

66TH ANNUAL
EASTERN PACIFIC OCEAN CONFERENCE

EPOC 2019 PROGRAM



Photo courtesy of Stanford Sierra Center

Stanford Sierra Center, Fallen Leaf Lake, California

September 29 - October 2, 2019

EPOC 2019 - PROGRAM SUMMARY

DAY 1: SUNDAY, SEPTEMBER 29

3:00 PM	Check-in Begins (<i>Stanford Room</i>) → Coffee available at Stanford Room → Boating at the Boat Dock available until 5pm (weather permitting)
6:00 PM - 8:00 PM	Dinner (<i>Dining Room</i>)
8:00 PM - 9:00 PM	Fireside Chat, Dr. Antonietta Capotondi (<i>Cathedral room</i>)
9:00 PM - 11:00 PM	Bonfire Reception (<i>Old Lodge and Front of Lodge</i>)

DAY 2: MONDAY, SEPTEMBER 30

6:00 AM - 7:00 AM	Coffee available at the Stanford Room
7:00 AM - 8:20 AM	Breakfast (<i>Dining Room</i>)
8:30 AM - 12:20 PM	Morning Session (<i>Cathedral Room</i>): (S1) Remote Forcing in the Local Response of the California Current System
12:20 PM - 3:00 PM	Lunch and free time (<i>Dining Room</i>) → 1:00 PM - 3:00: Boating (<i>Boat Dock</i>) → 1:00 PM - 2:30: Guided hiking
3:00 PM - 5:10 PM	Afternoon Session (<i>Cathedral Room</i>): (S2) Distribution and Variability of Water Masses in the Eastern Pacific Upwelling System: Climate Drivers and Ecosystem Impacts
5:30 PM - 5:50 PM	Poster Session Introductions (<i>Cathedral Room</i>)
6:00 PM - 7:30 PM	Dinner (<i>Dining Room</i>)
8:00 PM - 10:00 PM	Poster Session and Reception (<i>Angora Room</i>)

DAY 3: TUESDAY, OCTOBER 1

6:00 AM - 7:00 AM	Coffee available at the Stanford Room
7:00 AM - 8:00 AM	Yoga (<i>Angora Room</i>)
7:00 AM - 8:20 AM	Breakfast (<i>Dining Room</i>)
8:30 AM - 12:00 PM	Morning Session (<i>Cathedral Room</i>): (S5) General session
12:00 PM - 4:00 PM	Lunch and Free Time (<i>Dining Room</i>) → 1:00 PM - 4:00: Boating (<i>Boat Dock</i>) → 1:00 PM - 3:30: Guided hiking
4:00 PM - 6:00 PM	Afternoon Session (<i>Cathedral room</i>): (S5) General session (cont.)
6:00 PM - 7:00 PM	Free Time
7:00 PM - 11:00 PM	Banquet and Entertainment, Sambada (<i>Dining room/Deck</i>)

DAY 4: WEDNESDAY, OCTOBER 2

6:00 AM - 7:00 AM	Coffee available at the Stanford Room
7:00 AM - 8:20 AM	Breakfast (<i>Cascade Dining Room</i>)
8:30 AM - 11:40 AM	Morning Sessions (<i>Cathedral Room</i>): (S4) Biological-Physical Aspects of Ecosystem Management in the Eastern Pacific (S3) Facing the challenge of deoxygenation: from physics to fish
11:40 AM - 12:30 PM	EPOC Business Meeting (<i>Cathedral Room</i>)
12:30 PM	End of Meeting
12:30 AM - 1:30 PM	Lunch (<i>Dining Room</i>)

EPOC 2019 - MONDAY, SEPTEMBER 30

8:30 AM -12:00 AM	Remote Forcing in the Local Response of the California Current System Chairs: Art Miller and Nathali Cordero Quiros
8:30 AM	Introductory Remarks
8:40 AM	Emily Lemagie: The Balance Between Surface Heating and Advection on the U.S. West Coast Inner Shelf
9:00 AM	Henry Ruhl: Influences of ocean weather on the episodic pulses of particulate organic carbon flux
9:20 AM	Megan Cimino: Mechanisms of pelagic red crab range expansion in the eastern Pacific
9:40 AM	Antonietta Capotondi: Predicting Physical Drivers of Marine Ecosystems along the US West Coast Using a Linear Inverse Modeling Approach
10:00 AM	<i>Morning Coffee Break</i>
10:40 AM	Alexander Kurapov: Interannual variability in the strength and structure of the poleward undercurrent: inferences from observations and a high-resolution regional ocean model
11:00 AM	Zelalem Engida*: Physical Controls on Extremes of Oceanic Carbon and Oxygen at the Northern End of the California Current System
11:20 AM	Caitlin Amos*: Variability in SST frontal activity in the California Current System due to the El Niño-Southern Oscillation
11:40 AM	Dillon Amaya*: The Return of "The Blob" – A Near Real-Time Assessment of the 2019 North Pacific Marine Heat Wave
12:00 PM	<i>Discussion</i>
12:20 PM- 3:00 PM	Lunch and Free Time Poster Setup, Angora Room

*Student Presenter

EPOC 2019 - MONDAY, SEPTEMBER 30 (CONT.)

