National Marine Educators Association
2018 Annual Conference

Charting a Course for Conservation

Long Beach, California

July 15 - 20, 2018
Promoting a science-informed society

To find out about our scholarships, funding opportunities, and learning resources, please visit the NOAA Education Resource Portal: www.education.noaa.gov
Welcome from Conference Chair

Hello, fellow marine educators!
On behalf of the NMEA18 Conference Committee, Southwest Marine Educators Association, and the Aquarium of the Pacific, welcome to Long Beach, California! We look forward to hosting you here on the historic Queen Mary. Conference attendees are welcome to enjoy discounted tickets to all of the Queen Mary’s attractions and tours. We’ve also planned a great conference for you - be sure to check out the plenary talks, concurrent sessions, meet ups, the scavenger hunt (there are prizes), exhibit hall, special events, field trips, and workshops. If you get a chance, enjoy our beautiful city, too! There’s a thriving food scene, all within a short bus or boat ride from our hotel.

Long Beach is a beautiful, resilient city. We’re proud to share our diverse and vibrant home with you. Here’s to a great conference- let’s get to work!

Emily Yam, NMEA18 Conference Chair

Welcome from President/President’s Chain

Hello NMEA!
As President of NMEA I am grateful to get a chance to host you all and share the institutions that I have called home for nearly 20 years. During this conference we will also pass the torch of presidency to Meg Marrero and thank Tami Lunsford for her wonderful contributions to NMEA as she leaves the Presidents Chain. We will also recognize Kate Achilles as our incoming President Elect. It is an honor to serve with these wonderful people and to serve NMEA and its members. I hope everyone has a productive and fun conference.

David Bader, President NMEA
<table>
<thead>
<tr>
<th>SATURDAY, JULY 14</th>
<th>SATURDAY, JULY 14</th>
<th>SATURDAY, JULY 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Grant Education Network Meeting</td>
<td>Aquarium of the Pacific, Watershed Classroom</td>
<td>8 a.m. - 5 p.m.</td>
</tr>
<tr>
<td>Grunion Run Program - FREE for NMEA participants and families</td>
<td>Cabrillo Marine Aquarium</td>
<td>9:30 p.m.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUNDAY, JULY 15</th>
<th>SUNDAY, JULY 15</th>
<th>SUNDAY, JULY 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onsite Registration</td>
<td>Queen Mary, Hotel Lobby</td>
<td>3 - 6 p.m.</td>
</tr>
<tr>
<td>NMEA Board Meeting</td>
<td>Aquarium of the Pacific, Watershed Classroom</td>
<td>8 a.m. - 5 p.m.</td>
</tr>
<tr>
<td>NMEA Board Dinner</td>
<td>Dock 2, onboard Karoline</td>
<td>6:30 p.m.</td>
</tr>
<tr>
<td>NMEA18 Conference Committee SET UP</td>
<td>Regent Room, Mauretania Room</td>
<td>8 a.m. - 5 p.m.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MONDAY, JULY 16</th>
<th>MONDAY, JULY 16</th>
<th>MONDAY, JULY 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onsite Registration</td>
<td>Queen Mary, Hotel Lobby</td>
<td>8 a.m. - 4 p.m.</td>
</tr>
<tr>
<td>NMEA International Committee Meeting</td>
<td>Royal Salon</td>
<td>8 a.m. - 11 a.m.</td>
</tr>
<tr>
<td>Pre Conference Wkshp- Designing Programs for Conservation!</td>
<td>Victoria Room</td>
<td>9 a.m. - 4 p.m.</td>
</tr>
<tr>
<td>Pre Conference Wkshp- Reflecting On Practice</td>
<td>King's View Room</td>
<td>9 a.m. - 5 p.m.</td>
</tr>
<tr>
<td>NMEA18 Volunteer SET UP</td>
<td>Verandah</td>
<td>8 a.m. - 5 p.m.</td>
</tr>
<tr>
<td>NMEA18 Exhibits SET UP and LOAD IN</td>
<td>Windsor Salon</td>
<td>7 a.m. - 4 p.m.</td>
</tr>
<tr>
<td>NMEA18 Hospitality/Staff SET UP</td>
<td>Mauretania, Regent</td>
<td>8 a.m. - 5 p.m.</td>
</tr>
<tr>
<td>Kickoff Event</td>
<td>Britannia Salon</td>
<td>5 p.m. - 8 p.m.</td>
</tr>
</tbody>
</table>

At SeaWorld Parks and Entertainment®, we are reminded of the importance and influence of educators every day. The amazing diversity of animals and the power of the ocean often engages people to connect with our natural world. By sharing our passion for education and conservation with you, we can help inspire your visitors and students to help protect the world we share.

We proudly support NMEA and invite you to visit our website for free resources. Our site contains information, pictures, presentations, activities and much more that you can use at your facility or in your classroom.

seaworld.org/en/just-for-teachers
**TUESDAY, JULY 17**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onsite Registration</td>
<td>Queen Mary, Hotel Lobby</td>
<td>8 a.m. - 4 p.m.</td>
</tr>
<tr>
<td>Exhibits</td>
<td>Windsor Salon</td>
<td>8 a.m. - 4 p.m.</td>
</tr>
<tr>
<td>Opening Session - Plenary</td>
<td>Grand Salon</td>
<td>8 a.m. - 10 a.m.</td>
</tr>
<tr>
<td>Morning Break</td>
<td>Windsor Salon</td>
<td>10 - 10:15 a.m.</td>
</tr>
<tr>
<td><strong>Concurrent Sessions and/ or Meetings</strong></td>
<td>Royal Salon</td>
<td>10 a.m. - 5 p.m.</td>
</tr>
<tr>
<td></td>
<td>King's View Rm</td>
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<td></td>
<td>Board Room</td>
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<td></td>
<td>Victoria Room</td>
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<tr>
<td></td>
<td>Britannia Salon</td>
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<tr>
<td></td>
<td>Caronia</td>
<td></td>
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<td></td>
<td>Tea Room</td>
<td></td>
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<tr>
<td></td>
<td>Royal Gallery Theater (Classroom)</td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td>Queen's Salon</td>
<td>12 - 2 p.m.</td>
</tr>
<tr>
<td>Buddy Lunch – (eat lunch in Queens first at reserved table)</td>
<td>Royal Salon</td>
<td>12:30 – 2 p.m.</td>
</tr>
<tr>
<td>Events Pod Meeting</td>
<td>Verandah, Port Side/Mauretania/Regent</td>
<td>2 – 3:30 p.m.</td>
</tr>
<tr>
<td>Afternoon Break</td>
<td>Windsor Salon</td>
<td>3 - 3:30 p.m.</td>
</tr>
<tr>
<td>Issues and Trends Pod Meeting</td>
<td>Verandah, Port Side/Mauretania/Regent</td>
<td>3:30 – 5 p.m.</td>
</tr>
<tr>
<td>Formal Educator Meet Up</td>
<td>Observation Bar</td>
<td>5:15 p.m.</td>
</tr>
<tr>
<td>Post Secondary Meet Up</td>
<td>Chelsea Chowder House</td>
<td>5:15 p.m.</td>
</tr>
<tr>
<td>Zoo and Aquarium Educator Meet Up</td>
<td>Sir Winston’s</td>
<td>5:15 p.m.</td>
</tr>
<tr>
<td>Shuttle to Aquarium of the Pacific</td>
<td>Meet at bottom of stairs from R deck</td>
<td>6:10 p.m.</td>
</tr>
<tr>
<td>Evening Reception at Aquarium of the Pacific</td>
<td>Aquarium of the Pacific</td>
<td>6:30 - 10 p.m.</td>
</tr>
</tbody>
</table>

**Evaluation for All:**

**Looking beyond traditional uses of program evaluation**

Kathayoon Khalil, Joe Heimlich, Brian Johnson

We often talk about evaluation as being an important step in reflecting on where we have been - but evaluation is also a powerful tool in planning for the future.

**Start at 5:15 p.m.**

**Meet Ups**

**Shuttle leaves at 6:15 p.m.**

Join us at Aquarium of the Pacific

**Evening Reception**

**Exhibits**

**Windsor Salon**

8 a.m. - 4 p.m.
## WEDNESDAY, JULY 18

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onsite Registration</td>
<td>Queen Mary, Hotel Lobby</td>
<td>8 a.m.- 4 p.m.</td>
</tr>
<tr>
<td>Exhibits</td>
<td>Windsor Salon</td>
<td>8 a.m.- 4 p.m.</td>
</tr>
<tr>
<td>Opening Session- Plenary</td>
<td>Grand Salon</td>
<td>8 a.m- 9:30 a.m.</td>
</tr>
<tr>
<td>Poster Session</td>
<td>Windsor Salon</td>
<td>9:30 -10:15 a.m.</td>
</tr>
<tr>
<td>Morning Break</td>
<td>Windsor Salon</td>
<td>10 - 10:15 a.m.</td>
</tr>
<tr>
<td>NMEA Student Conference, presented by SeaWorld</td>
<td>Location To Be Determined</td>
<td></td>
</tr>
<tr>
<td>Concurrent Sessions and/ or Meetings</td>
<td>Royal Salon</td>
<td>10 a.m.- 5 p.m.</td>
</tr>
<tr>
<td></td>
<td>King’s View Room</td>
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<td></td>
<td>Board Room</td>
<td></td>
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<td></td>
<td>Victoria Room</td>
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<tr>
<td></td>
<td>Britannia Salon</td>
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<tr>
<td></td>
<td>Caronia</td>
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<tr>
<td></td>
<td>Tea Room</td>
<td></td>
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<tr>
<td></td>
<td>Royal Gallery Theater (Classroom)</td>
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</tr>
<tr>
<td>Lunch - Chapter Meetings and Chapter Baskets</td>
<td>Queen’s Salon</td>
<td>12 - 2 p.m.</td>
</tr>
<tr>
<td>Stakeholders Pod Meeting</td>
<td>King’s View Room</td>
<td>2 – 3:30 p.m.</td>
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<tr>
<td>Communications Pod Meeting</td>
<td>Victoria Room</td>
<td>2 – 3:30 p.m.</td>
</tr>
<tr>
<td>Operations Pod Meeting</td>
<td>Verandah, Port Side/ Mauretania/ Regent</td>
<td>3:30 – 5 p.m.</td>
</tr>
<tr>
<td>Break</td>
<td>Windsor Salon</td>
<td>3 - 3:30 p.m.</td>
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<tr>
<td>Evening Banquet and Auction</td>
<td>Grand Salon and Windsor Salon</td>
<td>6:30 - 10 p.m.</td>
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<tr>
<td>Silent Auction and Cocktail Hour</td>
<td>Windsor Salon</td>
<td>6:30 – 7:30 p.m.</td>
</tr>
<tr>
<td>Dinner and Live Auction</td>
<td>Grand Salon</td>
<td>7:30 – 10 p.m.</td>
</tr>
</tbody>
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### Charting a Course for our Future Ocean

