



Consortium Newsletter

From the Global COSEE Office

Greetings from the Global COSEE Office! We are delighted to have reinvigorated the previous COSEE Network News to better serve the new global Consortium. With summer behind us, and fall ahead, there is a flurry of activity as institutional and individual COSEE members work toward the common goal of supporting and implementing ocean science education and public outreach around the world. We welcome our new institutional and individual members aboard and thank all our members for their contributions toward ocean science education and ocean literacy!

COSEE Membership Drive



COSEE's growth and success has risen through 2016 thanks to the efforts of our members, both institutional and individual. With contributions from our current members, opportunities to share ocean science education and outreach resources have grown to a global scale. COSEE continues to develop and disseminate research, effective practices, and tools that cultivate cooperation among scientists, educators, and the public. This year our efforts have seen the engagement of the policy and industry sectors in COSEE activities.

Please join us in the COSEE Fall 2016 Membership Drive to increase our presence in the global ocean science community. Current members can support the Drive by encouraging new memberships at their home and partner institutions and by spreading the word to colleagues and students. To share testimonials of how membership in COSEE has benefited your professional goals, please send an [email](#) to COSEE with the subject "Testimonial" along with your experiences. This will greatly assist our membership recruitment efforts.

If you are not yet a member of COSEE, but would like to support ocean science research, contribute to global ocean literacy, and participate in COSEE professional development activities, please consider joining our Consortium.

Visit the [COSEE website](#) for details on membership benefits and registration. Institutional and individual memberships are available.



Dr. George Matsumoto

COSEE has come a long way since that first meeting in 2000 when a small group got together and put down on paper thoughts on what was missing from the Ocean science and education communities. Initially funded by the National Science Foundation, COSEE has endured and is being sustained by individual and institutional commitments to an ideal that has generated a wealth of activities, achievements, connections, and successes. Some of these can be found [here](#), but this list is by no means exhaustive. One thing that is missing from this list is the vast number of personal connections that have been made, connections that continue today and that have not only greatly enhanced Ocean Literacy, but have also enriched many of us in our personal and professional lives. It is for all of the above that I decided to become an individual member of COSEE, and I am pleased that so many of you have also taken that step. I am overwhelmed by the honor of being elected to serve as the individual members' representative to the COSEE Council. I remain excited about the potential of COSEE and the things to come.

For those of you that may not know me well, I hope that this will be remedied at some future meeting, or if you ever find yourself in Monterey - let's get together! I have an undergraduate degree in marine botany from University of California Berkeley and a Ph.D. in marine biology from UCLA. I had a postdoctoral fellowship at Hopkins Marine Station before I took a position at Flinders University of South Australia. After three wonderful years down under, I returned to the [Monterey Bay Aquarium Research Institute](#) where I have been since 1996. I have been coordinating an internship program at MBARI, as well as leading an educator professional development workshop called [Education And Research: Testing Hypotheses or EARTH](#). I am lucky enough to be able to work with our partner institution - the Monterey Bay Aquarium on a variety of topics including exhibits and education activities. I was on the National Ocean Sciences Board for six years and was awarded the QuikScience Ocean Leadership Award for Commitment to Ocean Education in 2010. I have worked on the development of both the Ocean Literacy Principles as well as the Next Generation Science Standards. I have been teaching an Environmental Science course at our local community college (Monterey Peninsula College) for the past 14 years and remain committed to Ocean Research and Education.

Located on the east coast of Florida, [ORCA](#) serves as the world's first technology-based marine conservation organization. ORCA is focused on protecting and restoring aquatic ecosystems and the species they sustain through the development of innovative technologies and science-based conservation action.



Among the current programs currently underway at ORCA, the [Kilroy Real-Time Water Monitoring Program](#) and the [Fast Assessment of Sediment Toxicity \(FAST\) Program](#) provide valuable information about water characteristics and toxicity that when combined, help determine sources of non-point source pollution in coastal and estuarine waters.

ORCA's education programs include the Land-to-Sea Initiative, which focuses on educating communities about ways in which citizens can change their actions on land to prevent water pollution, and [Kilroy Academy](#), an online STEAM (Science, Technology, Engineering, Art and Math) education program that provides educator and student resources aligned to Florida State Science Education Standards and Ocean Literacy Principles focused on marine conservation.

