

Session Choices

The participant lists below were created based on your own requests through the Session Choices form. We did our best to assign everyone to their first choice session. As we mentioned in the form, if there was a session you absolutely wanted to attend and none of the other options were desired, you would have indicated such by NOT picking a second and third choice. Now that we've reviewed your choices and made assignments, please help our presenters by sticking with the session you were assigned, since supplies are limited for some sessions, and it's much better for group discussion and interactions if we have equitable distribution. Thanks for understanding!

Tuesday: 1-1:45 pm **Teaching Oceanography - Case Studies** - 4 concurrent sessions - 14th floor classrooms

FORMAT: 20-30 minutes of presentation, 15-25 minutes of Q&A and interactive: how to incorporate into your class

- **Google Earth & Monterey Bay** - Alfred Hochstaedter - 1401
Use Google Earth to student seaciff retreat in the Monterey Bay area and more(*participants required to have laptops with Google Earth installed*)
- **Marine Sediments/Paleooceanography** - Kristen St. John - 1402
Review pedagogy and exercises related to case studies (published in Reconstructing Earth's Climate History: Inquiry-based Exercises for Lab and Class).
- **Coral Reef Ecology** - John Fitzpatrick - 1404
Stimulate and engage students in the process of science through the interactive study of coral reefs -- including ecological concepts, basic statistics, and environmental conservation.
Examine major anthropogenic threats that are driving coral reef decline worldwide and learn what we can do to reduce stress on coral reefs worldwide, even if we are in landlocked states.
- **Using Tsunami to Measure the Depth of the Pacific Ocean** - Martin Farley - 1405
Recreate an analysis originally done by A.D. Bache in 1855, with better data including data from the 1964 Alaska Good Friday Earthquake tsunami and more recent tsunamis.

Google Earth/Monterey	Marine Sediments	Coral Reef Ecology	Tsunamis
Alexander Turra	Becca Walker	Branwen Williams	Al Trujillo
Alfred Hochstaedter	Beth Dushman	Cindy Lampe	Cathy Manduca
Chris Lewis	Bob Chen	Dave Mogk	David Watkins
Cynthia Venn	David Kobilka	Debra Woodall	Jan Hodder
Dan Morgan	Debra Stakes	Elizabeth Nagy-Shadman	Janice McDonnell
Donald Reed	Elizabeth Gordon	Hilary Lackey	Kent Syverson
Heather Kokorowski	Janelle Sikorski	James Kuwabara	Laurie Grigg
Jessica Kleiss	Katy Shaw	Jennifer Bown	Martin Farley
Kathryn Hoppe	Kristen St. John	Joceline Boucher	Mea Cook
Katie Farnsworth	Marcia Bicego	John Fitzpatrick	Megan Jones
Lauren Sahl	Martha House	Judy Robinson	Mirjam Glessmer
Petra Dekens	Michele LaVigne	Julie Martin	Scott Glenn
Stephanie Jaeger	Roman de Jesus	June Dias	Sharon Lynch
Stephen Schellenberg	Rubens Figueira	Mary Anne Holmes	Steven Hovan
	Sue Clement	Michele Wood	
	Susan Richardson	Sarah "Sally" Zellers	
		Stephen Taylor	
		Tim Cook	

Tuesday, 2-2:45 pm **Bringing Oceanography into the Classroom** - 4 concurrent sessions - 14th floor classrooms
FORMAT: 20-30 minutes of presentation, 15-25 minutes of Q&A and interactive: how to incorporate into your class

- **Misconceptions in Oceanography** - Kathryn Hoppe, Stephanie Jaeger, Hilary Lackey - 1401
Explore common misconceptions in introductory oceanography and strategies for overcoming them.
- **Teaching Oceanography in Landlocked Regions: challenges and solutions** -David Kobilka & Janelle Sikorski - 1405
Hear about the presenters' experiences teaching oceanography-related content in land-locked regions. Work together to identify challenges and barriers to student learning in such classrooms. Help develop a list of resources and strategies to help overcome the challenges of teaching students oceanography-related content in a land-locked classroom.
- **Building Underwater Remotely Operated Vehicles (ROVs)** - Debra Woodall - 1402
Review and experience a demonstration on how to design, engineer, and build a fully functional underwater ROV.
- **Going to Sea - a Unique Experience for Ocean Scientists** - Bob Chen - 1404
Explore models for efficient seagoing experiences for undergraduates as well as strategies to attempt to participate in these experiences in the classroom. There are few disciplines that have such a powerful experience as going to sea. Whether students participate on a 2-hour cruise around the harbor, a 1-day sampling trip, or a 10-day research expedition, going to sea is invaluable in allowing students to participate in "real" oceanography.