**Doug McCauley**

The world ocean is changing and we are changing how we use the ocean. From seabed mining, to aquaculture, to marine energy - new ocean industries are emerging. Some of these will be game changers for ocean biodiversity. The decisions we make surrounding the uses of the ocean in the next decades will shape what the next several centuries of ocean health become. Ocean educators will play a vitally important role in sharing the information needed to position us for a future in which we use the ocean more than ever before, while harming it less.
<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8 a.m.-4 p.m.</td>
<td>Onsite Registration</td>
<td>Queen Mary, Hotel Lobby</td>
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<tr>
<td>8 a.m.-4 p.m.</td>
<td>Exhibits</td>
<td>Windsor Salon</td>
</tr>
<tr>
<td>8 a.m.-10 a.m.</td>
<td>Opening Session-Plenary</td>
<td>Grand Salon</td>
</tr>
<tr>
<td>10 a.m.-10:15 a.m.</td>
<td>Morning Break</td>
<td>Windsor Salon</td>
</tr>
<tr>
<td>10 a.m.-5 p.m.</td>
<td>Concurrent Sessions and/or Meetings</td>
<td>Royal Salon, King’s View Rm, Board Rm, Victoria Rm, Britannia Salon, Caronia, Tea Room, Royal Gallery Theater (Classroom)</td>
</tr>
<tr>
<td>12 – 1:15 p.m.</td>
<td>Lunch - Business Luncheon</td>
<td>Grand Salon</td>
</tr>
<tr>
<td>1:15 – 2 p.m.</td>
<td>Stegner Lecture</td>
<td>Grand Salon</td>
</tr>
<tr>
<td>4 - 5 p.m.</td>
<td>NMEA New Board Meeting</td>
<td>Board Room</td>
</tr>
<tr>
<td>4 - 5 p.m.</td>
<td>Sand and Shell Swap</td>
<td>Victoria Deck</td>
</tr>
<tr>
<td>Buses Pick Up near main exit</td>
<td>Cabrillo Marine Aquarium Event <em>EXTRA TICKET REQUIRED</em></td>
<td>TBD</td>
</tr>
</tbody>
</table>

**People and a Porpoise: Reports from the Upper Gulf**

Catalina Lopez, Claudia Cecilia, Sarah Mesnick

Vaquita porpoise are the most endangered marine mammal and with fewer than 30 remaining they are one of the most endangered animals in the world. Working to protect this species from extinction requires efforts from biologists, economists and other social scientists, gear engineers, educators, government, industry and private organizations. Collaboration is needed at all levels to protect this species and is especially important within the communities of the Upper Gulf of California, Mexico where the vaquita is found. Sarah Mesnick, Catalina López-Sagásteu, and Claudia Cecilia G. Olimon will report on their work within the Upper Gulf, engaging people to help protect the vaquita.

**Stegner Lecture**

Mati Waiya

The National Marine Educators Association is pleased to feature Mati Waiya, Chumash ceremonial leader and Dolphin Dancer. The Chumash Wishtoyo Foundation protects and preserves the culture and history of coastal communities and fosters responsibility to our waters, marine habitats and watersheds through research, education, community action and where necessary, legal enforcement. We utilize traditional Chumash beliefs, practices, songs, stories and dances to inspire self-respect and a greater awareness of our relationship with, and dependence upon, the natural environment.
**FRIDAY, JULY 20**

<table>
<thead>
<tr>
<th>Field Trip</th>
<th>Meet at TBD; depart Queen Mary</th>
<th>Depart field trip site</th>
<th>Arrive at Queen Mary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Trip- Seal Beach NWR</td>
<td>7:45 a.m.</td>
<td>11:45 a.m.</td>
<td>12:30 p.m.</td>
</tr>
<tr>
<td>Field Trip- MPA Cit Sci Whale Watch Trip</td>
<td>Meet at TBD; depart Queen Mary</td>
<td>7:30 a.m.</td>
<td></td>
</tr>
<tr>
<td>Field Trip - Catalina. Island</td>
<td>Meet at TBD; depart Queen Mary</td>
<td>6:30 a.m.</td>
<td></td>
</tr>
<tr>
<td>Field Trip - NOAA SWMFSC and White Seabass Hatchery</td>
<td>Meeting Point TBD</td>
<td>7 a.m.</td>
<td></td>
</tr>
<tr>
<td>Field Trip - NASA JPL- Watching Our World of Water</td>
<td>Meeting Point TBD</td>
<td>7:30 a.m.</td>
<td>5:30 p.m.</td>
</tr>
<tr>
<td>Field Trip - Paddleboard/ Coastal Clean Up</td>
<td>Meeting Point TBD</td>
<td>7:30 a.m.</td>
<td></td>
</tr>
</tbody>
</table>

**Explore. Discover. Engage.**

From Capitol Hill to local communities, the National Marine Sanctuary Foundation advocates for marine and Great Lakes sanctuaries and a healthy ocean. Explore our nation’s sanctuaries, discover their natural and cultural riches above and below the surface, and engage with us to protect these sites for current and future generations.

**LEARN MORE. JOIN US.**

[marinesanctuary.org](http://marinesanctuary.org)

Photo Credit: Matt McIntosh/NOAA
**THANK YOU!**

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**NMEA18 Planning Committee**
We are your NMEA18 Conference Planning Committee. Please let us know if you have questions or comments!

<table>
<thead>
<tr>
<th>Category</th>
<th>Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference Chair</td>
<td>Emily Yam</td>
</tr>
<tr>
<td>Auctions</td>
<td>Katie Sullivan, Dena Dock, Gwen Noda, Megan Hirschy, Sue Counterman</td>
</tr>
<tr>
<td>Audio/Visual</td>
<td>Milena Acosta</td>
</tr>
<tr>
<td>Blue-Green Practices</td>
<td>Sarah Wilson Finstuen</td>
</tr>
<tr>
<td>Concurrent Sessions</td>
<td>Judith Coats and Emily Weiss</td>
</tr>
<tr>
<td>Conference Hospitality</td>
<td>Jenny Lentz</td>
</tr>
<tr>
<td>Design</td>
<td>Danny Beckwith</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Cassandra Davis, Jennifer Matlock</td>
</tr>
<tr>
<td>Evening Events</td>
<td>Katie Sullivan, Michelle Race, Jim DePompei</td>
</tr>
<tr>
<td>Exhibits</td>
<td>Judith Coats</td>
</tr>
<tr>
<td>Field Trips</td>
<td>Linda Chilton</td>
</tr>
<tr>
<td>Finance</td>
<td>Carrie Abrahams</td>
</tr>
<tr>
<td>Food Service</td>
<td>Staci Wong</td>
</tr>
<tr>
<td>Fundraising</td>
<td>Dave Bader, Carrie Abrahams, Sarah Wilson Finstuen</td>
</tr>
<tr>
<td>Keynotes</td>
<td>Alie LeBeau, Kurt Holland</td>
</tr>
<tr>
<td>Mobile App</td>
<td>Luke Richmond</td>
</tr>
<tr>
<td>Pre-Conference workshops</td>
<td>Lynn Tran, Jennifer Matlock, Joey Scott</td>
</tr>
<tr>
<td>Registration</td>
<td>Lynn Whitley, Annie Richardson</td>
</tr>
<tr>
<td>Social Media</td>
<td>Jennifer Magnusson, Kristen Weiss</td>
</tr>
<tr>
<td>Transportation</td>
<td>Bill Brooks</td>
</tr>
<tr>
<td>Volunteer Coordination</td>
<td>Neeti Schworetzky, Cassandra Davis, Matt Schworetzky</td>
</tr>
<tr>
<td>Website Support</td>
<td>Cassandra Davis</td>
</tr>
<tr>
<td>Youth Conference</td>
<td>Raelene Child, Kathy Fuller, Sean Russell</td>
</tr>
<tr>
<td>Friend of NMEA18</td>
<td>Jaime Thom, Charina Cain, Steve Seal, Kate Achilles, Laura Good, Lori Walsh</td>
</tr>
</tbody>
</table>

