridging the Gap: Creating Successful Environmental Education Experiences in Urban Settings

Melanie Garate, Claire Harris, Chelsea Gutierrez and Adam Leiterman, Boston Nature Center and Mass Audubon

Environmental educators in urban settings face many constraints, such as reduced green space and low accounts of awe inspiring natural moments. Often, participants have not had significant exposure to the natural world and their adults, be it teachers or family members, may not be equipped to assuage those fears. However, these factors—while daunting—should not be a barrier to successful environmental education experiences in urban areas.



SESSION A | 9:45 a.m.—11:00 a.m.

A6: Using the Garden to Support Social Emotional Learning, Special Education, and Core K-8 Subjects

Michele Kaufman, Solomon Montagno and Robyn Burns, CitySprouts

CitySprouts integrates hands-on, garden-based activities to help teachers meet curriculum goals. In addition to supporting core subjects, the garden is particularly beneficial for special education students, English language learners, and students with high social-emotional needs. The garden is extraordinarily beneficial to these students that often need a lot of support and access to alternative learning spaces. It offers a place where students can take out energy, practice compassion, and take ownership and responsibility over the space. Join us to learn more about how we engage teachers, build lessons based on teacher needs, and creative inclusive lessons!

A7: Using State of the Birds to Teach Climate Change and Civics

Brittany Gutermuth, Laura Beltran and Daniel Brown, Mass Audubon

Did you know that the Black-capped Chickadee is highly vulnerable to climate change in Massachusetts, and may be a rare species in eastern Massachusetts in 35 years? Learn how we use Mass Audubon's State of the Birds: Massachusetts Birds and our Changing Climate as a teaching tool to understand climate change. We will work through a lesson plan that uses this data, and demonstrate how to use research to improve students' understanding of civics. We will connect elements that meet science standards to effective actions individuals and communities can take. We will conclude with an exploration of civic engagement options.

SESSION B | 11:15 a.m.—12:30 p.m.

B1: Using the Environmental Public Health Tracking Network in the Classroom

Glennon Beresin, MS, MPH, Massachusetts Bureau of Environmental Health

This hands-on workshop will introduce the Massachusetts Environmental Public Health Tracking (EPHT) portal as a tool to assist environmental educators in developing data literacy for middle-school and high-school students. EPHT's dynamic website offers a variety of health and environmental data for different geographies across the state. Through live demonstration, participants will learn how to use data queries to create maps, tables, and charts, and include Social Determinants of Health and Environmental Justice areas. Tools like EPHT can help budding scientists learn the importance of environmental health, and how to generate hypotheses using real-world data. Laptops are recommended for full participation.

B2: Don't Speak at Your Audience, Speak With Them

Jim Fisk, Jantcu

The goal of this workshop is to provide an honest, informative session on how nonprofits can utilize the web as a necessary platform and resource. Topics will include: understanding why people donate online; building a platform, not a brochure (website); key components of a website; writing a website RFP; picking the correct technology; nonprofit branding; and making connections through social media. Participants will learn how to build their platform, spread their message, and encourage donations online. This workshop is ideal for marketing and communications professionals, particularly those from mid-sized to large nonprofits.

SESSION B | 11:15 a.m.–12:30 p.m.

B3: Increasing Program & Facility Accessibility for Individuals with Autism

Jennifer Karow and Cheryl Vieira, Roger Williams Park Zoo

The team at Roger Williams Park Zoo has been deliberately working to increase accessibility of programming and facilities to children and adults with autism. This session will discuss partnerships with three autism-support organizations, share replicable tools & resources that have been implemented as a result of those partnerships, and allow time for participants to collaboratively evaluate their own programs and facilities for opportunities to increase accessibility.

