



OOI BIO-OPTICS SENSOR SUMMER SCHOOL JULY 17 TO 21, 2023

Oregon State University
Corvallis, OR

Program Agenda

Revised: July 21, 2023

General Information:

- > Please bring your laptop to class each day.
- > Unless otherwise noted, all classes will be held on OSU Campus in Wilkinson Hall, Room 207, 2601 SW Orchard Ave.
- > Lectures each day will begin at 8:30 am each day, unless noted otherwise
- > A mid-morning and mid-afternoon break is planned each day. Refreshments will be served.
- > Lunch breaks on most days will be 1.5 hours long. Participants can purchase their lunch from local restaurants. A list of restaurants with walking distances is in your folder.

-> Planned Group Activities:

Monday, July 17 – 6:00 pm – Evening Reception at Hilton Garden Inn, 2500 SW Western Blvd, Corvallis (cash bar, appetizers).

Tuesday, July 18 – 7:00 pm - Group Dinner - Del Alma Restaurant, 136 SW Washington Ave., Corvallis

Thursday, July 20 – 7:00 pm - Group Dinner - Magenta Restaurant 137 SW 2nd St., Corvallis

Sunday, July 16th - Hilton Garden Inn, 2500 SW Western Blvd, Corvallis Hotel Lobby

6:00 PM Casual gathering in the hotel lobby – For those who arrive before 6pm, please join us to meet organizers and Summer School participants.

Monday, July 17, 2023 - Wilkinson Hall, Room 207

Time	Topic / Activity	Presenter
8:00 AM	Check-in and coffee. Meet at Wilkinson Hall, 261 NW Orchard Ave., Room # 207	
8:30 AM	Welcoming Remarks and Introductions - OSU leadership, OOIFB, OOI, NSF, Logistics (e.g. bathrooms, work rooms, help center, maps, food options, etc)	OSU Leadership Dr. Kendra Daly, OOIFB Chair Dr. Ed Dever, OOI Dr. George Voulgaris, NSF
9:00 AM	Participant introductions	Dr. Andrew Barnard, OSU
9:30 AM	Workshop goals, Agenda Review and expectations.	Andrew Barnard, OSU
9:45 AM	Lecture 1: Why measure IOP? Why OOI is measuring these?	Andrew Barnard, OSU
10:15 AM	<i>Break</i>	Andrew Barnard, OSU
10:30 AM	Lecture 2: Basic definitions of light, IOP, measurement theory and application	Andrew Barnard, OSU
11:30 AM	Question period	Andrew Barnard, OSU
11:45 AM	<i>Lunch Break</i>	Andrew Barnard, OSU
1:15 PM	Lecture 3: How an AC-S works: Overview of the theory to application, limitations, and uncertainties	Andrew Barnard, OSU
2:00 PM	Lecture 4: Data output from an AC-S; processing steps and corrections, best practices	Andrew Barnard, OSU
2:30 PM	Lecture 5: End-to-end AC-S data processing based on best practices	Andrew Barnard, OSU
3:00 PM	<i>Break</i>	
3:15 PM	Overview of curated Data Set 1	Chris Wingard, OSU
3:45 PM	Charge: Homework Assignment #1 - Using curated Data Set #1; Expectation for July 18 report out on homework	Andrew Barnard, OSU
4:00 PM	Team formulation networking period; Question & Answer period	
5:00 PM	<i>Adjourn Day 1</i>	

6:00 PM Evening Reception at Hilton Garden Inn, 2500 SW Western Blvd, Corvallis (cash bar, appetizers). Participants are on their own for dinner.

Tuesday, July 18, 2023 - Wilkinson Hall, Room 207

Time	Topic / Activity	Presenter
8:00 AM	Coffee	
8:30 AM	Time to complete homework	
9:00 AM	Guest lecture: Biodiversity and biogeochemistry applications of bio-optical data in the Northern California Current – Marine Biodiversity Observation Network	Dr. Maria Kavanaugh (CEOAS/OSU)
9:30 AM	Brief Team/Individual overview of homework. What did you learn? Where did you run into questions or difficulties?	Andrew Barnard, OSU
10:15 AM	<i>Break</i>	
10:30 AM	Hands on demonstration of an AC-S	Andrew Barnard, OSU
11:00 AM	Lecture 6: Best Practices” for QA/QC of AC-S data collected from long-term unattended deployments	Andrew Barnard, OSU
11:30 AM	Review of material and Question & Answer period	
11:45 AM	<i>Lunch Break</i>	
1:15 PM	Lecture 7: OOI overview with specific focus on AC-S sensors - locations and data delivery	Ed Dever, OSU
2:00 PM	Lecture 8: Introduction to OOI Data Portal, Jupyter Hub, Resources, demo of how to obtain download	Chris Wingard, OSU and Wendi Ruef, UW
2:45 PM	Question period: How to use the interface	
3:00 PM	<i>Break</i>	
3:15 PM	Learning session: How to obtain OOI data	Ed Dever, OSU Chris Wingard, OSU Wendi Ruef, UW
4:00 PM	Charge: Homework Assignment #2 - Goals and Expectations	Andrew Barnard, OSU
5:00 PM	<i>Adjourn Day 2</i>	

