Massachusetts Science Education Leadership Association

2016 Conference

Building Capacity, Shaping the Future

October 20, 2016 - Courtyard Marriott, Marlborough, MA

www.msela.org

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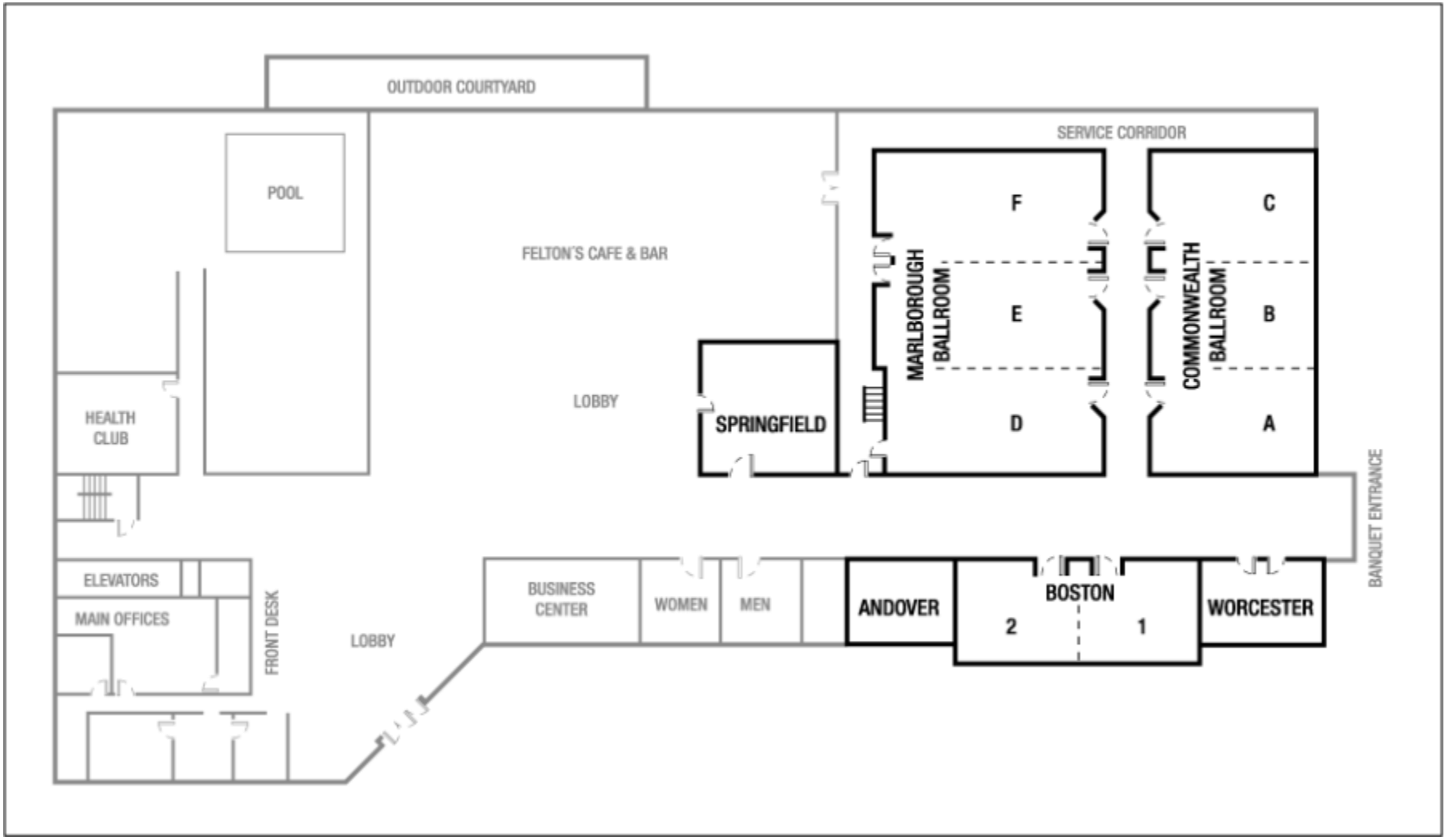
MSELA Conferences Schedule at a Glance