NMEA18.org Share your story on social media #NMEA18
## TUESDAY AT-A-GLANCE

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Speaker</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 10:45 pm</td>
<td>Royal Salon</td>
<td>Dianne Lindstedt</td>
<td>Climate Change Graphics</td>
</tr>
<tr>
<td></td>
<td>King's View</td>
<td>Jenny East</td>
<td>Adventures in Evaluation: A Panel with Marine Education Experts</td>
</tr>
<tr>
<td></td>
<td>Board Room</td>
<td>Stephanie Toro</td>
<td>Deep Sea Investigations: An Inquiry Approach to Study Deep Ocean Environments</td>
</tr>
<tr>
<td></td>
<td>Victoria Room</td>
<td>Kristin Hunter-Thomson</td>
<td>Fishadelphia: High School Student Run Community Supported Fishery Has Broad Community Impact</td>
</tr>
<tr>
<td></td>
<td>Britannia Salon</td>
<td>Jim Wharton</td>
<td>Kill Your Science: Human Values and the Future of Ocean Conservation</td>
</tr>
<tr>
<td></td>
<td>Caronia</td>
<td>Mark Wiley</td>
<td>&quot;Bite off only what you can chew...&quot;: Lessons Learned on the Arts in Marine Education</td>
</tr>
<tr>
<td></td>
<td>Tea Room</td>
<td>Mark Friedman</td>
<td>If You Eat Seafood, You're Probably Eating Plastic. Impacts on the marine environment &amp; the human body.</td>
</tr>
<tr>
<td></td>
<td>Royal Theater Classroom</td>
<td>Mark Heckman</td>
<td>Upending a 7-year old Plankton Lab</td>
</tr>
<tr>
<td>11 - 11:45 pm</td>
<td>Royal Salon</td>
<td>Sarah Nuss</td>
<td>Fish Guts, Microplastics, Earthquakes, and Eels: Translating Graduate Level Science Research for K-12 Students</td>
</tr>
<tr>
<td></td>
<td>King's View</td>
<td>Sarah Pedemonte</td>
<td>Reflecting critically on our beliefs about learning</td>
</tr>
<tr>
<td></td>
<td>Board Room</td>
<td>Maggie Pletta</td>
<td>Creating Workforce Ready Students that Develop Transferable, Interactive Software Designed to Encourage Free-Choice Learning</td>
</tr>
<tr>
<td></td>
<td>Britannia Salon</td>
<td>Chia Dai (Ray) Yen</td>
<td>Using Interactive Response System on Mobile Devices to Promote Ocean Literacy</td>
</tr>
<tr>
<td></td>
<td>Caronia</td>
<td>Rocio Lozano-Knowlton</td>
<td>Energy Efficiency to Mitigate Climate Change and Ocean Acidification (EECCOA)</td>
</tr>
<tr>
<td></td>
<td>Tea Room</td>
<td>Chandra Legdesog wa'gey</td>
<td>Hofagie wa'gey: Integration of Traditional Ecological Knowledge of Ulithi atoll.</td>
</tr>
<tr>
<td></td>
<td>Royal Theater Classroom</td>
<td>Claire Fackler</td>
<td>From Thought to Environmental Action: Documenting Change in Knowledge and Behavior</td>
</tr>
<tr>
<td>2 - 3:20 pm</td>
<td>Royal Salon</td>
<td>Kurt Holland</td>
<td>Ocean Literacy: the NGSS Path to Coast &amp; Ocean Stewardship</td>
</tr>
<tr>
<td></td>
<td>King's View</td>
<td>Meghan Marrero</td>
<td>NMEA 101</td>
</tr>
<tr>
<td></td>
<td>Board Room</td>
<td>Kristin Evans</td>
<td>Mapping How People Learn</td>
</tr>
<tr>
<td></td>
<td>Britannia Salon</td>
<td>Claire Strang</td>
<td>The International Ocean Literacy Survey: Understanding the Impact of Ocean Literacy Around the World</td>
</tr>
<tr>
<td></td>
<td>Caronia</td>
<td>Susan Haynes</td>
<td>Exploring the Deep Ocean with NOAA: A Dive into our Most Amazing Recent Discoveries</td>
</tr>
<tr>
<td></td>
<td>Tea Room</td>
<td>Joanna Philippsf</td>
<td>NMEA Currents Planning Roundtable</td>
</tr>
<tr>
<td></td>
<td>Royal Theater Classroom</td>
<td>Mark Friedman</td>
<td>Making Math Easier to Sea with Data Analysis Tools</td>
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<td>3:40 - 5 pm</td>
<td>Royal Salon</td>
<td>Emily Weiss</td>
<td>Informal Science Institutions Helping Schools Implement NGSS</td>
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<td>King's View</td>
<td>Christopher Petrone</td>
<td>Murals as Models: Integrating Art into Climate Education While Supporting Three-Dimensional Learning</td>
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<td>Dawn Sherwood</td>
<td>Man vs. Wild: Lessons on the Ocean and Human Impacts</td>
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Supporting Our Schools | Research Revelations | Connecting Communities Through Conservation | Effective Evaluation | Angling For New Audiences
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<tr>
<th>Time</th>
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<tr>
<td><strong>WEDNESDAY AT-A-GLANCE</strong></td>
<td><strong>10 -10:45 pm</strong></td>
<td><strong>11 - 11:45 pm</strong></td>
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<tr>
<td>Royal Salon</td>
<td>Yong Ma The Construction of 100 Marine Awareness Education Bases in China</td>
<td>Marcie Orenstein MWEE in the City: Collaborating with Urban Schools in the Development of a Meaningful Watershed Education Experience</td>
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<tr>
<td>King's View</td>
<td>Claudio Aguayo Mixed Reality Learning in Marine Ecological Literacy Education</td>
<td>Kristi Walters Ocean Adventures for All: Programming for Underserved Groups</td>
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<tr>
<td>Board Room</td>
<td>Julianne Mueller-Northcott Students Saving Sharks: Using Ocean Tracks to Understand Marine Protected Areas</td>
<td>Christos Michalopoulos Aquariums and Aquaculture: An Adventure in Alliances</td>
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<tr>
<td>Victoria Room</td>
<td>Sharon Cooper Uncover Secrets from Under the Seafloor: Free Education Opportunities from the R/V JOIDES Resolution</td>
<td>Stephanie Toro Integrating Field Trips into the Classroom Curriculum: How to Make Them More Than Just a Fun Experience</td>
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<td>Britannia Salon</td>
<td>Celia Cackowski Bridge DATA Activity: Sea Level Trends</td>
<td>Sara Smith Supporting Educators Through Marine Sciences</td>
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<td>Caronia</td>
<td>Emily Meese Shark Research and Beach Safety Education Program</td>
<td>Angelica Baylon Intervention Framework to Address Sustainable Aspects Through Integrated Coastal Management Implementation</td>
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<tr>
<td>Tea Room</td>
<td>Tami Lunsford Project Based Learning Marine Science</td>
<td>Chandni HirenkumarThakkar The Coverage Analysis of Ocean Literacy in the Educational Standards of USA, India, and Indonesia</td>
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<tr>
<td>Royal Theater Classroom</td>
<td>Mary Carla Curran Chemistry Made Easy: Teaching Students About the Link Between Marine Chemistry and Coral Reef Biodiversity</td>
<td>Thomas Greene ScienceOnShore (SOS) - Marine Environmental Science Activities for Elementary School Students</td>
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<td>Catherine Halversen Using Authentic and Locally-Relevant Data to Teach About Climate Science and Ocean Acidification</td>
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<td>Dianne Lindstedt Crazy About Cards for Engagement II</td>
<td>Sara Roberts Oregon Coast Aquarium’s Ocean Literacy Partnership: Making Local Resources a Context for Authentic Learning</td>
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<td>Royal Salon</td>
<td>Jill Bartolotta</td>
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<td>Partners in Plastic Reduction in Northeast Ohio</td>
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<td>10 - 10:45 pm</td>
<td>Royal Salon</td>
<td>Claire Fackler</td>
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<td>LiMPETS: Sandy Beach and Rocky Intertidal Monitoring in Your National Marine Sanctuaries</td>
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<td>11 - 11:45 pm</td>
<td>Royal Salon</td>
<td>Patrick Flanagan</td>
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<td>OLLIE Traveling Immersive Experiences Bring the Ocean to the People</td>
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<td>Catherine Halversen</td>
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<td>Transforming University STEM Teaching: Faculty Learning Program</td>
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<td>King’s View</td>
<td>Paula Leeann Wampler</td>
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<td>Interdisciplinary and Interactive, a Way to Teach Science that Achieves Maximum Learning</td>
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<td>Lynn Whitley</td>
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<td>E.E. Just Marine Science Program, Successfully Engaging African American and Hispanic Middle School Students</td>
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<td>Jennifer Runyan</td>
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<td>What do Satellites See?</td>
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<td>10 - 10:45 pm</td>
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<td>Michael Romano</td>
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<td>Partnering for Student Success: Successful Practices for Field Implementation</td>
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The headphones indicate audio tour stops.

The stars indicate additional points of interest.

Attractions & Historical Exhibits
- Life Boat Demonstration (Seasonal)
- Sun Deck, Stern, Starboard
- Model Gallery
- Promenade Deck, Sun Deck, Mid-Deck
- Queen Mary Historic Exhibition
- Ground Level, Stern
- Radio Room (Headphones)
- Sports Deck, Mid-Ship
- Travel Bureau
- M-Deck, Mid-Deck
- The Shipyard
- Promenade Deck, Mid-Deck
- Tour Center/Exhibit Photos
- Promenade Deck, Mid-Ship
- Will Inn
- Bow

Shopping
- headphone
- Sun Deck, Mid-Ship
- Promenade Deck, Mid-Ship
- Queen Mary Historic Exhibition

Dining
- Champagne Sunday Brunch
- R-Deck, Grand Salon
- Chelsea Chowder House & Bar
- Promenade Deck, Mid-Deck
- Malibu Family Wines
- Promenade Deck, Mid-Ship
- Observation Bar
- Promenade Deck, Bow
- Board Room
- Promenade Deck, Bow
- Sun Deck, Bow
- Tea Room
- Promenade Deck, Bow
- Sun Deck, Bow

Meetings & Receptions
- Board Room
- Promenade Deck, Mid-Ship
- Britannia Salon
- M-Deck, Stern
- Caronia Room
- B-Deck, Bow, Port
- Caper Room
- B-Deck, Bow, Starboard
- Exhibit Hall
- Ground Level, Midship
- Fitness Center
- A-Deck, Mid-Deck
- Grand Salon
- R-Deck, Mid-Ship
- King's View Room
- Promenade Deck, Starboard, Stern
- Mauretanian Room
- M-Deck, Bow

Hotel
- Hotel Lobby
- A-Deck, Mid-Deck
- Business Center
- A-Deck, Mid-Ship
- Queen Mary Spa
- M-Deck, Mid-Ship, Port

* Restaurants, shops, tours & exhibit hours may be seasonal and are subject to change pending any special events or private bookings.
Poster Session

Chang, Cheng-Chieh (Jack)  
National Taiwan Ocean University  
**Marine Cartoon Viewing Factors Affect Marine Interests and Ocean Literacy among Elementary School Students in Taiwan.**  
50 marine science cartoon for kids.

Chen, Lishu  
National Museum of Marine Science and Technology  
**Marine Education program for Visually Impaired People -- Understanding Fishery by Touching.**  
There are two meanings for “Understanding Fishery by Touching”. Not only we guided visually impaired people using hands to learn about fishery, but also we work on the program by using empathy to design the whole procedure and hope to touch their feeling. We designed an activity combined with smell, tactile and hearing for people to understand about lighting fishery and tradition coral house. The 1st activity was so successful that it deserved us to share the experience about the materials and methods we used to any body who want to design a special fishery experienced program.

Lorenz Mrakovcich, Karina  
US Coast Guard Academy  
**Developing a Learning Environment for “Flow”: Ocean Literacy through Collaborative and Creative Work**  
This poster highlights examples of “flow” in Marine and Environmental Sciences courses and outreach efforts, promoting ocean literacy to underrepresented minorities and youth at the US Coast Guard Academy.

Chilton, Linda  
University of Southern California Sea Grant Program  
**Aquaculture and Aquaponics: Changing Student’s Perceptions**  
The introduction of aquaponics and aquaculture instruction into middle and high school programs has raised urban students’ awareness about seafood resource limitations, the opportunities and challenges in aquaculture and the importance of nutrition. Learning first hand students experience the challenges of system maintenance and have an opportunity to create and test their own designs. The lessons address science and engineering principles.