7:00 PM Group Dinner - Del Alma Restaurant, 136 SW Washington Ave., Corvallis

Wednesday, July 19, 2023- Wilkinson Hall, Room 207

Time	Topic / Activity	Presenter
8:00 AM	Coffee	
8:30 AM	Lecture 8: Continued - Intro to curated data set #2	Chris Wingard, OSU and Wendi Ruef, UW
9:00 AM	WORKING SESSION - pulling data	
10:15 AM	<i>Break</i>	
10:30 AM	WORKING SESSION - Formulation of final goals	
11:30 AM	Review of questions and discussion on curated data set #2	
11:45 AM	<i>Lunch Break</i>	
1:15 PM	Guest Lecture: User-Friendly Robot Planners for Scientific Data Collection	Ian Connor Rankin, PhD student, College of Engineering, OSU
2:00 PM	Guest Lecture: Applications of in situ optical measurements to study open ocean plankton and particle communities	Dr. Alison Chase, UW/ Applied Physics Lab
2:30 PM	<i>Break</i>	
2:45 PM	Open time for participants to investigate and work with the OOI curated data to try to solve challenge questions. Expert help will be available.	All
5:00 PM	<i>Adjourn Day 3</i>	

Participants are on their own for the evening and dinner.

Thursday, July 20, 2023 - The day will begin with a tour of the Ocean Observing Center (OOC), 126 SW McKenzie Ave

Time	Topic / Activity	Presenter
8:30 AM	Meet in the hotel lobby for transport to the OSU Ocean Observing Center (OOC), 126 SW McKenzie Ave., Corvallis (Coffee will be at OOC)	Organizers - Annette DeSilva & Kendra Daly
9:00 AM	Tour of OOI OOC facility, platforms, sensors and AC-S. Time for questions and answers.	OOI Team and Andrew Barnard
11:30 AM	<i>Lunch Break and transition back to OSU main campus, Wilkinson Hall, Room</i>	
1:00 PM	An Introduction to NSF / Ocean Sciences	George Voulgaris, NSF
1:30 PM	Open time for students to complete final project on data processing and presentations. Expert help will be available for questions.	
2:30 PM	<i>Break</i>	
2:45 PM	Open time for students to complete final project on data processing and presentations. Expert help will be available for questions.	
5:00 PM	Collection of presentations for final report out	Annette DeSilva, OOIFB Office
5:00 PM	<i>Adjourn Day 4</i>	

7:00 PM Group dinner - Magenta Restaurant, 137 SW 2nd St., Corvallis

Friday, July 21, 2023 - Wilkinson Hall, Room 207

Time	Topic / Activity	Presenter
8:00 AM	Coffee	
8:30 AM	Introduction of Final Presentations	Andrew Barnard, OSU
8:40 AM	Individual and Group Project Presentations	
8:40 AM	Kendra Daly (USF)	
8:55 AM	Alexander Bailess (OSU) & Turner Johnson (Rutgers/SIO)	
9:15 AM	Meg Yoder (Boston College) & Andrew Reed (WHOI)	
9:35 AM	Cheng Xue (USF)	
9:50 AM	Teemer Barry (Rutgers) & Sakib Mahmud (TAMU)	
10:10 AM	Christa Baranowski (USF), Kyleene Cooley (WHOI), & Nishat Farzana Nimni (U. Maryland Eastern Shore)	
10:30 AM	<i>Break</i>	
10:45 AM	Ian Black (OSU)	
11:00 AM	Graham Trolley (U. Conn)	
11:15 AM	Andrew Scherer (OSU)	
11:30 AM	Yachen Li (Rutgers)	
11:45 AM	<i>Lunch Break</i>	
1:15 PM	Continued - Individual and Group Project Presentations	
1:15 AM	Maggi Mars Brisbin (USF)	
1:30 PM	Wrap Up and Closing Remarks	Andrew Barnard, OSU and Kendra Daly, OOIFB Chair
2:15 PM	Adjourn	