OOIFB SUMMER SCHOOL ON ACOUSTICS
JULY 14 TO 18, 2025

University of Washington
Seattle, WA

General Information:

- **Unless otherwise noted, all summer school sessions will be held in Room 425 of the Ocean Sciences Building (OSB/OCN), 1492 NE Boat St. OSB is approximately a 10-minute walk from the dorms at Lander Hall.**
  - **Dr. Dax Soule (and/or other individuals) will meet the group at 8:20am in the lobby of Lander Hall on Day 1 to walk down to OSB.**
- **Please bring your laptop to class each day.**
- Summer school programming will **begin each day at 9:00 am**.
  - **Coffee and light refreshments will be available at 8:30am.**
- A mid-morning and mid-afternoon break is planned each day. Light refreshments will accompany the afternoon breaks.
- **Most meals will be on your own.** A list of local restaurants within walking distance is included with the general information/logistics document.
  - Lunch breaks on most days will be 1 hour long. Participants can purchase their lunch from local restaurants.
- Planned Group Activities:
  - Evening Reception at the Ocean Sciences Building: Monday, July 14, 2025.
  - Group Dinner: Wednesday, July 16, 2025 (back deck, Marine Science Building [MSB]- across the street from the teaching building. Individuals can purchase dinner [take out] and meet up at at the MSB for a casual social gathering with a view)
  - OOI (Regional Cabled Array) Facilities Tour: Thursday, July 17, 2025

2025 OOIFB Summer Summer School on Acoustics, Program Agenda

DAY 1: MONDAY, JULY 14, 2025, Room 425 of the Ocean Sciences Building (OSB/OCN)

Time	Topic / Activity	Instructor (and facilitators)
8:30 AM	Check-in and coffee. Room 425 of the Ocean Sciences Building (OSB/OCN), 1492 NE Boat St.	
9:00 AM	Welcoming Remarks and Introductions - OOIFB, OOI, NSF Logistics (e.g. bathrooms, work rooms, help center, maps, food options, etc)	Dr. Dax Soule, OOIFB Chair
9:15 AM	Summer School Overview (agenda review, goals and expectations)	Dr. Shima Abadi and Dr. Wu-Jung Lee (SS co-chairs, UW)
9:30 AM	Participant Lighting Talks	Holly Morin (OOIFB-ASO), Shima Abadi, and Wu-Jung Lee, UW
10:30AM	*Break*	
11:00 AM	Lecture 1: OOI Acoustics Instrument Overview (high-level overview of the OOI network, general introduction to OOI instruments, and a focused discussion on acoustic instruments)	Dr. Deb Kelley, UW
12:00 PM	*Lunch Break*	
1:00 PM	Lecture 2: OOI Data Overview (overview of various methods for accessing OOI data, with a high-level introduction to OOI acoustic data)	Craig Risien, OSU (virtual)
2:00 PM	Hands-on demo: Jupyter (Hub)/Conda/Python basics	Wu-Jung Lee, UW
3:00 PM	*Break*	

3:30 PM	Hands-on learning session: GitHub Overview / Exercise	Wu-Jung Lee and Aditya Krishna, UW
4:30 PM	Questions/Discussions Wrap up Day 1	Shima Abadi and Wu-Jung Lee, UW Dax Soule, OOIFB
5:00 PM	*Adjourn Day 1*	

6:00 PM Evening Reception at UW Ocean Sciences Building (refreshments/appetizers). ***Participants are on their own for dinner.***

DAY 2: TUESDAY, JULY 15, 2025, Room 425 of the Ocean Sciences Building (OSB/OCN)

Time	Topic / Activity	Instructor (and facilitators)
8:30 AM	Coffee	
9:00 AM	Day 2 Overview	Wu-Jung Lee and Shima Abadi, UW
9:15 AM	Lecture 3: Underwater Acoustics Primer	Wu-Jung Lee and Shima Abadi, UW
10:00	*Break*	
10:15 AM	Guest Lecture #1: Ocean Ambient Sound Overview (introduction to ambient sound analysis using OOI hydrophone data)	Shima Abadi, John Ragland, UW
11:00 AM	*Break*	
11:15 AM	Hands-on demo: OOIPY 1	John Ragland, Shima Abadi, and Quentin Goestchel, UW
12:00 PM	*Lunch Break*	

1:00 PM	Hands-on demo cont'd: OOIPY 2	John Ragland, Shima Abadi, and Quentin Goestchel, UW
2:00 PM	Hands-on learning session: OOIPY Practice (hands-on practice using OOIPY to access and analyze OOI data- using Jupyter notebooks)	John Ragland, Shima Abadi, and Quentin Goestchel, UW
3:00 PM	*Break*	
3:30 PM	Hands-on learning session: Wave/Wind	John Ragland, Shima Abadi, and Quentin Goestchel, UW
5:00 PM	Questions/Discussions Wrap up Day 2	Shima Abadi and Wu-Jung Lee, UW
5:30 PM	*Adjourn Day 2*	

Participants are on their own for the evening and dinner.