Kira Hughes  
Hawaii Institute of Marine Biology  
**Super Corals: Providing Hope for Reefs Through Action and Collaboration**  
Over the past 30 years, we lost 50% of corals worldwide. Climate change, driven by human activity, is now the biggest threat to corals and the main cause of large-scale bleaching events. We must take urgent action to establish a foundation of more resilient corals (i.e. “Super Corals”) that allow our reefs to have a future. In 2015, we spearheaded novel human-assisted evolution research aimed at accelerating natural selection to enhance stress tolerance in corals. We must intervene now and work together for coral reefs to have a promising future.

Lemon, Jill  
Discovery Cube's Ocean Quest  
**Building Critical Science Practices with Citizen Science**  
Involving students with Citizen Science provides a platform for engaging science in the community and emphasizes NGSS dimensions of science learning – Practices, Crosscutting Concepts, and Core Ideas.

McDermod, Rachel  
Alaska Pacific University  
**Enriching Early Education Classrooms with Ocean Science Using Aquaria**  
Education is the first step in instilling knowledge and a passion in marine and aquatic science in preschool aged children. The young children of today will eventually be responsible for managing the world’s marine, freshwater, and terrestrial environments. The purpose of this project was to supplement two preschool classrooms with aquaria and weekly ocean science lessons. I attempted to assess the effect of this by asking the students to respond to a series of drawing prompts and flashcards before and after the project.

Harwell, Todd  
Oregon State University  
**A Historical Look at Diversity Engagement in Marine Education**  
Has the field of marine education evolved over time in its efforts and approaches to engage broader and more diverse audiences? We take a trip across the decades to explore examples of diversity engagement found in sources such as academic journal articles, publications and reports from NGOs and governmental agencies, as well as stories and articles from other informal sources.

Christie, Carla  
Facultad de Ciencias, Universidad Austral de Chile  
**Guardianes del Mar: An Experience to Rediscover the Chilean Coast**  
105 school students (9-11 years old) from Valdivia coast, southern Chile, were part of the Marine Science Program “Guardianes del Mar,” a comprehensive program that combined workshops, field trip and laboratories, with leadership activities and ontological coaching. The aim was to deliver not only knowledge, but also skills and abilities to create awareness that they, fishermen children, are the protagonists, beneficiaries and true guardians of the coast.

Super Corals: Providing Hope for Reefs Through Action and Collaboration

Over the past 30 years, we lost 50% of corals worldwide. Climate change, driven by human activity, is now the biggest threat to corals and the main cause of large-scale bleaching events. We must take urgent action to establish a foundation of more resilient corals (i.e. “Super Corals”) that allow our reefs to have a future. In 2015, we spearheaded novel human-assisted evolution research aimed at accelerating natural selection to enhance stress tolerance in corals. We must intervene now and work together for coral reefs to have a promising future.

Windsor Salon 9:30 - 10:15 a.m.
Dr. Brian Johnson is a conservation education and program evaluation specialist with more than 20 years of experience in the field. He is currently a Senior Research Associate with PEER Associates, where he directs evaluation and research projects for informal science institutions including zoos, aquariums, and environmental education centers. Previously, he served as the Director of Educational Research and Evaluation at the Wildlife Conservation Society, where he established a research and evaluation unit at the WCS zoos and aquarium in New York City. What Brian loves most about being an evaluator is working with organizations to articulate questions at the heart of their missions, and then finding innovative ways to answer those questions. His current research and professional interests focus on identifying and measuring the long-term effects of learning at zoos and aquariums, and building evaluation capacity at informal science institutions.

Joe E. Heimlich, Ph.D. is Director of Research and Co-Director of the Lifelong Learning Group at the Center of Science and Industry (COSI). He is also an Academy Professor Emeritus with The Ohio State University where he was an Extension Specialist in museums and organizational capacity building, served as Leader, Environmental Science for OSUE, and held appointments in the School of Environment and Natural Resources, the Environmental Science Graduate Program, and the College of Education and Human Ecology. Joe's research focus is lifelong learning about and in the environment, with interests in integration of social role, context, and conditions of the visit. He has written over 100 academic articles, books, and chapters and well over 350 other publications.

Kathayoon Khalil, PhD is the Principal Evaluator for the Seattle Aquarium. Prior to joining the Aquarium, Kathayoon was the Director of Evaluation at the Natural History Museum of Los Angeles County. She received her PhD in Learning Sciences and Technology Design from Stanford University, studying the use of social network analysis to understand how innovation spreads among the zoo and aquarium community. Kathayoon started her career at as a teen volunteer at the Oregon Zoo and quickly developed a passion for wildlife and conservation. Through over a decade of work in zoo education, Kathayoon has implemented authentic approaches to evaluating visitor learning, including attitude and behavior changes that may have resulted from their visit. She has consulted on education and evaluation for a variety of zoos and aquariums throughout the country and serves as the champion of the AZA’s educational research and evaluation initiative. Kathayoon received her Masters of Environmental Science degree from the Yale School of Forestry and her Bachelors in Organismal Biology from Claremont McKenna College and is an alumna of the Emerging Wildlife Conservation Leaders program as well as an instructor for Project Dragonfly at Miami University of Ohio.
Plenary Speakers

Douglas McCauley is an assistant professor in the Department of Ecology, Evolution, and Marine Biology at UC Santa Barbara. He holds two BA degrees from UC Berkeley in Integrative Biology and Political Science. He received a PhD from Stanford University. McCauley was named "Human of the Year" by Vice Media’s Motherboard in recognition of his efforts to draw on new sources of big data and emerging technologies to better understand and solve problems facing the oceans. Researchers in the McCauley Lab use drones, satellites, machine learning, electronic trackers and other tools in their research on the ecology of at-risk wildlife and ecosystems.

Claudia Cecilia G. Olimon’s great passion is to contribute to a better world by promoting attitude change. Her goal now is to help empower local fishermen to take an active role to avoid the extinction of the most endangered cetacean in the world – the vaquita. She believes ecological issues must be significantly approached from the social trenches. Her education background includes a MSc. in Ecosystem Management, a BSc. in Social Communication and a tech. grade in Journalism. Currently, she is the General Coordinator of the Ghost Nets Removal Project at the Upper Gulf of California, an initiative of the Mexican Government with the collaboration of 17 organization. She is the Executive Director of Pesca ABC (acronym in Spanish of Alternative Fishing of Baja California), the first fishermen NGO to contribute to the welfare of families and to the conservation of the natural richness of the Upper Gulf of California through promoting sustainable fishing. In the last 14 years, she has been as an independent professional consultant for Mexican and US NGO to achieve goals specially related with conservation of Marine Protected Areas of the Baja California Peninsula.

Catalina López-Sagástegui is a Marine Biologist from the Universidad Autónoma de Baja California Sur (2001) in La Paz, Mexico, and obtained a Master’s degree on marine biodiversity and conservation from Scripps Institution of Oceanography (2006). Catalina became a scholar in residence at UCMEXUS, University of California Riverside, on July 2010 and has since dedicated her research to describe collaborative efforts surrounding conservation and fisheries management challenges in the Gulf of California. Although most of her efforts have been focused on the Upper Gulf of California and the efforts to save the vaquita marina, eliminate illegal fishing and improve fishing practices, she participates in research programs throughout the gulf and the Pacific cost of the Baja California Peninsula. Catalina’s work focuses on social, economic and political issues that affect conservation and natural resource management and tries to identify the ways in which communities adapt to changes in their socio-economic realities caused by public policies aimed at protecting and managing species. Her research incorporates a multidisciplinary approach and highlights the importance of resource user participation, transparency and open access to information, and communication. On October 2017 she became the Gulf of California Marine Program’s Director and is an editor for dataMares, an initiative aiming to improve how scientists communicate technical and complex information and promotes open access data.

Sarah Mesnick leads communication and external affairs for the Southwest Fisheries Science Center (SWFSC) NOAA Fisheries, is an ecologist in the SWFSC’s Marine Mammal and Turtle Division and is adjunct professor and a co-founder of the Center for Marine Biodiversity and Conservation at Scripps Institution of Oceanography, UC San Diego. Her research focuses on the behavioral and molecular ecology of marine vertebrates. The main goal of these studies is to provide a behavioral framework within which to investigate population identity, population trends, and fishery interactions in cetaceans (whales, dolphins and porpoises). Sarah has worked in the Gulf of California since 1986 and has been involved in vaquita conservation for many years. Currently she is focusing her efforts on market-based incentives for conservation in an effort to create a gillnet-free fishing economy in the northern Gulf of California. She leads studies to gain a better understanding of market preferences and to determine if and how price premiums could play a role in incentivizing fishermen to switch to gears that do not endanger vaquita. She broadens engagement throughout the seafood supply chain and culinary community to promote vaquita conservation while supporting local fishing communities.

Wednesday

Thursday
Mati Waiya  
*Executive Director, Wishtoyo Foundation*

Chumash ceremonial leader and Dolphin Dancer Mati Waiya (Little Hawk), is a lifelong resident of Ventura County. A graduate of Buena High School, Mati attended Ventura College before joining his uncle’s contracting business. Driven to succeed, Mati later started his own construction company, and moved his family to Newbury Park in 1989. Soon thereafter, he connected with his Chumash culture, embracing their ways and ceremonies, and began studying with elders of his tribe. He learned the dances, songs and stories, as well as the history of his native people. He appreciated the Chumash culture’s connection with the natural environment and their teachings of sustainability and responsibility.

After many years of study, in 1997 Mati created the Wishtoyo Foundation, a non-profit organization. Wishtoyo is the Chumash word for rainbow, and like the legend telling of the arrival of the first Chumash settlers on a rainbow bridge from Santa Cruz Island, Wishtoyo serves as a bridge to link the people of today to their environment – the land, air and water that support and sustain them. Wishtoyo aims to preserve Chumash culture by using traditional beliefs, practices, songs, and stories and dances to create self-respect and teach a greater awareness of the connection with and dependence upon the natural environment. Wishtoyo’s strong ties to environmental awareness fostered the launch in February 2001 of the Ventura Coastkeeper, 54th member of the national Waterkeeper Alliance, founded by Robert Kennedy, Jr. Mati is the first Native American to become a Keeper – an ombudsman dedicated to protecting, preserving and restoring our marine habitat, coastal waters and watersheds and to bridging the gap between pollution laws, as stated in the federal Clean Water Act, and the government’s ability to enforce them.

Mati is actively involved with preservation of Chumash cultural/historical sites. He also addresses cultural resource laws protecting sensitive archaeological sites as well as endangered species and natural resources. Mati conducts Chumash ceremonies including Solstice, and continues the mission of the Wishtoyo Foundation by giving cultural presentations for schools, public events, government functions and grassroots foundations. Wishtoyo offers presentations and programs at our living Chumash Village at Nicholas Canyon County Beach Park in Malibu, on a bluff overlooking the Pacific Ocean. Programs introduce students and the public to the sights, sounds and workings of an authentic Chumash village. Waiya’s believes education is the primary tool for a future healthy, sustainable environment, awakening a passion for our natural surroundings to be passed on for generations to come.