Misconceptions	Landlocked	ROVs	Going to Sea
Branwen Williams	Cynthia Venn	Becca Walker	Al Trujillo
Debra Stakes	Dan Morgan	Beth Dushman	Alexander Turra
Heather Kokorowski	Dave Mogk	Debra Woodall	Alfred Hochstaedter
Hilary Lackey	David Kobilka	Donald Reed	Bob Chen
Jessica Kleiss	David Watkins	Elizabeth Gordon	Cathy Manduca
Kathryn Hoppe	Jan Hodder	Elizabeth Nagy-Shadman	Chris Lewis
Katie Farnsworth	Janelle Sikorski	James Kuwabara	Cindy Lampe
Kristen St. John	Janice McDonnell	John Fitzpatrick	Joceline Boucher
Laurie Grigg	Jennifer Bown	Katy Shaw	Judy Robinson
Martha House	Julie Martin	Lauren Sahl	June Dias
Martin Farley	Kent Syverson	Petra Dekens	Marcia Bicego
Mary Anne Holmes	Scott Glenn	Sharon Lynch	Mea Cook
Megan Jones	Steven Hovan	Stephen Taylor	Michele LaVigne
Michele Wood	Sue Clement	Susan Richardson	Mirjam Glessmer
Roman de Jesus			
Rubens Figueira			
Sarah "Sally" Zellers			
Stephanie Jaeger			
Stephen Schellenberg			
Tim Cook			

Wednesday, 10:30 am -12:15 pm **Go to Class 1: Be a student participating in a 2-hour lab** - 4 concurrent sessions - 14th floor classrooms (4)

- **OOI Lab Builder: Ocean Acidification and Hurricanes** - Janice McDonnell & Scott Glenn - 1401
Explore the Lesson Lab Builder (LLB), a tool developed for undergraduate professors to design laboratories and problem-based activities using archived and real time data. Two prototype lessons including topics such as ocean acidification and hurricanes will be demonstrated using the LLB software. The LLB is part of a suite of undergraduate focused learning tools being developed by the NSF-funded Ocean Observing Initiative Education and Public Engagement (OOI EPE) group.
- **Anomalous behavior in the equatorial Pacific** - Becca Walker - 1405
Use Pacific SST, wind, and precipitation data from 1999-2011 to characterize the positive, negative, and neutral phases of ENSO. Then consider ENSO's influence on coastal upwelling and natural hazards. (This lab is an example of a module in production as part of the InTeGraTe curriculum development project.)
- **Isostasy: From a floating idea to dynamic understanding** - Stephen Schellenberg - 1402
Scaffold from the concept of density to Archimedes' Principle to dynamic isostasy to develop a process-based understanding of regional to global bathymetric and topographic patterns.
- **Density-driven circulation** - Elizabeth Gordon - 1404
Develop a hypothesis about what is likely to happen to thermohaline circulation as Arctic ice continues to melt, and design your own experiment using simple materials to test your hypothesis. Communicate findings in a report, which describes methods in a way that someone else could follow, and makes connections between this simple lab experiment and the 'big picture' of density-driven circulation. This is a lab that is aligned with the general education 'problem solving' objective and is evaluated by a rubric.

OOI Lab Builder	Equatorial Pacific Anomalies	Isostasy	Density-Driven Circulation
David Watkins	Becca Walker	Alexander Turra	Al Trujillo
James Kuwabara	Bob Chen	Alfred Hochstaedter	Beth Dushman
Jan Hodder	Dan Morgan	Branwen Williams	Chris Lewis
Janice McDonnell	Dave Mogk	Cynthia Venn	Cindy Lampe
Jessica Kleiss	David Kobilka	Donald Reed	Debra Stakes
Joceline Boucher	Jennifer Bown	Heather Kokorowski	Debra Woodall
John Fitzpatrick	Julie Martin	Hilary Lackey	Elizabeth Gordon
June Dias	Katie Farnsworth	Kathryn Hoppe	Elizabeth Nagy-Shadman
Katy Shaw	Kent Syverson	Kristen St. John	Janelle Sikorski
Laurie Griggs	Martin Farley	Lauren Sahl	Judy Robinson
Marcia Bicego	Mary Anne Holmes	Mea Cook	Martha House
Megan Jones	Michele Wood	Scott Glenn	Mirjam Glessmer
Michele LaVigne	Petra Dekens	Sharon Lynch	Sarah "Sally" Zellers
Rubens Figueira	Roman de Jesus	Stephen Schellenberg	Steven Hovan
Stephanie Jaeger	Tim Cook	Stephen Taylor	
Sue Clement			
Susan Richardson			

Wednesday 1:30-2:30 pm **Go to Class 2: Be a student participating in an interactive lecture/discussion section** (3 short interactive classroom activities) - 4 concurrent sessions - 14th floor classrooms (4)

Session: Biological Oceanography - 1401

- **The Great Clade Race** - Susan Richardson
Reconstruct an imaginary racecourse from a set of eight file cards with stamps on them. The correct map is discussed in the context of phylogenetic trees and their terminology. Activity comes from Goldsmith, 2003 can be used in discussions of evolution and/or marine biodiversity.
- **Critter Du Jour** - Cynthia Venn
Examine one component of an organism to solve its mystery and answer questions such as: What kind of organisms is this? What is this component used for?
- **Invertebrate model** - Alex Turra
Build a model to represent anything related to invertebrate morphology, functioning and/or behavior (using basic and cheap materials). Models should be self-explanatory, biologically correct, and able to be manipulated.