The central mission of Kilroy Academy is to develop a diverse community of educators, students, and citizen scientists dedicated to improved stewardship of our water-based life support systems. Videos are available on the [program website](#) and on [ORCA's YouTube channel](#). The Academy provides free educational materials that combine ORCA's cutting-edge Kilroy [data](#) and technology and applied science to help lead the way in protecting and conserving our valuable coasts, estuaries, and oceans for future generations.

Kilroy Academy has reached over 4,500 students, educators, and teaching professionals since its inception in 2014. The Academy is a collection of STEAM resources designed at the high school level to teach the knowledge and skills needed to help save our ocean planet. The short videos, worksheets, and activities are designed to make data from ORCA's Kilroy water monitoring devices meaningful. [Kilroy data](#) and Kilroy Academy learning modules provide a way to bring nature into the classroom even for schools that have limited resources.

In addition to coastal and estuary conservation, ORCA's Deep Sea Conservation programs utilize current technology to provide real-time video footage of deep ocean life and conditions. The ORCA Eye-In-The-Sea is a real-time camera system capable of streaming continuous video to shore for months at a time, while the ORCA Medusa is a deployable camera system capable of recording up to 72 hours of continuous video at depths up to 2000 meters. An optical lure designed

by ORCA CEO Dr. Edie Widder, known as the electronic jellyfish, was used in attracting and collecting the first video recordings of a giant squid in its natural habitat off the coast of Japan in 2012.

Announcements:

[COSEE Florida](#)

The Center for Ocean Sciences Education Excellence (COSEE) Florida has continued to grow their collection of dynamic [Water as Habitat \(WAH\)](#) learning modules. The high school level math modules supplement the WAH Video Series focused on highlighting science research throughout Florida and increasing ocean literacy. As a COSEE FL partner, ORCA has made the WAH videos and learning modules available on Kilroy Academy's [Resources page](#).

ORCA represented COSEE Florida at this year's annual National Marine Educators (NMEA) Conference hosted by the Florida Marine Science Educators Association (FMSEA) in Orlando, FL. COSEE Florida Water as Habitat resources were showcased at an exhibit table for conference attendees.

Upcoming events:

[Indian River Lagoon Science Festival](#) October 22, 2016

3rd Annual [Lines in the Lagoon Youth Fishing Tournament](#) October 1, 2016

COSEE Florida Teacher Workshop January 2017 - Date TBD

ORCA's Annual Event January 25, 2017

Fill out our [contact form](#) to receive our eNewsletter with updates about our programs and events.