[www.wishtoyo.org](http://www.wishtoyo.org)
Session Descriptions

Session descriptions are listed in alphabetical order by presenter's last name.

DeMauro, Christine -- Wildlife Conservation Society
Sarah Rosenblum -- Middle School 839 - NYC Dept of Education
Making Math Easier to Sea with Data Analysis Tools
Aquariums inspire stronger data analysis! What happens when you return from the field trip? Learn how analyzing marine animal behavior data elevates math skills in middle school science classrooms via graphing and measures of center. Leave with strategies and tools used by the Urban Advantage partnership between NYC schools and WCS's New York Aquarium. CCSS/NGSS aligned.
Tuesday, July 17 3:40 - 5:00 Tea Room (Sun Deck, Bow)

DeMauro, Christine -- Wildlife Conservation Society
Sarah Rosenblum -- Middle School 839 - NYC Dept of Education
Submerge Yourself in Biomimicry: Take Your Middle School STEM Design Experiments to New Depths
Dive deeper into STEM. Learn how to facilitate a teacher workshop involving constructing simple submersibles with students using a design experiment process that begins by drawing inspiration from marine animals. Walk away with tips and tools developed by the Urban Advantage partnership between NYC schools, New York Hall of Science, and WCS's New York Aquarium. NGSS aligned.
Wednesday, July 18 2:00 - 3:20 Royal Theater Classroom (D-Deck, stern)

East, Jenny -- Oregon Sea Grant
Adventures in Evaluation: A Panel with Marine Education Experts
Interact with a panel of experts as they share successes and challenges evaluating curriculum, teacher professional development, and informal programming in marine science education. NMEA leaders Diana Payne, Meg Marrero, and Joanna Philippoff will talk about their experiences—with the goal of helping others evaluate their practice and improve methods of teaching and learning about marine science.
Tuesday, July 17 10:00 - 10:45 Kings View (Promenade Deck, midship)

Evans, Kristin -- UT Marine Science Institute/Mission Aransas NERR
Emily Yam -- Aquarium of the Pacific
Ali LeBeau -- Cabrillo Marine Aquarium
Mapping How People Learn
Explore the age-old question, “How do people learn!” with a modern approach—Concept Mapping. Examine your own ideas, beliefs and understanding by working with peers to build a map representing a shared understanding of how people learn. Concept mapping is a powerful reflective exercise worth exploring!
Tuesday, July 17 2:00 - 3:20 Board Room (Promenade Deck, midship)

Fackler, Claire -- NOAA Office of National Marine Sanctuaries
From Thought to Environmental Action: Documenting Change in Knowledge and Behavior
The NOAA Office of National Marine Sanctuaries has initiated an institutional approach to documenting the impacts of our education programs. All 14 underwater parks have been asked to report on both outputs and outcomes, using common metrics and instruments. Simultaneously, a small-scale assessment is being conducted at a local level that documents changes in student behavior and direct environmental stewardship activities.
Tuesday, July 17 11:00 - 11:45 Royal Theater Classroom (D-Deck, stern)

Fackler, Claire -- NOAA Office of National Marine Sanctuaries
Bring the Ocean into Your Classroom with America's Underwater Treasures—Your National Marine Sanctuaries
Learn about free STEM educational resources to increase ocean and climate literacy and conservation with your students. Discover how to do immersive Virtual Reality dives in your classroom or facility, as well as use real-time NOAA data to enhance student learning and explore other online resources. Learn more about the National Marine Sanctuaries Webinar Series and other distance learning opportunities. Receive free educational materials!
Tuesday, July 17 2:00 - 3:20 Caronia (B-Deck, bow)

Friedman, Mark -- LA Maritime Institute
NMEA members collaboration with Cuban marine scientists and educators.
Cuba has protected her marine ecosystems like no other country world-wide. What can marine scientists, environmentalists and ecologists learn from them? How can we collaborate and share educational resources? Come to an informal discussion and collaboration session.
Tuesday, July 17 3:40 - 5:00 Tea Room (Sun Deck, bow)

Friedman, Mark -- LA Maritime Institute
Mapping How People Learn
Explore the age-old question, “How do people learn!” with a modern approach—Concept Mapping. Examine your own ideas, beliefs and understanding by working with peers to build a map representing a shared understanding of how people learn. Concept mapping is a powerful reflective exercise worth exploring!
Tuesday, July 17 2:00 - 3:20 Board Room (Promenade Deck, midship)

Flanagan, Patrick -- Ocean Learning Lab and Immersive Experiences
Traveling immersive experiences bring the ocean to the people
OLLIE (Ocean Learning Lab and Immersive Experiences) develops immersive underwater experiences that can travel to diverse communities and engage the public in virtual exploration of ocean environments. Through the combination of immersive spaces, hands-on tools, and collaborative discovery, OLLIE seeks to broaden access and deepen public understanding of the ocean world.
Thursday, July 19 11:00 - 11:45 Royal Salon (Promenade Deck, midship)

George Matsumoto -- Monterey Bay Aquarium Research Institute
Collaboration with Cuban marine scientists.
NMEA members collaboration with Cuban marine scientists and educators. Cuba has protected her marine ecosystems like no other country world-wide. What can marine scientists, environmentalists and ecologists learn from them? How can we collaborate and share educational resources? Come to an informal discussion and collaboration session.
Tuesday, July 17 3:40 - 5:00 Tea Room (Sun Deck, bow)

Gottlieb, Emily -- Pacific Grove Museum of Natural History
Wesley Haack -- Pacific Grove Museum of Natural History
LIMPETS and NGSS: Citizen Science Practices
LIMPETS (long-term monitoring program and experiential training for students) is a citizen science program through which students engage in NGSS Science Practices. Participants learn about coastal marine ecosystems by following scientific protocol to collect and analyze data. This presentation will show educators how to integrate LIMPETS and NGSS Science Practices into their classes and programs.
Thursday, July 19 3:40 - 5:00 Britannia Salon (M-Deck, stern)
Session Descriptions

Session descriptions are listed in alphabetical order by presenter's last name.

**Graebner, Greg -- Dauphin Island Sea Lab**

**Fish, Food, and Fishing**

The Dauphin Island Sea Lab (DISL) Discovery Hall Program (DHP) will present on the topic of marine fisheries. For the past eight years, Mississippi-Alabama Sea Grant Consortium has funded a DHP teacher workshop called Fins, Fishes, and Fisheries. Sea Lab educators have utilized a number of different materials, researchers, and experiences to present fisheries to teachers across the southeast in a fun, exciting, and educational course. This presentation, “Fish, Food, and Fishing” will include a short fisheries lecture, an activity demonstrating fishing gear selectivity, and culminate in a hands-on/make-n-take sustainable fisheries engineering challenge.

**Tues, July 17 2:00 - 3:20 Tea Room (Sun Deck, bow)**

**Green, Thomas -- Kingsborough Community College**

**ScienceOnShore (SOS) - Marine Environmental Science Activities for Elementary School Students**

SOS is a STEM based lab program for 4th and 5th graders that engages them in hands-on activities related to real world problems in marine pollution and climate change. Participants will see via a Power Point presentation, and through handling some basic kinds of lab equipment, how fourth and fifth graders attempt to solve specific environmental problems such as: How much is our environment warming up? How deep is the sea? How clear is ocean water? How healthy is an oyster? Is there ocean acidification in Long Beach? Participants will see how these activities are carried out by students from schools without science labs who are conveniently bused to a regional lab at Kingsborough Community College in Brooklyn NY during the late morning hours when school buses are available.

**Wed, July 18 11:00 - 11:45 Royal Theater Classroom (D-Deck, stern)**

**Halversten, Catherine -- University of California, Berkeley**

**Sarah Pedemonte -- University of California Berkeley**

**Susan Wood -- Padilla Bay National Estuarine Research Reserve**

**Using Authentic and Locally-Relevant Data to Teach About Climate Science and Ocean Acidification**

Interested in helping educators improve their understanding of climate science, ocean acidification, and how to use real and near-real time data? Would you like to further develop effective teaching and learning practices? Come engage in activities designed to increase climate and data literacy, use ocean data in authentic and locally-relevant ways, and model teaching strategies based on how people learn.

**Wed, July 18 2:00 - 3:20 Britannia Salon (M-Deck, stern)**

**Hodin, Jason -- UW Friday Harbor Labs**

**Pam Miller**

**‘Follow the Water’: forging student connections from inland communities to ocean and climate**

The ‘Follow the Water’ program empowers students and teachers to draw connections from personal and community actions, to local and regional ecosystems, to the global environmental concerns of climate change and ocean acidification. NMEA participants will explore our collection of hands-on and virtual teaching tools, and discuss ways to bring them into their middle- and high school classrooms.

**Tues, July 17 2:00 - 3:20 Royal Theater Classroom (D-Deck, stern)**

**Halversten, Catherine -- University of California, Berkeley**

**Lawrence Hall of Science**

**Lynn Tran -- University of California Berkeley**

**Lawrence Hall of Science**

**Transforming University STEM Teaching: Faculty Learning Program**

Participants will learn about the Faculty Learning Program, a blended (in-person and on-line) professional learning (PL) program designed for university STEM faculty to improve their instructional practice, and for staff who provide PL experiences for university-level instructors. This NSF-funded program from Lawrence Hall of Science at the University of California Berkeley is designed for adoption by campuses to lead with their faculty.

**Thurs, July 19 2:00 - 3:20 Victoria Room (Promenade Deck, midship)**

**Harcourt, Pat -- University of Maryland Center for Environmental Science**

**What do seattles sea?**

You can use beautiful satellite images and data to teach about your local coastal system. Try out activities that integrate math, climate change, and technology into lessons about the ocean and coast.

**Thurs, July 19 2:00 - 3:20 Victoria Room (Promenade Deck, midship)**

**Haynes, Susan -- NOAA OER/Collabralink Technologies Inc**

**Debi Blane**

**Exploring the Deep Ocean with NOAA: A Dive into our Most Amazing Recent Discoveries**

Ocean exploration spans the globe, discovering never before seen worlds in the deep sea. NOAA’s Office of Ocean Exploration and Research expands the reach of ocean exploration, frequently making discoveries completely new to the human race and to science. This session will dive into intriguing recent discoveries from the Pacific and the Atlantic, as well as activities and multimedia resources developed to help integrate ocean science into classroom instruction.