Session: Seawater - 1402

- **Hydrogen Bonding** - Elizabeth Nagy-Shadman
Compare and contrast the behavior of droplets of water and oil to understand polarity and hydrogen bonding.
- **What is in the Water?** - Bob Chen
Investigate, like ocean scientists, what is in seawater, e.g. every element in the periodic table, 1000s of molecules including caffeine, ibuprofen, and DDT, and carbon sequestered by intertidal wetlands. This simple activity allows students to explore their own water sample while learning key concepts about water, scientific observation, and the practice of science.
- **Make it melt faster!** - Mirjam Glessmer
Explore how melting of ice cubes floating in water is influenced by the salinity of the water. Important oceanographic concepts like density and density driven currents are visualized and can be discussed on the basis of this experiment.

Session: Seafloor Mapping & more - 1404

- **Google Earth - Oceans** - Beth Dushman
Explore the basics of using Google Earth-based activities in lecture or lab. We will cover the basics of creating placemarks and .kmz files and explore some of the useful layers and datasets available for Google Earth. Examples will include shoreline changes due to longshore transport, geological features from the South Texas Coast, bathymetry and volcanoes at mid-ocean ridges and subduction zones, and earthquakes at plate boundaries. (*participants will find this most useful if they have laptops with Google Earth installed*)
- **Paper Plates: Make Your Own Spreading Center** - Katherine Shaw
Build a small, cheap, model of seafloor spreading and use it to determine why important changes in oceanic lithosphere are correlated with distance from the mid-ocean ridge.
- **Is that True?** - Steven Hovan
Ask students to research the "truth" behind statements from recent news articles and provide their opinion about what is "true". Examples include statements about hurricane intensity increases due to global warming, Coriolis effect and southern hemisphere, etc.

Session: Atmosphere & Currents - 1405

- **Atmospheric Pressure and Surface Wind Patterns** - Jacqueline Boucher - Consider solar insolation, air composition, and air density to deduce the pattern of atmospheric circulation on a water-covered, non-rotating planet surrounded by suns.
- **Summary of ocean gyre circulation and implications for global primary productivity** - Megan Jones
Demonstrate understanding of surface circulation in ocean gyres and how it is related to broad patterns of global primary productivity by completing a schematic sea surface map and sea surface profile of the Atlantic Ocean. This simple visual framework allows students to see any misconceptions they have about the relationship/connection between surface circulation and primary productivity and to correct them.
- **Mapping Paleocurrents: Using the Past to Understand the Present** - Laurie Grigg
Working back from the present, reconstruct the location of past surface currents based on the location of the continents and global atmospheric circulation patterns. Also consider the importance of oceanic gyres in global heat transport by identifying warm and cold currents, as well as, areas that in the past were isolated from hemisphere-scale gyres and as a result, experienced unusually cold or warm conditions.

Biological Oceanography	Seawater	Seafloor Mapping & More	Atmosphere & Currents
Alexander Turra	Bob Chen	Al Trujillo	Alfred Hochstaedter
Cynthia Venn	Branwen Williams	Beth Dushman	Becca Walker
Dan Morgan	Debra Stakes	Chris Lewis	David Watkins
Dave Mogk	Donald Reed	Cindy Lampe	Debra Woodall
Janice McDonnell	Elizabeth Gordon	David Kobilka	James Kuwabara
Jennifer Bown	Elizabeth Nagy-Shadman	Hilary Lackey	Joceline Boucher
Jessica Kleiss	Heather Kokorowski	Jan Hodder	John Fitzpatrick
Judy Robinson	Katie Farnsworth	Janelle Sikorski	Kent Syverson
Julie Martin	Kristen St. John	Kathryn Hoppe	Laurie Grigg
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Lauren Sahl	Mirjam Glessmer	Mary Anne Holmes	Martin Farley
Michele Wood	Roman de Jesus	Mea Cook	Megan Jones
Scott Glenn	Rubens Figueira	Stephen Taylor	Michele LaVigne
Susan Richardson	Sharon Lynch	Steven Hovan	Petra Dekens
		Sue Clement	Sarah "Sally" Zellers
			Stephanie Jaeger
			Stephen Schellenberg
			Tim Cook