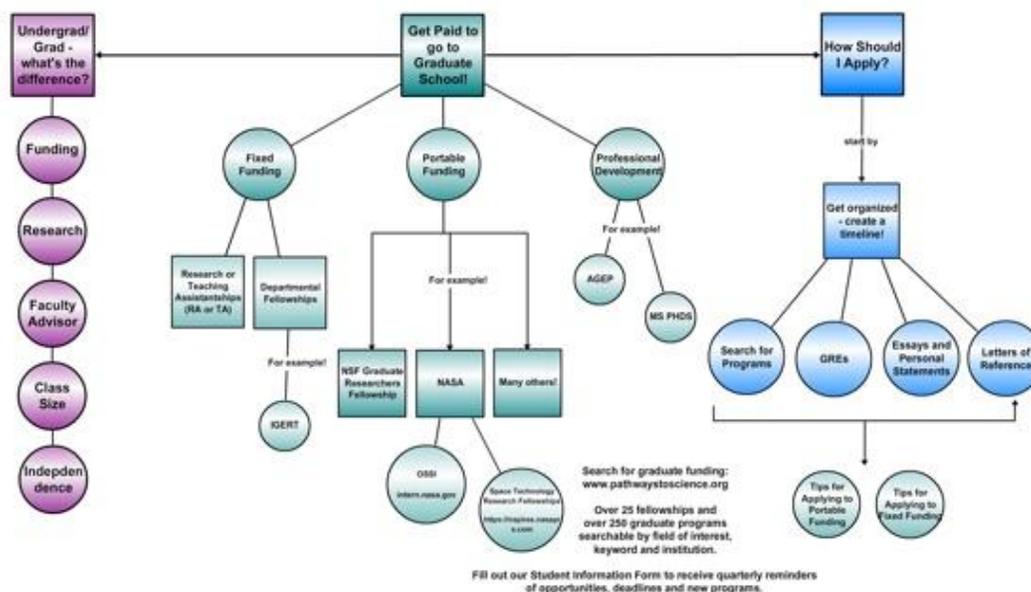
COSEE-Ocean Systems

[COSEE-Ocean Systems](#) and the [Institute for Broadening Participation](#) recently concluded their long-running *Pathways to Science* webinar series, piloted in 2011 as a joint effort to reach undergraduate and graduate students seeking a career in STEM. IBP's extensive resources and database of student opportunities, paired with the visual organization of a concept map, were combined to create a webinar format that could be adapted to the needs of various audiences.

After the success of the pilot series, webinars were developed to meet the specific needs of key audiences:

1. **Undergraduate students** seeking advice on pursuing summer research opportunities
2. **Potential and current graduate students** interested in locating funding for programs and fellowships
3. **Potential and current post-doctorate students** learning to negotiate and succeed in their programs
4. **Faculty** seeking to utilize the resources that IBP provided for their students

During each webinar, IBP staff presented a concept map with attached resources on the topic created, using the COSEE-OS-developed online [Concept Map Builder](#). This was followed by 1-2 guest presentations, which provided short talks regarding the presenters' experiences and advice. For example, a recent webinar, *Funding Your Graduate Education*, featured a graduate student who was successfully self-funded, as well as a program director, who routinely reviews graduate student grant proposal applications. Both presenters offered their perspectives and provided recommendations for the audience. This was then followed by an open question-and-answer session, which was moderated through an integrated chat.



Above is the concept map used in *Funding Your Graduate Education* webinars by IBP and COSEE-OS. The map, which contains links to resources, is posted publicly in the COSEE-OS concept map gallery and embedded on webinar archive pages.

In total, COSEE-OS and IBP have hosted **33 Pathways to Science** webinars, reaching nearly **1300** undergraduate and graduate student and faculty participants. These participants have joined the webinars from **49 U.S. States, Washington D.C., Puerto Rico, and 17 non-U.S. countries** (Australia, Canada, Cayman Islands, China, Costa Rica, France, Germany, India, Indonesia, Ireland, Morocco, Nigeria, Peru, Poland, South Korea, Switzerland and Turkey). Based on data from the 70% of participants that provided information about their educational institutions, these webinars engaged participants from **313 different universities, community colleges, and research laboratories**, including participants from **12 Historically Black Colleges and Universities**.

Webinar Archives are posted on [IBP's website](#).

CONFERENCE HIGHLIGHTS

CaNOE Conference 2016

CaNOE, a COSEE institutional member, made serious headway during the past year and accomplished important structural work under the energetic leadership of the executive team. A five-year strategic plan was one of the major milestones achieved thanks in part to the huge, professional support donated by the Vancouver firm [Wazuku](#).



Working groups have been established in strategic planning, communication, governance, finance, education, membership, and other important areas. Board members have pulled together with members to keep CaNOE trimmed and moving forward with purpose. We have established a presence on social media, tended the website, and produced the SPLASHmail monthly newsletter which keeps our 375 members informed and inspired about advancing ocean literacy across Canada and increasing positive action for the ocean.

The Conference working group pulled off Canada's second Ocean Literacy Conference in June, which was small but powerful, just like CaNOE. The conference and Annual General Meeting (AGM) were held in Halifax, Nova Scotia at Dalhousie University with support gratefully received from Ocean Networks Canada, Dalhousie University Faculty of Science, the Marine Environmental Observation Prediction & Response Network, and the Nova Scotia Institute of Science. The conference ran throughout Ocean Week (June 7-12), which was an exciting time to be in Halifax as the whole city was celebrating. This allowed us to partner with Seacology-by-Kayak, the Bedford Institute of Oceanography, and others.



Dr. Elin Kelsey opens the CaNOE conference and inspires crowd with ocean optimism and the contagious nature of hope. (Photo Credit: Anne Stewart)

Elin Kelsey's opening plenary on Ocean Optimism was inspirational and well attended by the public. The theme of Ocean Optimism, the inclusion of art, and the Open Space activity all promoted a flowering of ideas and strengthening of the network. Ranging from ocean learning in the depths to contemplating the seafood in your fridge, there was something to interest everyone. The conference was a success in bringing diverse people together from across our large country, sharing good practices, and inspiring each other. It was really great to be reminded of the power of both the ocean and ocean optimism.