**Tues, July 17 3:40 - 5:00 Britannia Salon (M-Deck, stern)**

**Holland, Kurt -- Bay Foundation**

**Lynn Whiteley -- USC Sea Grant**

**Ocean Literacy: the NGSS Path to Coast & Ocean Stewardship**

Learn how to launch & implement ocean literacy stewardship projects with 3D NGSS instructional strategies. A new emphasis on project based learning, interdisciplinary inquiry, and thinking about natural systems, makes ocean phenomena a perfect starting point for ambitious educators engaging in real world ocean protection. Participants leave with planning and learning resources that may be immediately deployed to recruit the next generation of ocean stewards.

**Tues, July 17 2:00 - 3:20 Royal Salon (Promenade Deck, midship)**

**Holland, Kurt -- Bay Foundation/ Coastal Research Institute**

**Tara Triebel**

**Partnering for Student Success: Successful Practices for Field Implementation**

When schools and non-formal organizations partner to support students, great things happen! Join us as we examine partnership strategies that produce youthfull ocean stewards and student success skills. We will look at a case study and engage in a fun activity highlighting the elements of effective school based partnerships. Participants leave with planning tools that will produce results for their organization as we partner to serve future ocean stewards.

**Thurs, July 19 3:40 - 5:00 Caronia (B-Deck, bow)**

**Hunt-Thomson, Kristin -- Rutgers University**

**Fishadelphia: High School Student Run Community Supported Fishery Has Broad Community Impact**

High School students in South Philadelphia designed and implemented a Community Supported Fishery (CSF) bringing locally-sourced, sustainable, healthy seafood options into their communities. During this discussion, we will explore the successes, challenges, lessons learned of students running a CSF out of a high school. Gain access to our curriculum and approach to replicate this opportunity in your local area.

**Tues, July 17 10:00 - 10:45 Victoria Room (Promenade Deck, midship)**

**Hunt-Thomson, Kristin -- Rutgers University**

**Oceans of Data: Bringing Our Students to the Ocean Through Data**

Taking students to the ocean’s edge can be a life-altering experience, when it is possible. But what can we provide for students that do not live close to the ocean? Or for the parts of the ocean that we cannot easily get to? Oceans of data! During this hands-on workshop, we will explore multiple ways to explore data to bring the ocean to all students to build their ocean and data literacy. Gain a suite of data-rich activities to connect your students to the ocean.

**Wed, July 18 2:00 - 3:20 Tea Room (Sun Deck, bow)**
Session Descriptions

Session descriptions are listed in alphabetical order by presenter's last name.

Hunter-Thomson, Kristin -- Rutgers University, Dataspire
Ariel Zych -- Science Friday Initiative
**Fish in Hot Water: Using Data to Bring Climate Change Impacts of Shifting Ranges to Students**
Looking to connect broader audiences to climate change in the ocean? During this hands-on workshop, we will explore multiple digital-data-rich resources that bring to life the work of marine scientists as they investigate the impacts of climate change on fish and fisheries. Gain a suite of data-rich activities to connect your students to ocean climate change science, the data, and the scientists. Thursday, July 19 10:00 - 10:45 Britannia Salon (M-Deck, stern)

Lamey, Aaron -- University of Southern Mississippi Marine Education Center
**Connecting Students to Watershed Literacy and Research Experience**
Watershed literacy is an important topic for young people to explore. Doing so encourages them to develop an appreciation for their home watershed and make choices to protect it. Concern over rising sea levels related to climate change are of increasing concern in coastal watersheds. Spreading awareness of potential impacts will assist coastal communities in preparing to become more resilient to future impacts. This program, Watershed Education Aboard the R/V Tim Franks, is a meaningful watershed education experience (MWEE) that spread watershed literacy to middle school and high school students. Participating students to conduct a research cruise collecting data along the largest unimpeded river in the continental United States, the Pascagoula River. Along with gaining research and shipboard experience, they collected data and recorded them on a webpage they accessed in their classroom to compare to data collected by other groups over a three-year span. This presentation will explore this program and show how you can access the data to use in your classroom. It is sponsored by the Environmental Protection Agency Gulf of Mexico Program. Thursday, July 19 10:00 - 10:45 Board Room (Promenade Deck, midship)

Huynh, Sandra -- Grand Bay National Estuarine Research Reserve
Dennis McGrory -- Grand Bay National Estuarine Research Reserve
**Optimizing Outreach: Exploring Ways to Evaluate Your Outreach Booths**
How do you design, execute, and evaluate your outreach booths? Is it a process with data collection? Do you just keep mental notes on what you can improve? Join the Grand Bay NERR as we tell our outreach booth stories, and share our success and challenges with booth design and evaluation for our various community audiences. Thursday, July 19 11:00 - 11:45 Victoria Room (Promenade Deck, midship)

Legdesog, Chandra -- University of Guam
**Understanding Traditional Knowledge of the Ulithi Atoll**
My people practiced the scientific method long before the term was even coined by the Western world. Understanding TEK within the Ulithi atoll will assist in the uncovering of knowledge of plants and animals, land and resource management systems, social institutions and worldviews. It is through a combination of both TEK and core environmental conservation resource management that we are able to assist in climate change adaptation efforts. I will share my knowledge and first-hand experiences of what has and has not worked in science and education with fellow cultural practitioners and researchers to develop strategies that combine the voice of the people and address global issues around the world.
Tuesday, July 17 11-11:45 Tea Room (Sun Deck, bow)

Kast, Diewuertje -- USC Joint Educational Project
Emily Waggoner -- USC Young Scientists Program
**Engaging Young Scientists: visual technology and interactive models for K-3 marine science curriculum**
Participating teachers will have a hands-on opportunity to learn beach ecology, tidal flow, gray whale migration, and sand sifting methodology through (2D) animations, three dimensional (3D) technology and interactive models. The presentation allows teachers to interact with each lesson from a student’s perspective, as well as leave with the curriculum, access to the animations and a better understanding of 3D model processing.
Wednesday, July 18 3:40 - 5:00 Caronia (B-Deck, bow)

Kennedy, Jennifer -- Blue Ocean Society for Marine Conservation
**A Story of Marine Litter: The Tale of the Traveling Disks**
In 2011, more than 4 million biofilm chips (“disks”) were accidentally released from the wastewater treatment facility in Hookaet, NH into the Gulf of Maine. After 7 years, the disks continue to wash up on shore. This presentation will discuss the interesting sightings of these disks, an ArcGIS Story Map that collects and displays data, and activities that inspire behavior change to prevent pollution.
Thursday, July 19 10:00 - 10:45 Victoria Room (Promenade Deck, midship)

Kinney, Frances -- Ocean Connectors
**Building an Effective Advisory Board**
Over the past 10 years, Ocean Connectors has cultivated an incredible network of talented mentors, experts, and colleagues who wish to contribute to organizational success and growth. To formalize their involvement and help our organization gain long-term sustainability, we founded a volunteer Advisory Board that provides ongoing critical insight into program development and fundraising strategies.
Thursday, July 19 11:00 - 11:45 Board Room (Promenade Deck, midship)

Kitson, Marte -- University of Minnesota
Cynthia Hagley -- University of Minnesota Duluth
**Best Practices in Multi Day Shipboard Science Workshops**
This session is a round-table discussion about shipboard science programming, it challenges and the best practices for overcoming those challenges.
Wednesday, July 18 2:00 - 3:20 Royal Salon (Promenade Deck, midship)

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Monterey Bay Aquarium
Seafood Watch

Something’ fishy is waiting for you at the Seafood Watch booth in the exhibit hall...

SeafoodWatch.org

NMEA18.org
Share your story on social media #NMEA18
Session Descriptions

Session descriptions are listed in alphabetical order by presenter's last name.

Lindstedt, Dianne -- Louisiana Sea Grant, LSU
**Climate Change Graphics**
This session will introduce you to several short student activities using climate data and graphics to strengthen student skills in map, graph reading and data interpretation while using the research-based climate change data.
**Steps to Publish Your Work**
Learn about and use self-made or existing cards to introduce and engage your audience on almost any topic—climate, invasive species, marine debris, oceans, our food and more. Introducing a topic with cards can be a powerful tool that lends conversation at teacher workshops, in the classroom and with children and adults at outreach events. This workshop will introduce you in ways to use cards.

Lindstedt, Dianne -- Louisiana Sea Grant/LSU
**Crazy About Cards for Engagement II**
Learn about and use self-made or existing cards to introduce and engage your audience on almost any topic—climate, invasive species, marine debris, oceans, our food and more. Introducing a topic with cards can be a powerful tool that lends conversation at teacher workshops, in the classroom and with children and adults at outreach events. This workshop will introduce you in ways to use cards.

Lindstedt, Dianne -- Louisiana Sea Grant/LSU
**Transitioning from Scholarly Teaching to Scholarship of Teaching and Learning: Steps to Publish Your Work**
This presentation introduces a framework to help faculty communicate their scholarly teaching experience and assist others in transitioning to scholarship of teaching and learning.

Lindstedt, Tami -- Newark Charter School
**One Watershed – kites, trees, and shipwrecks… SOL aligned lesson plans that remove classroom walls.**
Fly kites that collect imagery and measure weather conditions, add QR-tree-coded tags to a national online database, walk an 18th century shipwreck plotted on billboard vinyl, use a data portal to track Bay water quality and watch unmanned miniboats sail the world oceans. Use an online tool to select matched SOL aligned lesson plans, schedule asset delivery, and download assessments and evaluations.

Lozano-Knowlton, Rocío -- MERITO Foundation
**The Construction of 100 Marine Awareness Education Bases in China**
The presentation introduce 100 Marine Awareness Education Bases in Qingdao, China. Also introduce the resources input of China in marine education and the main performance of the marine education policy. Ocean University of China is the main institution promoting marine education in China, and the benchmark symbolic is an important milestone of marine education in China. The presentation aim to collaborate China marine education to global marine education.

Ma, Yong -- Ocean University of China
**Integrating Instructional Technology into PD Programming**
Google Drive, Classroom, and Sites, Nearpod, Kahoot. These are some tools teachers use in 21st century classrooms. How can we incorporate marine and aquatic content with contemporary instructional strategies? We’ll showcase a variety of key instructional technology tools. Attendees will pick one tool to explore and practice, and even start to develop something for an upcoming event.