7:00 – 8:00	***Registration*** located at the Banquet Entrance and ***Continental Breakfast*** located in the Marlborough Ballroom ***Exhibits*** located in the Boston Room and Banquet Hallway						
8:00 - 9:00 Session I Marlborough Ballroom	***Science Teachers' Learning: Enhancing Opportunities, Creating Supportive Contexts*** Suzanne Wilson, UConn						
	Marlborough Salon D	***Marlborough Salon E***	***Marlborough Salon F***			***Commonwealth Salon C***	***Andover Room***
9:15 - 10:15 Session II	Elementary Science Professional Development: Lessons Learned	What to Look for in Science Classrooms: Developing Shared Understanding	Engineering for Every Student: **Leveraging Resources, Supporting Collaboration**		8:30 – 9:15	Lab Aids	Pearson
10:30-11:30 Session III	Reframing Energy in Elementary School	Instructional Leadership for Science Practices	Innovation Studios and Maker Spaces: Creative Contexts for Teaching and Learning		9:30 – 10:15	Carolina Biological	EverFi
					10:30 – 11:15	Weather Bug	VWR/Ward's/Sargent Welch
11:30-11:50	***Exhibits & Networking***						
12:00- 12:20 Marlborough Ballroom	***Conference Keynote Speaker - Congressman Joe Kennedy III***						
12:25-1:30 Marlborough Ballroom	***Lunch and Hall of Fame Presentation***						
1:45-2:45 Session IV	Putting the Vision of the MA Science Standards into Practice	Opening Science Investigations to Support Practices	Next Generation Science MCAS		1:45 – 2:30	Texas Instruments/Vernier	Cengage/National Geographic
2:45- 3:00	***Exhibits & Networking***						

Courtyard Marriott – 75 Felton Street, Marlborough, MA

Complimentary parking surrounding the hotel

MSELA Conference - Meeting Rooms Floor Plan



MSELA Conference Sessions

Session I: 8:00 - 9:00, Marlborough Ballroom

Science Teachers' Learning: Enhancing Opportunities, Creating Supportive Contexts

Dr. Suzanne M. Wilson
Professor of Teacher Education
Department of Curriculum and Instruction
University of Connecticut

In this session, Suzanne Wilson will describe the major messages from the National Academy of Sciences, Engineering, and Medicine's report on Science Teacher Learning. She will also describe the recommendations for activities that school districts can engage in to:
(1) identify science teachers' learning needs
(2) draw from a range of resources to create a portfolio of learning opportunities for teachers
(3) create policies, programs, and practices that help teachers at all stages of their careers – continuously learn. The session will be designed to draw on participants' considerable experiences, make connections to current work, and anticipate new directions.

Session II: 9:15 – 10:15

Elementary Science Professional Development: Lessons Learned Marlborough Salon D	**Jeff Winokur:** Early Childhood and Elementary Science Education, Wheelock College **Karen Worth**: Department of Special and Elementary Education, Wheelock College	In this session we will discuss important considerations for designing the kinds of professional development that can support elementary teachers as they attempt to achieve the vision put forth by the Framework for K-12 Science Education. The focus will be on creating provocations and questions that engage students in practices such as constructing explanations

