70TH Annual
Eastern Pacific Ocean Conference

EPOC 2024 Program

Link to Student Presentation Judging Form
Link to Student Presentation Feedback Form

Photo: Public Domain

Timberline Lodge, Mount Hood, Oregon

September 11-14, 2024

EPOC 2024 - Program Summary

Day 1: Wednesday, September 11

4:00 PM		Check-in Begins *(Barlow Room)*
6:00 PM	- 7:30 PM	Dinner *(Cascade Dining Room or Ram's Head Bar)*
7:30 PM	- 8:00 PM	Welcome Ceremony *(Lobby Patio)*
8:00 PM	- 10:00 PM	Fireside Chat, **Dr. Steven Ramp** *(Barlow Room)*

Day 2: Thursday, September 12

7:30 AM	- 8:15 AM	Breakfast *(Cascade Dining Room)*
8:30 AM	- 12:00 PM	Morning Sessions *(Ullman Hall)*:
		(S1) Modeling advances focused in the Eastern Pacific Ocean
12:00 PM	- 3:00 PM	Lunch and Free Time *(Cascade Dining Room)*
3:00 PM	- 5:00 PM	Afternoon Session *(Ullman Hall)*:
		(S1) Modeling advances focused in the Eastern Pacific Ocean (cont.)
		(S4) General session: Oceanography of the Eastern Pacific Ocean
5:00 PM	- 7:00 PM	Dinner and Free Time *(Cascade Dining Room or Ram's Head Bar)*
6:30 PM	- 7:00 PM	Poster Session Setup *(Y'Bar)*
7:00 PM	- 9:30 PM	Poster Session and Reception *(Y'Bar)*

Day 3: Friday, September 13

7:30 AM	- 8:15 AM	Breakfast *(Cascade Dining Room)*
8:50 AM	- 12:00 PM	Morning Sessions *(Ullman Hall)*:
		(S2) Autonomous Observations: Successes, Lessons, Aspirations
12:00 PM	- 3:00 PM	Lunch and Free Time *(Cascade Dining Room)*
3:00 PM	- 5:15 PM	Afternoon Session *(Ullman Hall)*:
		(S2) Autonomous Observations: Successes, Lessons, Aspirations
		(S3) Physical-Ecological Interactions in Eastern Boundary Currents
5:15 PM	- 7:00 PM	Free Time
7:00 PM	- 10:30 PM	Banquet and Entertainment, **SambaDa** *(Ullman Hall)*

Day 4: Saturday, September 14

7:30 AM	- 8:15 AM	Breakfast *(Cascade Dining Room)*
8:30 AM	- 11:40 AM	Morning Session *(Ullman Hall)*:
		(S4) General Session (cont.)
		(S3) Physical-Ecological Interactions in Eastern Boundary Currents (cont.)
11:40 AM	- 12:30 PM	EPOC Business Meeting *(Ullman Hall)*
	12:30 PM	End of Meeting

EPOC 2024 - Thursday, September 12

***Student Presenter**

8:30 AM -10:40 AM **Modeling Advances Focused in the Eastern Pacific Ocean**
Chairs: Liz Drenkard and Wei Cheng

8:30 AM	Introductory Remarks
8:40 AM	**Ariane Verdy:** Nested regional multiscale 4D-Var ocean state estimation for SWOT: from geostrophic balance to km-scale variability in the California Current System
9:00 AM	**Miram Gleiber:** Applying Foraging Traits to Explore Variability in Albacore Tuna Resource Use
9:20 AM	**Kelly Keamey:** Revisiting Biogeochemistry in an End-to-end Modeling Framework for the Bering Sea Shelf
9:40 AM	**Emma Walker:** The Importance of Spatiotemporal Habitat Connectivity: a general ecological lesson learned from considering vents of the Eastern Pacific Ridge
10:00 AM	*Morning Coffee Break*
10:20 AM	**Samantha Jerry*:** Evaluation of Meso-scale Eddies in MOM6-NEP Simulations using Satellite Data
10:40 AM	**Liz Drenkard:** A regional physical-biogeochemical ocean model for marine resource applications in the Northeast Pacific
11:00 AM	**Nishita Dashpute*:** Estimating Total Alkalinity of the Pacific Ocean using Random Forest Regression
11:20 AM	*Discussion*