Manzo, Lyndsey -- Ohio Sea Grant
**Angela Greene -- Ohio Sea Grant**
**Integrating Instructional Technology into PD Programming**
Google Drive, Classroom, and Sites, Nearpod, Kahoot. These are some tools teachers use in 21st century classrooms. How can we incorporate marine and aquatic content with contemporary instructional strategies? We’ll showcase a variety of key instructional technology tools. Attendees will pick one tool to explore and practice, and even start to develop something for an upcoming event.

Marrero, Meghan -- Mercy College
**Shark Research and Beach Safety Education Program.**
With increased occurrences of juvenile white sharks at popular southern California beaches due to successful conservation, there is a growing need for more science and education to reduce conflicts. The CSULB Shark Lab is using new technology to study shark behavior and develop education programs for lifeguards, fishers, and the public to reduce fear and negative interactions.

Meese, Emily -- California State University, Long Beach
**NOAA Education Stories And Ocean Literacy: What Our Monitoring And Evaluation System Tells Us**
NOAA Education uses stories to evaluate ocean education programs and progress toward our strategic plan. We will present an analysis of NOAA’s impact on Ocean Literacy based on the stories we have told from 2013 to 2017. We will discuss what makes a good impact story and the benefits and drawbacks of this approach. Attendees are encouraged to bring questions and discuss the challenges they face using a qualitative approach to evaluating marine education programs.

Michalopoulos, Christos -- NOAA Office of Education
John Baek -- NOAA Office of Education
Marissa Jones -- NOAA Office of Education
**NOAA Education Stories And Ocean Literacy: What Our Monitoring And Evaluation System Tells Us**
NOAA Education uses stories to evaluate ocean education programs and progress toward our strategic plan. We will present an analysis of NOAA’s impact on Ocean Literacy based on the stories we have told from 2013 to 2017. We will discuss what makes a good impact story and the benefits and drawbacks of this approach. Attendees are encouraged to bring questions and discuss the challenges they face using a qualitative approach to evaluating marine education programs.

Michalopoulos, Christos -- NOAA Office of Education
**Aquariums and Aquaculture: An Adventure in Alliances**
Marine aquaculture can be an efficient, environmentally sustainable form of food production. However, the public still has limited understanding of it and is often exposed to out of date, inaccurate, or incomplete information. With public perception being a significant barrier to aquaculture development, aquariums offer a unique setting for engagement and cultivating a better public understanding of ocean farming.

Mullins, Doug -- Washington College Center for Environment & Society
**Jemima Clark -- Washington College Center for Environment & Society**
**One Watershed – kites, trees, and shipwrecks… SOL aligned lesson plans that remove classroom walls.**
Fly kites that collect imagery and measure weather conditions, add QR-tree-coded tags to a national online database, walk an 18th century shipwreck plotted on billboard vinyl, use a data portal to track Bay water quality and watch unmanned miniboats sail the world oceans. Use an online tool to select matched SOL aligned lesson plans, schedule asset delivery, and download assessments and evaluations.

Michalopoulos, Christos -- NOAA Office of Education
Maggie Allen -- NOAA Office of Education
Cindy Sandoval -- NOAA Office of Aquaculture
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NMEA18.org Share your story on social media #NMEA18
Session Descriptions

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Mueller-Northcott, Julianne -- Souhegan High School and Education Development Center

Students Saving Sharks: Using Ocean Tracks to understand marine protected areas
We will explore the question, “What would be the ideal characteristics of a marine protected area designed to conserve white sharks in the Pacific Ocean?” using an interactive web-interface, called Ocean Tracks (oceantacks.org) Using the curriculum module, Saving Sharks, we will follow the steps students take for the importance of marine protected areas, learn about the habits and migration patterns of white sharks and learn how to construct an MPA based on multiple lines of data. Come to the session to learn about this exciting resource and see examples of student work.
Wednesday, July 18 10:00 - 10:45 Board Room (Promenade Deck, midship)

Nuss, Sarah -- Virginia Institute of Marine Science
Fish Guts, Microplastics, Earthquakes, and Eels: Translating Graduate-Level Science Research for K-12 Students
What can fish guts reveal about blue crab populations? How do parasites affect eels? Can plastic-hitching bacteria affect human health? How do seafloor sediments allow us to track changes in climate? When graduate students translate their research into hands-on STEM activities for science classrooms, students gain insight into how scientists design and conduct experiments. Participants receive these four lesson plans and online access to ten others.
Tuesday, July 17 11:00 - 11:45 Royal Salon (Promenade Deck, midship)

Orenstein, Marcie -- National Aquarium
David Christopher -- National Aquarium
MWEE in the City: Collaborating with Urban Schools in the Development of a Meaningful Watershed Education Experience
Last year the National Aquarium partnered with Baltimore City Schools to create a hands-on, NGSS-aligned, inquiry based program for Baltimore City middle school students entirely in an urban setting. We will share our program development methods, how to engage local partners, and our future plans. We will provide program troubleshooting techniques and ways to form unique partnerships with an urban school district and local universities.
Wednesday, July 18 3:40 - 5:00 Royal Salon (Promenade Deck, midship)

Parham, Donna -- San Diego Zoo Global
Full Steam Ahead: World-class Training at Your Fingertips
San Diego Zoo Global Academy brings your training program up to speed with online learning. Aquarium and zoo experts have joined together to create targeted training for zoological professionals. Courses meet the specific needs of individuals, and include a variety of topics from Animal Care, Education, and Volunteer Training. Get a look at what online training can do for your organization.
Thursday, July 19 10:00 - 10:45 Caronia (B-Deck, bow)

Pedemonte, Sarah -- Lawrence Hall of Science
RoP Regional Leaders
Reflecting critically on our beliefs about learning.
There is a widespread belief that we each have a particular learning style, a way in which we learn best. In this interactive session, we will carefully unpack the myths about learning styles, and discuss the current thinking about how people learn.
Tuesday, July 17 11:00 - 11:45 Kings View (Promenade Deck, midship)

Pedemonte, Sarah -- University of California Berkeley, Lawrence Hall of Science
Catherine Halversen -- University of California, Berkeley, Lawrence Hall of Science
Using Environmental Literacy as a compelling context to implement and connect with the math and science standards
In this session, we will explore the synergy between Environmental Literacy Principles, and science and mathematics concepts, and learn how to use those connections to create meaningful and effective learning experiences for learners.
Wednesday, July 18 3:40 - 5:00 Royal Theater Classroom (D-Deck, stern)

Petrone, Christopher -- Delaware Sea Grant / Univ. of Delaware
Murals as Models: Integrating art into climate education while supporting three-dimensional learning
Do you want to integrate more art into your curricula, or align to Next Generation Science Standards? Murals are an engaging addition to any science unit. Developing models in small groups, students practice critical thinking, collaboration, communication, and creativity. This session will explore Earth's climate system, how it is changing, and impacts and solutions. CAUTION: Creative juices may flow.
Tuesday, July 17 3:40 - 5:00 Board Room (Promenade Deck, midship)

Philippoff, Joanna -- University of Hawaii at Manoa
Kristen Evans -- Mission-Aransas National Estuarine Research Reserve- The University of Texas Marine Science Institute
Join the planning committee for an NMEA Current journal themed issue on Evaluation!
Do you have evaluation expertise? Do you have ideas on what should be included in a potential NMEA Current journal themed issue on evaluation in marine education? Join us and be part of the planning committee for this issue! Discussion topics will include potential articles, potential authors, potential sponsors, and next steps.
Tuesday, July 17 3:40 - 5:00 Caronia (B-Deck, bow)

Pletta, Maggie -- DNREC, Delaware National Estuarine Research Reserve
Creating workforce ready students that develop transferable, interactive software designed to encourage free-choice learning
A case study of working with local university to students and the National Estuarine Research Reserve System to produce usable educational computer games for environmental education. Key content topics include: technology, community outreach, workforce development, funding opportunities, National Estuarine Research Reserves.
Tuesday, July 17 11:00 - 11:45 Board Room (Promenade Deck, midship)

Petrone, Christopher -- Delaware Sea Grant / Univ. of Delaware
Building Collaborative Conservation Connections
Chart a Course for Conservation by creating a navigational map of connections you can build in your community. This session will include hands-on activities and collaborative discussions about how you can build a strong network for conservation initiatives by focusing on strengths, aligning goals, and developing plans. Thursday, July 19 3:40 - 5:00 Royal Theater Classroom (D-Deck, stern)

Petrone, Christopher -- Delaware Sea Grant / Univ. of Delaware
Romano, Michael -- NASA Goddard Space Flight Center
Teaching Ocean Science with NASA
We all know that NASA studies space...but did you know that they also study the Earth and oceans? In this session you’ll learn about some of NASA’s ocean science missions while you explore some of their best teacher resources and data sets with a veteran marine biology teacher who is spending the year at NASA as an Einstein Fellow. Be sure to stay for the raffle to win some cool NASA swag!
Thursday, July 19 11:00 - 11:45 Britannia Salon (M-Deck, stern)

Pleitka, Maggie -- DNREC, Delaware National Estuarine Research Reserve
Caution: Creative juices may flow.
This session will explore Earth’s climate system, how it is changing, and impacts and solutions.
Session Descriptions

Session descriptions are listed in alphabetical order by presenter's last name.