B4: Young Explorers: Using STEAM in Early Ed

Corrine Steever and Rachel Diersen, New England Aquarium

Young children, curious and fascinated by the world around them, are natural explorers and scientists. Incorporating STEM learning into curriculum early on helps equip young children with the scientific knowledge and opportunities to enhance skills in science practices, such as observation, interpretation, and explanation. By using the Ocean, we have found that young learners become fully engaged and are continually intrigued with learning more about this fascinating habitat. Come join New England Aquarium staff as we introduce you to work that is happening at the Aquarium to support early childhood educators while also participating in some activities that align with the 2016 MA STE standards.

B5: Seize the Narrative!

Diane Edgecomb, Professional Storyteller

What is a narrative and how can it give both the environmental movement and ourselves renewed vision? In this three-part workshop we'll create new frames for ecological issues examining how language and slogans shape perceptions and try our hand at coining our own phrases. In part two, we'll craft a short anecdote about the meaning we've found partnering with the natural world. Lastly we'll look at ways to heal our eco-narratives honoring ways we've made a difference. A nature-oriented teller and workshop leader for over twenty-five years, Diane's stories have been featured on NPR, at the National Storytelling Festival and International Storytelling Center.

B6: Identifying Barriers, Imagining Solutions: Using research to improve urban EE

Evan Kuras, Maureen Keating-Lessard, Paul Terkelsen and Katie Orellana, University of Massachusetts Amherst

"Meet them where they're at." That's the goal for environmental educators who seek to align curricular activities with students' prior experiences. Last year, teachers from the ECOS program in Springfield collaborated with a graduate student to understand where their students were "at." This workshop includes 1) a presentation about environmental identity development and the ECOS research evaluation, 2) a group discussion about common barriers educators face in achieving program goals, and 3) a training activity for educators. Participants will learn how to conduct mini research surveys to assess "where their students are at" so as to improve curricular activities.

B7: Garden Literacy: Connecting Food and Farm Experiences with Academic Skills

Lauren Ockene and Barney Brawer, JP Green School & Brookline Public Schools

Through maple sugaring and growing food, we teach academic skills that achieve math, literacy, science, and social studies goals. Using a cold frame, we grow food with students throughout the year and find the garden to be a very motivating environment for learning. This workshop will focus on ideas for lessons that meet academic goals through using the hands-on learning context of the garden and the urban maple "grove". We will highlight examples of how garden literacy activities motivate and engage students who have failed to succeed in the classroom.

LUNCH | 12:30 p.m.—1:45 p.m.

Please use the lunch hour to **visit with exhibitors**, network with your fellow Environmental Education colleagues, and enjoy a delicious lunch.

Vegetarian and vegan options will be provided.

Toward the end of lunch, at 1:00 p.m., there will be two roundtable discussions (descriptions below) for attendees to join at their leisure.

NEW ROUNDTABLE DISCUSSIONS 1:00 p.m.—1:45 p.m.

Post-Election Sensitivity in Today's Environmental Education

Rachel Holbert and Meghan Davies, Norman Bird Sanctuary

How can we, as environmental educators, be intentional with our language and actions to promote inclusivity in today's politically charged society? This workshop is intended to be a community-building resource, with participants leaving energized and equipped with strategies for working with challenging intersections of societal concerns and natural topics.

Career Conversations from Pioneers to Champions

Alexander Dunn, Writer and Educator

This roundtable is an opportunity for EE professionals from all career stages to discuss our individual and professional practices in small groups and consider ways we can activate our learning, lead within our institutions, and continue to grow professionally. First breaking into small groups to discuss challenges at specific career stages, we will tackle career development, risk taking, looking at the kind of work you do versus the work you want to be doing, and asking how you will get there. Lastly, we'll convene as a full group to share our conversations across the EE profession; a profession full of diversity, flux and rejuvenation.

DOUBLE SESSION C + D 1:45 p.m.—4:30 p.m.