DAY 3: WEDNESDAY, JULY 16, 2025, Room 425 of the Ocean Sciences Building (OSB/OCN)

Time	**Topic / Activity**	**Instructor (and facilitators)**
8:30 AM	Coffee	
9:00 AM	Day 3 Overview	Wu-Jung Lee and Shima Abadi, UW
9:15 AM	Lecture 4: Acoustics Primer - Part 2 (focused on scattering)	Wu-Jung Lee, UW
10:15 AM	*Break*	
10:30 AM	Hands-on learning session: xarray basics	Caesar Tuguinay, UW

11:30 AM	Xarray catch up time	All
12:00 PM	*Lunch Break*	
1:00 PM	Guest Lecture #2: Other (active) acoustics platforms (associated with the OOI), glider-mounted echosounders	Dr. Jack Barth, OSU (virtual)
1:45 PM	*Break*	
2:00 PM	Guest Lecture #3: Other sonar instrument types- COVIS multibeam observation of Axial Seamount plumes	Dr. Karen Bemis, Rutgers University
2:45 PM	*Break*	
3:00 PM	Lecture 5: Open-source Python software and Echopype	Wu-Jung Lee and Caesar Tuguinay, UW
3:15 PM	Hands-on learning session: Watching a solar eclipse from an OOI echosounder	Wu-Jung Lee and Caesar Tuguinay, UW
4:00 PM	Open working time (Day 1-3 exercises)	All
5:00 PM	Questions/Discussions Wrap up Day 3	Shima Abadi and Wu-Jung Lee, UW Dax Soule, OOIFB
5:30 PM	*Adjourn Day 3*	

6:30 pm The University of Washington invites summer school participants to the back deck of the Marine Sciences Building (across the street from the Ocean Sciences Building) for a casual social gathering with a view.

- Individuals can visit any of the nearby restaurants to grab take out and bring it back to the Marine Sciences Building for a casual dinner and social event overlooking the water. (Saint Bread and Aqua Verde Cafe are the closest; Ivars Salmon House is a 17 min walk each way- you can place your order and it'll be ready for pickup by the time you get there…or you can walk back to Lander Hall to unload your materials and grab food from any of the dining options at Local Point)

DAY 4: THURSDAY, JULY 17, 2025, Room 425 of the Ocean Sciences Building (OSB/OCN)

Time	Topic / Activity	Instructor (and facilitators)
8:30 AM	Coffee	
9:00 AM	Day 4 Overview	Wu-Jung Lee and Shima Abadi, UW
9:15 AM	Lecture 6: Introduction to Distributed Acoustic Sensing (DAS)	Shima Abadi, Quentin Goestchel, UW
10:00 AM	Hands-on learning session: Hydrophones and DAS	Shima Abadi, John Ragland and Quentin Goestchel, UW
10:45 AM	*Break*	
11:00 AM	Guest Lecture #4: Using [OOI] seismometers as acoustic sensors to study whales	Dr. William Wilcock, UW
11:45 AM	*Lunch Break*	
12:45 PM	Guest Lecture #5: Orcasound + OOI hydrophone Orca call detection	Dr. Bret Nestor, UW (virtual)
1:30 PM	Depart OSB for Sand Point, OOI Facility Tour	All (4 vans to transport participants)
2:00 PM	OOI Facility Tour	All
3:00 PM	Depart Sand Point, back to OSB	All
3:30 PM	Lecture 7: Extracting patterns from OOI echosounder time series	Wu-Jung Lee, UW
4:15 PM	Questions/Discussions	Shima Abadi and Wu-Jung Lee, UW

	Wrap up Day 4	Dax Soule, OOIFB
5:30 PM	*Adjourn Day 4*	

DAY 5: FRIDAY, JULY 18, 2025, Room 425 of the Ocean Sciences Building (OSB/OCN)

Time	Topic / Activity	Presenter
8:30 AM	Coffee	
9:00 AM	Day 5 Overview	Wu-Jung Lee and Shima Abadi, UW
9:15 AM	Lecture 7: Reproducible Research Best Practices	Wu-Jung Lee, UW
10:00 AM	Remarks from NSF	Dr. George Voulgaris, NSF
10:15 AM	Lecture 8: Ocean Networks Canada (ONC) Overview	Dr. Lanfranco Muzi, ONC (virtual)
10:45 AM	*Break*	
11:00 AM	Program Manager Round Table (virtual)	George Voulgaris (NSF), Candace Kairies-Beatty (ONR), Mandy Shoemaker (U.S. Navy Living Marine Resources (LMR) Program), Jessica Worsley (Research Grants Office, University of Victoria)
12:00 PM	*Lunch Break*	
1:00 PM	Brainstorming Session	All

2:00 PM	SS Evaluation Remaining Questions and Discussion	Holly Morin (OOIFB-ASO), Dax Soule (OOIFB), Shima Abadi, and Wu-Jung Lee, UW
2:30 PM	SS Wrap Up	Dax Soule, OOIFB
3:00 PM	*SS Adjourn*	