Runyan, Jennifer -- Lawrence Hall of Science
Session: What can NGSS do to your squid dissection?
Description: Students across the United States are increasingly learning science in a three-dimensional way. Let's take the case of an NGSS-aligned squid dissection and see where three-dimensional instruction can lead our students.
Date and Time: Thursday, July 19 2:00 - 3:20 Board Room (Promenade Deck, midship)

Sarah Pedernolle -- Lawrence Hall of Science
Session: Empowering Students as Water Scientists with the EarthEcho Water Challenge Test-Share-Protect!
Description: The EarthEcho Water Challenge has engaged over 1.5 million participants in 143 countries, providing students with the tools to monitor water quality, share their data, and take action to protect their local waterways. Learn about the importance of this citizen science effort, the impact of participants, and how your students can take part in the Water Challenge!
Date and Time: Thursday, July 19 11:00 - 11:45 Caronia (B-Deck, bow)

Emily Weiss -- Lawrence Hall of Science
Session: Supporting Educators Through Marine Science
Description: This session will provide curriculum for a Deep Sea Unit that will have students studying environmental factors of the deep oceans such as pressure, light attenuation, bioluminescence, ROV technology, and much more. The unit focus on an inquiry based approach allowing students to design their own methods to answer research questions.
Date and Time: Tuesday, July 17 10:00 - 10:45 Kings View (Promenade Deck, midship)

Strang, Craig -- Lawrence Hall of Science
Session: The International Ocean Literacy Survey: Understanding the Impact of Ocean Literacy Around the World
Description: Version 3 of the Intl Ocean Literacy Survey is underway! Dozens of scientists and educators in 24 countries are working together to understand the impact of Ocean Literacy efforts around the world by developing a common instrument for measuring progress. This session focuses on the findings from V2, the review by our International Advisory Board, the revisions to the survey, and the launch of V3.
Date and Time: Tuesday, July 17 2:00 - 3:20 Britannia Salon (M-Deck, stern)

Russell, Sean -- EarthEcho International
Session: Empowering Educators as Water Scientists with the EarthEcho Water Challenge Test-Share-Protect!
Description: The EarthEcho Water Challenge has engaged over 1.5 million participants in 143 countries, providing students with the tools to monitor water quality, share their data, and take action to protect their local waterways. Learn about the importance of this citizen science effort, the impact of participants, and how your students can take part in the Water Challenge!
Date and Time: Thursday, July 19 11:00 - 11:45 Caronia (B-Deck, bow)

Thakkar, Chandni Hirenkumar -- National Taiwan Ocean University
Session: The Coverage Analysis of Ocean Literacy in the Educational Standards of USA, India, and Indonesia
Description: The study highlights the Ocean Literacy (OL) coverage in the educational standards of the USA, India and Indonesia from grade I to XII by following definite methodology. It presents comparative framework of educational standards and level in context to OL. Further it examines highly emphasized OL principles in the educational standards of the aforementioned countries.
Date and Time: Wednesday, July 18 11:00 - 11:45 Tea Room (Sun Deck, bow)

Whitney, Lynn -- University of Southern California Sea Grant
Session: Exploring the Ocean Literacy Scope & Sequence for Grades K-12
Description: The Ocean Literacy Scope & Sequence illustrates how students can build complex ideas over time to understand the Essential Principles and Fundamental Concepts of Grade 12. In this session, you will learn about these conceptual progressions and how to apply them to learning experiences and instructional materials for K–12 classrooms, informal environments, and professional learning opportunities.
Date and Time: Wednesday, July 18 3:40 - 5:00 Tea Room (Sun Deck, bow)

Stnymiest, Cassie
Session: Educational Passages Nate Sandel -- Columbia River Maritime Museum
Description: An ocean of opportunity: Miniboats sailing across the Pacific to connect students abroad
Description: Over the last year, schools in Oregon and Japan have embarked on a scientific and cultural exchange, without even getting wet. Launching five miniboats (five-foot unmanned, GPS tracked sailboats) from each side of the Pacific, the students set out to reach the other shore. Come find out if any of the boats made it across, and the stories each miniboat has to tell.
Date and Time: Thursday, July 19 10:00 - 10:45 Kings View (Promenade Deck, midship)

Cheng-Chieh Chang -- National Taiwan Ocean University
Session: The Coverage Analysis of Ocean Literacy in the Educational Standards of USA, India, and Indonesia
Description: The study highlights the Ocean Literacy (OL) coverage in the educational standards of the USA, India and Indonesia from grade I to XII by following definite methodology. It presents comparative framework of educational standards and level in context to OL. Further it examines highly emphasized OL principles in the educational standards of the aforementioned countries.
Date and Time: Wednesday, July 18 11:00 - 11:45 Tea Room (Sun Deck, bow)

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Description: The study highlights the Ocean Literacy (OL) coverage in the educational standards of the USA, India and Indonesia from grade I to XII by following definite methodology. It presents comparative framework of educational standards and level in context to OL. Further it examines highly emphasized OL principles in the educational standards of the aforementioned countries.
Date and Time: Wednesday, July 18 11:00 - 11:45 Tea Room (Sun Deck, bow)

Sherwood, Dawn -- Henrico County Public Schools
Session: Man vs. Wild: Lessons on the Ocean and Human Impacts
Description: Engage in thought-provoking, multi-disciplinary activities to trace human population changes and impacts on the ocean over the past two centuries. Through interactive media, simulations, role-playing and labs, students will be able to explore issues ranging from overfishing and acidification to pollution and threats to marine biodiversity.
Date and Time: Tuesday, July 17 17:30 - 5:00 Victoria Room (Promenade Deck, midship)

Smith, Sara -- The Marine Mammal Center
Session: Supporting Educators Through Marine Science
Description: As educators outside of classroom walls, we often bounce between the worlds of informal and formal education, but how can we support educators to be successful in both of those worlds? In our presentation, we elaborate on how marine science can be a vehicle for professional development in areas ranging from environmental justice to reflection and instruction of practice.
Date and Time: Wednesday, July 18 11:00 - 11:45 Britannia Salon (M-Deck, stern)

Wade, Pamela -- Monterey Bay Aquarium
Session: Engaging Middle School Students in Hands-On Citizen Science
Description: The Monterey Bay Aquarium and scientists at the Smithsonian Environmental Research Center collaborated to expand and enhance the Smithsonian's citizen science program, PlateWatch. The student collected data informs Smithsonian scientists about the spread of invasive marine invertebrates in bays along the west coast of North America. Citizen Science is a way for educators to engage students while supporting the Next Generation Science Standards and Ocean Literacy Principles. In this session, educators will have the opportunity to participate in hands-on data collection activities by identifying and counting sessile marine invertebrates. As a group, we will discuss how to scaffold this curriculum to meet students' needs, and model a data analysis activity that helps students make sense of the data they collect. We will use tools including quadrats, iPads and graphing software. Throughout the session, Monterey Bay Aquarium educators will share our experience when piloting this curriculum with our middle school students. We will also discuss how we connect tangible conservation actions to the lessons. This session will be led by Pamela Wade, Assistant Manager of School Programs at Monterey Bay Aquarium.
Date and Time: Thursday, July 19 2:00 - 3:20 Britannia Salon (M-Deck, stern)

Smith, Sara -- The Marine Mammal Center
Session: Supporting Educators Through Marine Science
Description: As educators outside of classroom walls, we often bounce between the worlds of informal and formal education, but how can we support educators to be successful in both of those worlds? In our presentation, we elaborate on how marine science can be a vehicle for professional development in areas ranging from environmental justice to reflection and instruction of practice.
Date and Time: Wednesday, July 18 11:00 - 11:45 Britannia Salon (M-Deck, stern)
Session Descriptions

Session descriptions are listed in alphabetical order by presenter's last name.

Walters, Kristi -- Big Bear Science
Ocean Adventures for All: Programming for Underserved Groups
Fun, interactive and hands on preschool programming adapted for people with special needs. Perfect for informal educators looking to reach new audiences.
Wednesday, July 18 11:00 - 11:45 Kings View (Promenade Deck, midship)

Wampler, Paula Leemann -- Tipton County Schools
Mary Margaret Ulderich -- Camden Schools
Beth Dycus -- Dyer County Schools
Interdisciplinary and interactive, a way to teach science that achieves maximum learning.
How do you achieve 100% student engagement? Understanding how the brain works and awakening all parts of the learner’s brain. In this session participants will be 100% engaged in Whole Brain Learning while implementing lessons that incorporate Next Generation Science Standards, Ocean Literacy Principals and Common Core English Language Arts Standards. Lessons and resources can be adapted for grades 3-5. These lessons will integrate reading and writing strategies through science content and participants will receive an overview of Whole Brain Learning techniques that increase student engagement. Participants will receive materials so that they can implement lessons and strategies immediately.
Thursday, July 19 3:40 - 5:00 Victoria Room (Promenade Deck, midship)

Weiss, Emily -- Lawrence Hall of Science, UC Berkeley
Sarah Pedemonte -- Lawrence Hall of Science
Alie Lebeau -- Cabrillo Marine Aquarium
Informal Science Institutions Helping Schools Implement NGSS
At aquariums, zoos, and science centers, we offer programs to school groups and usually refer to the program’s connection to standards. With new standards come new challenges for how we communicate to teacher audiences about alignment, and how we train staff in proper program implementation. Join us for a panel discussion of informal institutions in various stages of standards-aligned program development and support to schools, as we talk about the steps to integrate NGSS into school program curriculum. We anticipate discussing learning objectives, establishing buy-in from staff, providing new strategies for facilitation, and reconsidering our evaluation practices.
Tuesday, July 17 3:40 - 5:00 Royal Salon (Promenade Deck, midship)

Wharton, Jim -- Seattle Aquarium
Dave Bader -- Aquarium of the Pacific
Kill your Science: Human values and the future of ocean conservation
In this socio-political climate, and in an increasingly global and multicultural society, the facts-first, Western science approach isn’t enough to create the change we need to see. How can we embrace the cultural, economic, even spiritual values that are the real drivers of human behavior to foster an emerging Ocean Ethic in our communities? Hear seven ocean conservation engagement leaders make a case for pushing past our science to meet people where their values live.
Tuesday, July 17 10:00 - 10:45 Britannia Salon (M-Deck, stern)

Whitely, Lynn -- University of Southern California Wrigley Institute for Environmental Studies
Dena Deck -- USC Wrigley Institute volunteer, NOAA/TAS Reviewer
Tara Treiber -- New Roads School
E.E. Just Marine Science Program, successfully engaging African American and Hispanic Middle School Students
The E.E. Just Marine Science program provides underrepresented youth with both classroom & experiential learning in marine and environmental sciences. Students engage in formal classroom activities that are interwoven with field experienc es & culminate in an in-depth 3 day program at a marine science station. Come learn about the process, challenges, & successes of this innovative 3 year program and gain ideas on how to reach out into your own community.
Thursday, July 19 2:00 - 3:20 Kings View (Promenade Deck, midship)

Wiley, Mark -- University of New Hampshire
"Bite off only what you can chew..."- Lessons Learned on the Arts in Marine Education
In 2015 the UNH Marine Docent Program produced a large puppet musical about ocean issues in the Gulf of Maine targeted at elementary school audiences entitled "What’s All the ComOCEAN? This session, hosted by Haddie the Haddock (the star of the show), will review provide some background on the project and the lessons learned.
Tuesday, July 17 10:00 - 10:45 Caronia (B-Deck, bow)

Yen, Chia Dai (Ray) -- National Taiwan Ocean University
Using Interactive Response System on mobile devices to promote ocean literacy
The presentation will introduce how to use Interactive Response System on mobile devices to promote ocean literacy in Taiwan and the results of promoting marine education with IRS from May to Nov, 2017. The presentation will also demonstrate the teaching lesson of the Interactive Response System (Kahoot and UMU) in marine education. The audiences will need a mobile device (phone, pad or laptop) and internet to join the session interaction.
Tuesday, July 17 11:00 - 11:45 Victoria Room (Promenade Deck, midship)
In 2016, NOAA Sea Grant reached over 1.76 million individuals through informal science education.