Session II: 9:15 – 10:15

***What to Look For* in Science Classrooms** Marlborough Salon E	**Marianne Dunne** - Science Specialist Department of Elementary & Secondary Education **Nicole Scola -** Science Specialist Department of Elementary & Secondary Education	As districts transition to the 2016 STE standards, what are the implications for curriculum, instruction and assessment? In this session we will use a science *What to Look for* guide and a video to calibrate our classroom observations. The *What to Look For* guides describe what observers should expect to see in a specific grade level science classroom. This includes the content and practices students are expected to be learning related to the 2016 STE learning standards, and best practices related to classroom curriculum, instruction and assessment. Discussions will focus on how the integration of practices and disciplinary core ideas impacts student learning in science.
Engineering for Every Student: Leveraging Resources, Supporting Collaboration Marlborough Salon F	**Darryl Williams** Research Associate Professor Department of Chemical and Biological Engineering Director, Center for STEM Diversity, Tufts University **Catherine McCulloch** Project Director Science and Math Programs Education Development Center **Ethan Danahy** Research Assistant Professor Center for Engineering Education and Outreach (CEEO) **Beth McGinnis-Cavanaugh** Professor, Physics and Engineering Springfield Technical Community College **Charles Xie** Senior Scientist, Concord Consortium	The recent National Science Foundation (NSF)-funded report, *Engineering for Every K–12 Student: A Landscape Analysis of K–12 Engineering Education in the Greater Boston Region*, highlights stakeholders' level of awareness and understanding of the opportunities, gaps, and resources available for engineering education in our state. This session will feature a panel discussion about the report findings, and the resources and research of local NSF-funded engineering education awardees that are relevant to our 6-12 grade engineering education efforts in Massachusetts, with a focus on technology, diversity, and assessment.

Session III: 10:30 – 11:30

Reframing Energy Learning in Elementary School Marlborough Salon D	**Sara Lacy** Senior Scientist, TERC Center for Science Teaching and Learning **Sally Crissman** Senior Science Educator, TERC	The 2016 standards include new expectations for learning about energy in elementary school. Teachers feel unprepared to meet this challenge. Learn how the Focus on Energy system of engaging classroom activities and professional learning provides a framework for reasoning about energy forms and flows in many contexts.
Instructional Leadership for Science Practices: Supporting Teachers in Transitioning to the New Science Standards Marlborough Salon E	**Katherine McNeill** Associate Professor of Science Education Lynch School of Education Boston College	The new science standards include a focus on science practices, which can be challenging for teachers and students. This session will introduce tools for supervision and tools for instruction to evaluate and improve classroom instruction of science practices. The use of these tools will be illustrated through video examples.
Innovation Studios and Makerspaces: Creative Contexts for Teaching and Learning Marlborough Salon F	**Christine Borning** STEAM Director Bourne Public Schools **Amy Fish** iStudio Teacher Facilitator Bourne Public Schools **Diane Brancazio** K-12 Outreach Developer The Edgerton Center Massachusetts Institute of Technology	Makerspaces are the hottest thing in STEM education. They can be really effective spaces for students to learn, experiment with tools, develop skills, collaborate, have fun, and become innovators and designers. They can also be the latest fad that drops off in a couple of years with a sense of "we tried that, it didn't work." This session will provide tools, strategies and ideas for designing and using Makerspaces to enhance learning and support the development of new teaching practices that blend and push forward science and engineering. We will provide an overview of key considerations when designing and implementing a makerspace, as well as specifics from the successful incorporation of a K-12 Makerspace in the Bourne Public Schools.

Session IV: 1:45 – 2:45

Putting the Vision of the MA Science Standards into Practice Marlborough Salon D	**Sue Doubler** Senior Leader, TERC Principal Investigator, The Inquiry Project Center for Science Teaching and Learning **Sally Crissman** Senior Science Educator, TERC	What does it look like when learning experiences are aligned with the vision of the Massachusetts Science Standards? Using the Grade 5 Transformations of Matter unit from Inquiry Project as an example, we will explore how students use the practices of science to develop and use a particle model of matter.
Opening up Science Investigations to Support Participation in Scientific Practices Marlborough Salon E	**Eve Manz** Assistant Professor of Education School of Education Boston University	This session focuses on using scientific investigations to support the development of scientific practices (specifically, planning and conducting investigations, analyzing and interpreting data, constructing explanations, and engaging in argumentation). I will discuss strategic junctures to add productive uncertainty into science investigations, strategies for managing student discussion at these junctures, and necessary supports for teachers to do this work. Examples will focus on elementary science but are applicable to all levels of science instruction.
Next Generation Science MCAS Marlborough Salon F	**Katie Bowler** Administrator for Science and Technology/ Engineering Test Development Dept. of Elementary and Secondary Education **Brendan Harmon** Science Test Development Specialist **Jass Stewart** Special Assistant to the Chief of Staff, Office of the Commissioner	The Department of Elementary and Secondary Education will provide an update on the Next Generation MCAS. The presentation will focus on how the Science and Technology/Engineering assessments will transition to the 2016 standards. The presentation will also address how Science will transition, along with ELA and Mathematics, to the Next Generation MCAS.