Left: CaNOE members get to know each other before tackling the blue elephant in the global classroom. (Photo credit: Anne Stewart) *Right:* Participants sign up on the Open Space agenda wall and use the law of two feet to increase energy, commitment and shared leadership. (Photo credit and thanks to @oceansweekhx)

The new CaNOE board was elected at the AGM and paddles were passed to the new co-chairs. Five continuing directors are pulling together with six new board members to steer CaNOE's efforts towards ocean literacy and education in Canada and abroad, and look forward to working together with you over the coming year. If you haven't joined yet, you can do it now at oceanliteracy.ca.

Anne Stewart and Heather Moore (co-chairs)

2016 Global Ocean Science Education Workshop

It was clear after the first Global Ocean Science Education (GOSE) Workshop in 2015 that for a truly global ocean science education network to be effective, other stakeholders needed to be part of the conversation. A conscious effort was made in planning the 2016 workshop to include policy makers and business/industry leaders in addition to scientists and education professionals. The 2016 workshop was sponsored and facilitated by COSEE, the UNESCO Intergovernmental Oceanographic Commission (IOC), and the College of Exploration. The workshop provided the opportunity to meet colleagues from across the globe, to engage in stimulating dialog, and contribute expertise. Sixty participants from 19 nations and 12 U.S. states participated in the 2016 GOSE Workshop, held at UNESCO Headquarters in Paris. Represented countries included Algeria, Belgium, Brazil, Columbia, England, France, Germany, Greece, Ireland, Italy, Korea, Mexico, Peru, Poland, Portugal, Spain, Togo, and U.S. In addition, several national and international agencies were represented, including the European Commission, the Intergovernmental Oceanographic Commission, the U.S. National Oceanic and Atmospheric Administration, the Italian National Research Council, and several research and academic institutions, NGOs, and businesses.

COSEE co-led a workshop session on Marine Citizen Science in partnership with the European Union's Sea Change Project. Presentations from this session can be found on the [GOSE website](#). The workshop report is now posted on the [meeting website](#).

WORKSHOPS AND MEETINGS

COSEE at the American Geophysical Union (AGU) 2016 Fall Meeting

COSEE will host a workshop for graduate students and undergraduate students at the AGU meeting in San Francisco on December 12, 2016. The workshop will focus on geoscience workforce opportunities. It will bring 60 students together with eight representatives from across the geoscience sectors of research, education, government, industry, military, technology, policy, and business. The workshop will include discussions and presentations related to the skills necessary for 21st century geoscientists, including skills related to education, outreach, and communication. Students will be given guidance on how to find internship and training opportunities related to their sector of interest. Lunch will be provided for the group. Participants must register for the workshop [here](#), and participation will be limited to the first 60 registrants.

Other Upcoming Meetings and Events

4th EMSEA Conference (European Marine Science Educators Association)
October 4-7, 2016 in Belfast, Ireland
COSEE Executive Director Gail Scowcroft will give a presentation on the growing Global Ocean Science Education Network.
[Registration](#)

Biennial Consortium for Ocean Leadership's OSER (Ocean Science Educators' Retreat)
October 5-6, 2016 in Baton Rouge, LA
[Information](#)

2016 SACNAS National Conference (Society for Advancement of Chicanos/Hispanics and Native Americans in Science)
October 13-15, 2016 in Long Beach, CA
[Event Summary](#)

2016 NEOSEC Ocean Literacy Summit (New England Ocean Science Education Collaborative)
November 3-4, 2016 in Portland, ME
Keynote Speaker: Andy Pershing, Chief Scientist at the Gulf of Maine Research Institute
[Information](#)

AGU Fall Meeting (American Geophysical Union)
Dec. 12-16, 2016 in San Francisco, CA
[Registration](#)

The 2017 Global Ocean Science Education Workshop - coming soon! The workshop is currently in the planning stage, and as they emerge, details will be made available [here](#).

EXPLORE MORE

Arctic Interest

With increasing interest in all things Arctic, revisit [COSEE Alaska](#) for resources including lesson plans, workshops, outreach planning for scientists, presentations, podcasts, and more!