C+D: An Engineering Challenge—From a Sustainable Perspective

Ted Watt, Hitchcock Center for the Environment and Gillian Andrews, Deerfield Elementary School

We will present an engineering design challenge that we have led with a number of groups. Participants will be tasked to design a roof rainwater capture system for a model building. Materials will be provided and teams will construct a prototype of their design. Designs will be tested and outcomes measured. After testing we will reflect on the design process and create a diagram of the steps in the process. Participate in an activity that applies the design process, as identified in the 2016 Mass STE Standards, to an environmental issue facing people in many communities, including both rural and urban.

SESSION C | 1:45 p.m.—3:00 p.m.

C1: Utilizing the Concept Change Model to Conquer Student Misconceptions

Benjamin Rossetter and Kristen Fenstermacher, Cody Outdoor Classroom

The Conceptual Change Model (CCM) is a practical tool educators can use to confront student misconceptions about science. This workshop will teach educators how to identify a misconception, provide background information on the CCM, and detail the steps of the CCM. A thorough demonstration will address one common student misconception: erosion. To explore erosion, participants will actively engage in the use of a stream table, a model that demonstrates how moving water affects sand. Participants will collaborate to create a list of other common student misconceptions and learn simple steps to implement the CCM in both the classroom and field.

C2: Student Voices for Climate Resilience

Rebekah Stendahl, Heather Starkel and Sarah Quimby, New England Aquarium

This workshop will share a standards-aligned classroom unit that helps upper elementary students explore systems and climate resilience in order to empower student voices on local issues. Educators from New England Aquarium and Natick Public Schools will present this collaborative project and provide tools for brainstorming and materials to help with implementation. Project-based units can shift the role schools play in our community to being a place where fresh ideas and new perspectives on community issues are born. In this way, the community rallies around students and the students know they can make a difference in their community.

C3: Video to VR: Digital Environmental Education with NOVA

Ralph Bouquet and Daryl Choa, WGBH-NOVA

In addition to its weekly broadcast on PBS, NOVA, the most-watched primetime science series on American television, has extended its award-winning science journalism both online and into classrooms, producing an extensive collection of video resources for classroom use and original digital content—including short-form video series, apps, VR experiences, and games and interactives. In this session, Ralph Bouquet, NOVA's Education and Outreach Manager, will provide an overview of free resources that NOVA has created for STEM educators interested in investigating challenging environmental justice issues—ranging from the Flint water crisis to the impact of climate change on coastal communities.

C4: Teaching for Transfer: Connected Explorations in Science and Music

Terry Wolkowicz, New Bedford Symphony Orchestra and Carrie Hawthorne, Buttonwood Park Zoo

In this session, we will examine the use of concept-based arts integration to explore STEM concepts. While arts integration (STEAM) offers potential opportunities to deepen students' understanding, too often the arts integration activities are superficial and fail to strengthen student understanding. By exploring shared concepts across the sciences and music, students experience STEAM curriculum on a level playing field; where the understanding in one domain strengthens and supports the understanding in another. We will examine what happens when this is undertaken in collaboration with local community partners. Curriculum examples will be offered that describe the multi-year collaboration between the Buttonwood Park Zoo and the New Bedford Symphony Orchestra.



SESSION C | 1:45 p.m.—3:00 p.m.

C5: Nature Play as a Tool for Social Justice

Samantha Polon, Roger Williams Park Zoo

This workshop will look at how pop-up nature play in urban parks impacts local communities. Learn about the importance of being outside together as a family, creating relationships with parks departments and take away ideas to create pop-up play days in your community. This workshop will focus on best practice in creating partnered programs with that empower communities to access and support local outdoor spaces, as well as explore the successful steps to incorporate more free play into outreach. Participants can expect to learn about opportunities for creating Nature Play in non-traditional settings both in and outside their non-profits.

C6: The Boreal Spruce-Fir Forest in Massachusetts & Climate Change

Aimee Gelinis, Tamarack Hollow Nature & Cultural Center

In an interpretive photo show & hands-on presentation, learn about the unique and sensitive ecology, fauna and flora of high elevation Spruce-Fir Boreal Forests of Western MA found only in microclimates above 2000ft. Learn how climate change impacts these unique forest habitats more drastically and how citizen science can help track these changes. This workshop will provide a close to home example of how climate change is affecting rare and threatened ecosystems and their fauna and flora right here in Massachusetts. Hands on examples of forest ecology, fauna and flora will be displayed as well.