11:40 PM - 3:00 PM **Lunch and Free Time**

***Student Presenter**

3:00 PM - 4:00 PM **Modeling Advances Focused in the Eastern Pacific Ocean (cont.)**
Chairs: Liz Drenkard and Wei Cheng

3:00 PM **Dillon Amaya:** High-resolution model-analog forecasts of the California Current System

3:20 PM **Jillian Xiong:** Impact of estuarine exchange flow on multi-tracer budgets in the Salish Sea

3:40 PM *Afternoon Coffee Break*

4:00 PM **Albert Hermann:** Emulation of MOM6-based downscaling results in the Northeast Pacific using Machine Learning methods

4:20 PM - 5:00 PM **General Session**
Chairs: Will White and Jasen Jacobsen

4:20 PM **Allison Cluett:** Pan-basin warming now overshadows robust Pacific Decadal Oscillation

4:40 PM **Clarissa Anderson:** Are we missing the airborne toxic fraction of coastal dinoflagellate blooms in California?

5:00 PM - 7:00 PM **Dinner and Free Time**

6:30 PM - 7:00 PM **Poster Session Setup and Introductions**

7:00 PM - 9:30 PM **Poster Session and Hors d'Oeuvre Reception**

EPOC 2024 - Friday, September 13

*Student Presenter

8:50 AM	**-12:00 PM**	**Autonomous Observations: Successes, Lessons, Aspirations** Chair: Eric Bjorkstedt
	8:50 PM	Introductory Remarks
	9:00 AM	**Drew Lucas:** Livewire: Energy generation from surface waves for long-term ocean monitoring
	9:20 AM	**Jessica Garwood:** Using novel technology to elucidate coastal physical-biological interactions
	9:40 AM	**Melanie Fewings:** Ocean surface currents from space, with simultaneous winds: The ODYSEA Doppler Scatterometer satellite mission
	10:00 AM	*Morning Coffee Break*
	10:20 AM	**Anjali Shah*:** Using glider data to explore spring ice melt and productivity regimes in the Bering Sea
	10:40 AM	**Tetjana Ross:** Combining autonomous observations with satellites to observe aging of large anticyclonic eddies in the Northeast Pacific
	11:00 AM	**Elizabeth Brasseale:** Marine Environmental DNA: modeling a non-conserved ocean tracer for eastern Pacific marine ecology
	11:20 AM	**Elena Conser*:** Advances in analysis, optimization, and standardization of plankton images captured by In Situ Ichthyoplankton Imaging System
	11:40 AM	**Arina Favilla:** Redefining the importance of changing low-oxygen zones in the Eastern North Pacific from a seal's perspective
12:00 PM	**- 3:00 PM**	**Lunch and Free Time**

***Student Presenter**

3:00 AM	**- 3:20 PM**	**Autonomous Observations: Successes, Lessons, Aspirations (cont.)** Chair: Eric Bjorkstedt
	3:00 PM	**Rachel Holser:** Autonomous pinniped bathythermographs: What seals can teach us about the Northeast Pacific
3:20 PM	**- 5:00 PM**	**Physical-Ecological Interactions in Eastern Boundary Currents** Chairs: Art Miller and Dillon Amaya
	3:20 PM	**Ted Strub:** Poleward Transports Between Southern and Northern Regions of the CCS: Part 2: Processes and Forcing Functions Responsible for the Transports
	3:40 PM	**Mercedes Pozo Buil:** Source Water Masses as a Driver of Ecosystem Structure in the Northern California Current
	4:00 PM	*Afternoon Coffee Break*
	4:20 PM	**Richard Brokaw*** Advective nutrient fluxes drive primary productivity variability in a dynamic coastal ecosystem
	4:40 PM	**Helena Frazao:** Open Ocean vs. Upwelling Regimes: Air-sea CO2 Fluxes and pCO2 Inter-annual Variability in the Southern California Current System
5:00 PM	**- 5:15 PM**	**Group Photo**
5:15 PM	**- 7:00 PM**	**Free Time**
7:00 PM	**-10:30 PM**	**Banquet and Entertainment with *SambaDa***

