

**Workshop Title:** Water, Robots, and Sensors – Oh My!

**Date:** Thursday, 16 February 2017

**Location:** San Diego Convention Centre

**For:** K-12 teachers and educators

**Description of what will take place in the hands on demo:**

K-12 teachers interested in infusing ocean science and technology into their classrooms or informal education programs are invited to follow the yellow brick road to Oceanology International North America (OINA) for a day-long professional development workshop. Organized by the Marine Advanced Technology Education (MATE) Center and Student Enabled Network of Sensors for the Environment using Innovative Technology (SENSE IT), this workshop will provide teachers with an overview of ocean science and technology fields then guide teachers through hands-on learning experiences focused on underwater robots and water quality sensors. Following a lunchtime speaker from National Geographic, teachers will be given a tour of the OINA exhibit hall, where they will have the opportunity to talk with several company representatives about their technologies and potential career opportunities with their organizations.

**Certification:** Certificates of participation will be available.

**Description of content/materials/support that will be offered to educators looking to create an OceanSTEM program at their school as part of the workshop:**

Teachers will uncover the mysteries of the circuitry that make it possible to “fly” an underwater robot, (also known as a remotely operated vehicle or ROV). They will also assemble sensors that can be used to collect data and monitor water quality. They will be pointed to the ROV and sensor-related curriculum resources available on the MATE ([www.marinetech.org](http://www.marinetech.org)) and SENSE IT ([www.senseit.org](http://www.senseit.org)) web sites and receive information about the multi-day professional development workshops that these organizations offer. The workshop will also share hand-outs with about other, ocean science and technology related programs that offer curriculum, workshops, and more.

**Schedule:**

- 8:30am – Arrival, introductions, agenda review
- 9:00am – Ocean science and technology overview
- 9:15am – ROV control box activity
- 10:30am – Sensor activity
- 11:45-12:45 – Break for lunch/explore exhibit hall
- 12:45-1:45pm - Developing Ocean Technology at National Geographic Society

(Exhibit floor presentation)

Eric Berkenpas, Senior Director of Remote Imaging at National Geographic, will be presenting an overview of the subsea systems that were created at National Geographic in support of its various endeavors such as the Pristine Seas Initiative. Example technologies developed include underwater lighting, deepsea camera systems, and Crittercam, an animal-borne imaging packing. The talk will primarily be made up of short video clips illustrating these technologies, their use, and discoveries that were

made. Eric will briefly touch on the undersea exploration technologies Remote Imaging is currently working on.

- 2:00pm – Tour of the exhibit hall, visit select exhibitors
- 3:00pm – Departure

**Registration:** This free to attend workshop takes place as part of Oceanology International North America Exhibition & Conference, on Thursday the 16<sup>th</sup> of February. To confirm your attendance, please:

- Register for a free OI North America '**exhibition only**' pass via the event website: [www.oceanologyinternationalnorthamerica.com](http://www.oceanologyinternationalnorthamerica.com)
- Email Jill Zande at [jzande@marinetech.org](mailto:jzande@marinetech.org), to reserve your place at the workshop.