C7: Inclusive Environmental Education

Lucy Gertz, Erin Pitkin and Jeremy Mombourquette, Mass Audubon

With twelve universally designed accessible interpreted trails, Mass Audubon now welcomes more visitors and program participants with a wider range of physical, sensory, and brain-based abilities. This has challenged us to build capacity for inclusive environmental education, in order to more confidently and competently engage integrated groups in educational programs. We'll introduce best practices and provide real-world examples of how we adapt environmental education experiences, programs, and other opportunities for visitors and students with disabilities and learning differences, highlighting two of our Centers – Oak Knoll and Drumlin Farm – and sharing approaches and program formats we have learned, developed, and practiced.

SESSION D | 3:15 p.m.—4:30 p.m.

D1: Composting Reduces Greenhouse Gases and has a Positive Impact on our Local Environment and Food System

Adam Jankauskas and Leandro Molina, City Compost

While composting may not seem like it would have significant impact, this simple change in behavior is actually one of the largest ways in which you can immediately reduce your environmental impact. Protect the world around us, support the local food system, increase the health of your community, and create a more sustainable world for all with composting. Join this workshop to learn how your personal actions could prevent the equivalent of 500lbs. of CO2 from entering the atmosphere, plus actually reverse emissions as more carbon returns to plant life. City Compost provides composting services for homes, businesses, and events.

SESSION D | 3:15 p.m.—4:30 p.m.

D2: Urban Planning in a Virtual World: Community-based urban EE for civic learning and engagement

Jennifer Klein and Lisa Marshall, Mass Audubon

Urban Planning is a core disciplinary area in Urban Environmental Education yet it can be a difficult concept to teach through hands-on experiences. Learn about how one NSF funded program is utilizing epistemic gaming to introduce youth to the complex socio-ecological systems of cities, the importance of civic engagement, and the role urban planning plays in the development of sustainable cities.

D3: Maintaining Mission—Mining Audience

Kathryn Egnaczak, Jacob Hiatt Magnet School and Alexander Dunn, Writer and Educator

Begin by exploring the overlap and hidden meaning of the two terms that define our field: environment and education. Then examine how these terms are used in the wider world, outside our sometimes insular ecosystem. Through deeper looking we will define new and untapped audiences to connect with mission. We will map out and define EE today and introduce the use of Google trends, word cloud and SocioViz hash tag mapping as a follow up. The objective is to highlight new and untapped audiences, and share out possible connections for collaboration or exemplars of new audience engagement models. This session will be interactive and hands on, including group discussion and brainstorming.

D4: Climate Justice and Urban Environmental Education: Methods and Activities for Educators

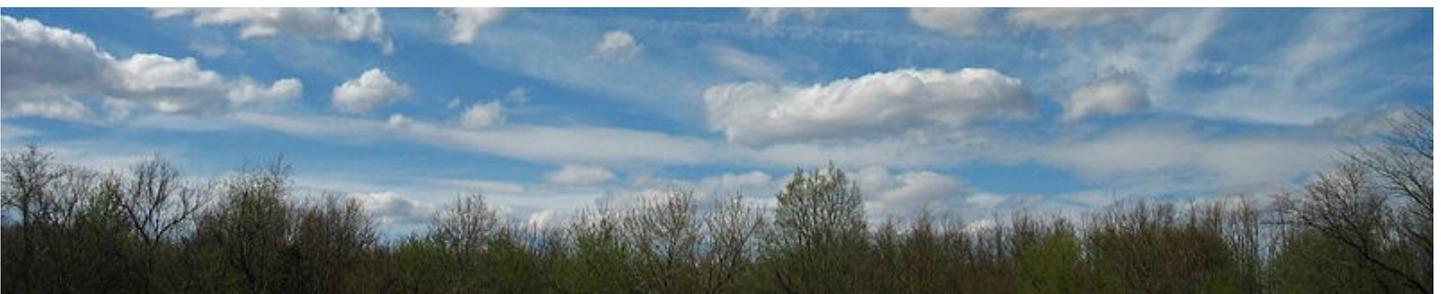
Cynthia Espinosa Marrero, Pulegium Consulting