EPOC 2024 - Saturday, September 14

***Student Presenter**

9:00 AM	**- 1:00 AM**	**General Session: Oceanography of the Eastern Pacific (cont.)** Chairs: Will White and Jasen Jacobsen
	9:00 AM	**Leilane Passos:** The relation between thermohaline anomalies and water mass transformation in the Eastern Subpolar North Atlantic
	9:20 AM	**Craig Risien:** The hydrographic relationship between Oregon and Washington shelf regions at seasonal and intraseasonal time scales.
	9:40 AM	**Melanie Fewings:** Density stratification over the Northern California Current continental shelf and slope and its relation to the permanent halocline of the greater Northeast Pacific Ocean
	10:00 AM	*Morning Coffee Break*
10:20 AM	**-10:40 AM**	**General Session: Oceanography of the Eastern Pacific (cont.)** Chairs: Will White and Jasen Jacobsen
	10:20 PM	**Cristoph Reinkl:** Winter Upwelling in the Northern California Current System
10:40 AM	**-12:00 AM**	**Physical-Ecological Interactions in Eastern Boundary Currents (cont.)** Chairs: Art Miller and Dillon Amaya
	10:40 PM	**Charles Hannah:** Winter Upwelling in the Northern California Current System
	11:00 PM	**Jack Barth:** Widespread and increasing near-bottom hypoxia in the coastal ocean off the United States Pacific Northwest
	11:20 AM	**Will White:** Adaptively managing kelp ecosystems for marine heatwaves
11:45 AM	**-12:30 PM**	**EPOC Business Meeting**
	12:30 PM	**EPOC 2024 is Adjourned**

EPOC 2024 - Poster Presentations

***Student Presenter**

Session 1	**Modeling advances focused in the Eastern Pacific Ocean**
Albert Hermann	Evolution of ocean model visualization, from the 20th to the 21st century
Alexander Kurapov	The WCOFS stories: (1) El Nino impact on the Oregon slope and (2) The effect of adding terrestrial water discharges from California to British Columbia on regional surface salinity variability
Rémy Denéchère	Do higher trophic levels impact secondary production in the Upwelling California Current?
Session 2	**Autonomous Observations: Successes, Lessons, Aspirations**
Christian Reiss	What lessons about Antarctic glider-based acoustic surveys of Antarctic krill (Euphausia superba) can be transferred to understanding of krill dynamics in the California current
Lauryn Talbot*	Characterizing Lateral Turbulence in the Northeast Pacific
Brian Wells	The role of upwelling fronts in structuring trophic dynamics and ecosystem function
Otavio Mendes*	Using active acoustics from an underwater glider over the Pacific Northwest Continental Shelf
Terence O'Brien*	Long-term bio-optical and radiometric time series from moorings in Southern California
Luke Carberry*	Characterizing cross-shelf water mass connectivity in the Santa Barbara Channel

EPOC 2024 - Poster Presentations (cont.)

Session 3	**Physical-Ecological Interactions in Eastern Boundary Currents**
Sean Coleman	Millions of Observations: A Spatial Analysis of Near-Bottom Dissolved Oxygen Along the Continental Shelf of the Pacific Northwest in 2022-2023
Natalie Freeman	Characterizing multi-stressor extremes of heat, chlorophyll, and hypoxia in the California Current Large Marine Ecosystem (1996-2019)
Session 4	**General Session: Oceanography of the Eastern Pacific Ocean**
Cecily Tye*	The effects of highly localized (order km) winds on inner shelf transport in the Santa Barbara Channel
Miram Gleiber	The pelagic species trait database: an open data resource to support trait-based ocean research
Jacqueline Kiska*	Investigating the Impact of Climate Variability and Change on the California Current System Using a Pacific Pacemaker Experiment
Jasen Jacobsen*	Nutrient sources and primary production coastal upwelling systems: Comparison of two- and three-dimensional idealized simulations