

Ocean Observing Initiative Workshop - Geology
June 2-4, 2017
University Inn and Conference Center, Rutgers University

Friday, June 2, 2017

- 12- 3 pm **Check in at the University Inn and Conference Center**
Pick up packets in Inn Lobby
- 3:00 pm **Welcome and Introductions/Icebreaker Activity** (J. McDonnell)
Participants will meet each other and the project team. Meet in the second floor Dining Room.
- 3:30 pm **Welcome from the OOI Program** (M. Crowley). This talk will introduce the objectives of the OOI program from a research and education perspective.
- 4:00 pm **Background Story of OOI and Undergraduate Teaching.** (J. McDonnell and S. Lichtenwalner). This discussion will include perspective on the early days of teaching Introduction to Oceanography class using tools developed by the Education and Public Engagement (EPE) program.
- 4:30 pm **Crosswalk of OOI and Introduction to Oceanography Textbook** (K. Hunter-Thomson). We will discuss what everyone is currently doing in introductory classes and what is the range of possibilities for integrating data into teaching. We will review the multiple concepts within the Essentials of Oceanography textbook for which OOI data can be used.
- 5:00 pm **Biological Productivity Lesson Review** (D. Bristol). Then we will explore how Denise used the biological productivity activities in her course in Spring 2017.
- Recap of the Chemistry Workshop May 2017.** (C. Greengrove). Cheryl will provide a few highlights from the OOI Chemistry focused workshop.
- 5:30 pm **Strategies for Teaching with Data** (J. McDonnell). We will take a look at examples of lessons and worksheets we use with undergraduates, list opportunities and challenges of working with these kinds of worksheets.
- 6:00 pm Dinner at the University Inn and Conference Center dining room.

- 7:00 pm **Expectations and Goals of the Workshop** (C. Halversen and J. McDonnell). What do we hope to gain from the workshop collectively?
- 8:00 pm Conclude for the evening!

Saturday, June 3, 2017

- 8:00 am **Meet at Conference Room B.** Continental breakfast including coffee/tea.
- 8:30 am **Welcome!** (J. McDonnell). Opening announcements and review plan for the day.
- 8:40 am **Pedagogy: Introduction to the Learning Cycle (Invitation, Exploration, Concept Invention, Application, Reflection).** (C. Halversen). This session will include an overview of the Learning Cycle and how it can help our students make meaning of science content.
- 10:15 am **Orientation and Exploration:** (K. Hunter-Thomson and S. Lichtenwalner). We will orient to the OOI data exploration website and explore our *Plate Boundary Feature* activity. Please post your comments/edits on post-it notes located on your table for this exercise and for all others!
- 11:00 am **Application:** (K. Hunter-Thomson and S. Lichtenwalner). We will jigsaw the *Plate Boundary Features* activity. Each group will share out on their reflections on what they did as learners. Then, we will reflect on the data activities as a whole.
- 11:45 am **Reflection.** (J. McDonnell). Please jot down your own ideas about this activity. Then – let’s discuss as a group - what do we think of this activity? How can we use it in our teaching? How would this impact your students’ learning?
- 12:15 pm Catered Lunch at the University Inn Dining room.
- 1:00 pm **Exploration:** (K. Hunter-Thomson and S. Lichtenwalner). We will explore the *Geological Features of a Seamount* activity as a group. We will share out on our reflections on what we did as learners. What questions do you still have about what we can learn about seamounts from seafloor data?
- 1:30 pm **Introduction to Axial Ridge: Part I** (D. Kelley). Deb will give us an overview of the science of Axial Ridge.

- 2:00 pm Break
- 2:15 pm **Application:** (K. Hunter-Thomson and S. Lichtenwalner). We will jigsaw the *Geological Features of a Seamount* activity. Each group will share out on their reflections on what they did as learners. Then, we will reflect on the data activities as a whole.
- 2:45 pm **Reflection** of *Geological Features of a Seamount* activity (K. Hunter - Thomson and S. Lichtenwalner). What do we think of this activity? How can we use this in our teaching?
- 3:15 pm **Exploration and Application:** (K. Hunter -Thomson and S. Lichtenwalner). We will jigsaw the *Seamount Diking Eruption Science* activities. Each group will share out on their reflections on what they did as learners. Then, we will reflect on the data activities as a whole.
- 4:00 pm **Axial Ridge: Part II** (D. Kelley). Deb will answer any questions we still have about Axial Ridge and OOI research.
- 4:30 pm **Reflection:** (J. McDonnell). What questions do we still have about Axial Ridge? How did your ideas change?
- Teaching with Data: Case Study at Stockton University** (A. Pfeifer-Herbert). Anna will share her experience teaching the biological productivity activities from the 2016 workshop.
- 5:00 pm **Wrap up.** Walk to the Department of Marine & Coastal Sciences
- 5:15 pm Tour of the COOL room.
- 6:15 pm Car pool ride over to Old Man Rafferty's Restaurant.
- 6:45 pm Reservation at Old Man Rafferty's.

Sunday, June 4, 2017

- 8:00 am **Meet for Breakfast at the Conference Room B, University Inn and Conference Center.** Welcome back and review logistics for the day-including travel back to the airport.
- 8:30 am **Exploration & Application:** (K. Hunter-Thomson and S. Lichtenwalner). Kristin and Sage will jigsaw the *Seismic Features of a Seamount* activities. Each group will share out on their reflections on what they did as learners.

- 9:00 am **Reflection & Concept Invention:** (J. McDonnell). Discussion and introduction of COSEE OCEAN SYSTEMS concept mapping software.
- 9:30 am **OOI and Hydrothermal Vent Video Assets.** (F. Knuth). Friedrich will introduce interesting video assets from OOI.
- 10:30 am Break
- 10:45 am **Foundational Ideas of Learning.** (C. Halversen). We will review instructional design ideas and how our foundational knowledge of learning can be applied to our teaching. We will discuss active learning techniques.
- 11:45 pm **Looking Forward: Overview of the OOI Data Portal** (M. Vardaro). In this session, we provide a preview of the OOI data portal.
- 12:15 pm Lunch at the University Inn and Conference Center, Dining room.
- 1:00 pm **Implementation Planning Session** (J. McDonnell). We will discuss our ideas for integration of these data activities into our teaching. Participants will share their plans with each other and the OOI Teaching with Data team.
- 2:00 pm **Effective Practices for Teaching with Data.** (S. Lichtenwalner). We will review our current and potential for new teaching with data strategies including, orientation, interpretation, and synthesis.
- 2:30 pm **Wrap up.** (J. McDonnell). Review of next steps and conclude the workshop.
- 3:00 pm **Carpool back to the airport.**