Climate justice is a subfield of environmental justice, concerned with “the inequitable distribution of the adverse impacts of climate change on economically, politically, and socially marginalized communities around the world” (Mitchell & Chakraborty, 2014, p. 476). In this era of intense, unpredictable impacts of climate change, bridging Urban Environmental Education (UEE) and social justice is essential if we are to deliver fair and affordable food, housing, and health for all. Educators attending this workshop will be participating in three UEE hands-on activities to experience, reflect and decide how to use them in their work. Handouts and resources will be distributed.

D5: The Sky's the Limit: Using Drones for Environmental Education

Seth Engelbourg, Linda Loring Nature Foundation

Drones provide excellent opportunities for students to learn about technology, engineering, ecological monitoring, and spatial data. Examples will be presented of problems-based science where drones were used both as a research tool and educational resource for in-class science curriculum. Case studies focusing on invasive species, pond mapping, and educational outreach will be presented from Nantucket Island, MA and beyond. This workshop will also feature live drone demonstrations using professional-level survey equipment (weather dependent) and participants will get to experience the rigorous training that new drone pilots use to develop safe and effective flight skills.



SESSION D | 3:15 p.m.—4:30 p.m.

D6: Aquatic Ecosystems and Inclusion

Louise Beaudry and Tricia DeGiulio, South Short Natural Science Center

From vernal pool certification to water quality testing, we'll explore a variety of methods, tools, and inclusion techniques that enable us to work with multiple ages and several diverse abilities. Many techniques have been adapted to allow students with vision impairments to participate in field and lab work. This workshop is suitable for educators teaching all age groups from elementary through high school.

D7: The Ropes of Ecology

Shawn Moriarty, A Single Footstep

The Ropes of Ecology is an interactive workshop that provides participants a set of activities and initiatives that can be used in classrooms, outdoors, or in conjunction with a low ropes course. The workshop covers a collection of warm up activities and small group challenges that guides participants to build a more cohesive group and develop ecological literacy. We will also explore how to develop a sense of place with your students and participants. You do not need to have a low ropes course at your site to use the Ropes of Ecology.

REGISTRATION INFORMATION

Registration fee includes conference attendance and lunch.

Early Bird Rate—\$85—If registered by Wednesday, February 14 [REGISTER](#)

Registration Rate—\$105—If registered between February 14 and March 7

Student Rate—\$35—Applies to high school, undergraduate and graduate students. [REGISTER](#)

Exhibitor Table [REGISTER](#)

Exhibitors register at the conference attendee rate (see above) and add \$10 for a half table or \$20 for a full table. (Tables are six feet in length.) Registration includes your attendance at conference workshops and lunch. Please contact Kathryn Parent with any questions: events@massmees.org.

MEES offers a generous **scholarship program**, open to all attendees. The reduced scholarship rate is **only \$35** and is available to all who apply. Scholarships are provided on a first-come, first-served basis—there are 40 available. To apply, please email Conference Registrar Erin Kelly: events@massmees.org.

Presenting a Workshop? You are still required to register online!

Workshop LEAD Presenter—FREE Conference Registration—Includes attendance at workshops and lunch.

Workshop Additional Presenter(s)—**\$40**—Includes attendance at workshops and lunch.

If the conference is cancelled for any reason, MEES is unable to provide a refund.

Cancellation information will be announced via email to those who registered online, as well as on the MEES website: www.massmees.org and the [MEES Facebook Page](#)

Questions? Concerns? Comments? Please email: info@massmees.org