Exhibitor Sessions

	Commonwealth Salon C	*Andover Room*
8:30	**LAB AIDS** Presenter: Stephanie Brunnett Description: Curriculum materials that support science education.	**PEARSON** Presenters: Jocelyn McRae and Merrill Beckett Description: How Pearson continues to produce materials aligned with national and state science education standards.
9:30	**CAROLINA/SMITHSONIAN** Presenter: Dr. Brian Mandel Description: • The NGSS and what is the Smithsonian Science Education Center doing about it? • Phenomenon and Problems (Engineering Design mini-challenge) • A summary of SSEC's five-year Investing in Innovation validation grant) • Where is the Smithsonian Science Education Center's grade 1-5 learning framework headed?	**EVERFI** Presenters: Jessica Donovan Description: How EverFi partners with private-sector leaders, forward-leaning foundations and non-profits, to produce online digital courses which are available to K-12 schools at no charge. For example, Hockey Scholar is an engaging, online STEM course composed of twelve 15-minute modules that bring the 2016 Massachusetts Science and Technology/Engineering Framework to life through the game of hockey. Attendees will be able to register for a teacher account, engage with our curriculum mapping documents to align modules to existing units in grades 5-8, and walk away with standards-aligned online activities and paper-based, supplementary lesson plans for immediate classroom implementation.

Exhibitor Presentation Sessions

	Commonwealth Salon C	***Andover Room***
10:30	**WEATHER BUG** Presenters: Juliet Hulse and Mark Hyer Description: How schools can use Weather Bug to turn a classroom and school into a weather research center.	**VWR/WARD'S/SARGENT-WELCH** Presenter: Kalomira Kalaitzis Description: Research proven materials that support K-12 STEM education.
1:45	**TEXAS INSTRUMENTS/VERNIER** Presenter: Jaclyn Bonneau Description: A demonstration of how Vernier sensors interface with Texas Instrument hand-helds to collect and analyze data.	**CENGAGE/NATIONAL GEOGRAPHIC** Presenters: Martin Brauer and Jason O'Connor Description: An overview of quality National Geographic products which support STEM education and literacy.

Additional Exhibitors

Accelerated Learning/STEM Scopes
Fisher Science Education
FREY Scientific
Massachusetts Audubon
McGraw-Hill
BIOZONE Publishing
FOSS/Delta Education
Massachusetts Association of Science Teachers
Massachusetts Envirothon
Tufts Graduate School of Arts and Sciences

2016 Conference Keynote Speaker - Congressman Joe Kennedy III

12:00 PM ~ Marlborough Ballroom

Congressman Kennedy represents the 4th District of Massachusetts in the U.S. House of Representatives. A vocal advocate for Science, Technology, Engineering, and Mathematics (STEM) education, vocational schools and community colleges, he has authored several pieces of legislation in Washington aimed at improving access to our modern economy, including the Perkins Modernization Act and STEM Gateways Act. Additionally, Congressman Kennedy is the honorary chair of the Governor's STEM Advisory Council.

Regional Networking Meetings Link: http://bit.ly/MSELARegionalMeetings

If you are interested in joining or hosting our collaborative regional meetings, please use the link above or on our website. Information about the Regional Networking Meetings is available on our website.

We appreciate your participation and encourage you to stay in touch after the conference.
Visit our website for links to presenters' information shared during and after the conference.
www.MSELA.org

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The survey link is available on our website.
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