3:00 PM - 5:10 PM	Distribution and Variability of Water Masses in the Eastern Pacific Upwelling Systems Chairs: Mer Pozo Buil, Melanie Fewings, Noel Pelland, and Steven Bograd
3:00 PM	Introductory Remarks
3:10 PM	Riley Brady* : Skillful Multiyear Predictions of Ocean Acidification in the California Current System
3:30 PM	Mer Pozo-Buil : Future Changes in the California Current Upwelling System
3:50 PM	Dyllan Catlett* : Seasonal to decadal scale phytoplankton community variations in the Santa Barbara Channel, CA, are associated with decadal climate oscillations and changes in regional ocean circulation
4:10 PM	<i>Afternoon Coffee Break</i>
4:30 PM	Roxanne Robertson : Climate-related variability in assemblage and size-structure of euphausiids in coastal waters off northern California
4:50 PM	Julie Keister : Climate controls on zooplankton composition and ocean-estuary exchange in the Strait of Juan de Fuca, USA
5:10 AM	<i>Discussion</i>
5:30 PM - 5:50 PM	Poster Session Introductions
6:00 PM - 7:30 PM	Dinner and Free Time
8:00 PM -10:00 PM	Poster Session and Reception

EPOC 2019 - TUESDAY, OCTOBER 1

8:30 AM -12:00 AM	General session Chairs: Daniela Faggiani Dias, Mer Pozo-Buil and Nathali Cordero Quiros
8:30 AM	Introductory Remarks
8:40 AM	Charles Hannah: Characterizing marine heatwaves in British Columbia waters
9:00 AM	Jerry Smith: Turbulent dissipation and diffusion - have we been chasing a red herring?
9:20 AM	Jim Lerczak: Cross-shore energy and heat transport by nonlinear internal waves in shallow water
9:40 AM	Connor Dibble*: Wind-driven circulation and upwelling may enhance particle transport by internal waves
10:00 AM	<i>Morning Coffee Break</i>
10:40 AM	Daniel Dauhajre: Nearshore Lagrangian Connectivity: Submesoscale Influence and Resolution Sensitivity
11:00 AM	Jann Paul Mattern: Using dual numbers for automatically differentiating complex functions – a simple way to create biogeochemical data assimilation code
11:20 AM	Elizabeth Drenkard: Managing Uncertainty: Strategic Downscaling of Climate Change Impacts on CCS Oceanography and Fisheries
11:40 AM	<i>Discussion</i>
12:00 PM- 4:00 PM	Lunch and Free Time

EPOC 2019 - TUESDAY, OCTOBER 1 (CONT.)

4:00 PM - 5:20 PM	General session (cont.) Chairs: Daniela Faggiani Dias, Mer Pozo-Buil and Nathali Cordero Quiros
4:00 PM	Jordyn Moscoso* : A Meridionally Averaged Model of Eastern Boundary Upwelling Ecosystems: An Inter-ecosystem Model Comparison
4:20 PM	Monique Messié : Temporal variability and environmental forcing of surface, midwater and benthic communities in the California Current System
4:40 PM	<i>Afternoon Coffee Break</i>
5:00 PM	Tom Bell : Disentangling potential global change trends from low-frequency oscillations in marine environments
5:20 PM	Daniela Faggiani Dias* : Using Local Ecological Knowledge to Infer Climate Variability in Galapagos Fisheries
5:40 AM	<i>Discussion</i>
6:00 PM - 7:00 PM	Free Time
7:00 PM - 11:00 PM	Banquet and Entertainment with <i>Sambada</i>

EPOC 2019 - WEDNESDAY, OCTOBER 2

8:30 AM -10:00 AM	Biological-Physical Aspects of Ecosystem Management in the Eastern Pacific Chairs: Will White, Louis Botsford, and Kerry Nickols
8:30 AM	Introductory Remarks
8:40 AM	Albert Hermann: Expanding the biophysical ensemble: hybrid dynamical-statistical downscaling methods based on spatial/temporal scale
9:00 AM	Caren Barceló: Pelagic seascape community ecology: Assessing and predicting the surface community composition in the northern California Current
9:20 AM	Will White: Environmental variability introduces time lags into the fishery benefits of marine protected areas
9:40 AM	Louis Botsford: Management implications of differences in frequency responses of California Current fished species
10:00 AM	<i>Morning Coffee Break</i>
10:30 AM-11:20 AM	Facing the Challenge of Deoxygenation: From Physics to Fish Chairs: Leticia Cavole and Natalya Gallo
10:30 AM	Introductory remarks
10:40 AM	Natalya Gallo: What is ecologically relevant when considering deoxygenation trends?
11:00 AM	Leticia Cavole*: Fishes as mobile monitors of hypoxic conditions across ocean basins
11:20 AM	Discussion
11:50 AM-12:30 PM	EPOC Business Meeting
12:30 PM	EPOC 2019 is Adjourned

*Student Presenter

EPOC 2019 - POSTER PRESENTATIONS

SESSION 1 **Remote Forcing in the Local Response of the California Current System**

Nathali Cordero Quiros* Composite biophysical ENSO over California Current System using ROMS-NEMURO

Albert Hermann The blob in 3D: Interactive analysis of a warm anomaly and its impact on the Pacific Northwest

SESSION 2 **Distribution and Variability of Water Masses in the Eastern Pacific Upwelling System: Climate Drivers and Ecosystem Impacts**

Melanie R. Fewings Regional wind patterns and the spatial structure of marine heat waves off the western United States

SESSION 4 **Biological-Physical Aspects of Ecosystem Management in the Eastern Pacific**

Clarissa Anderson Integrated ocean observing systems for assessing marine protected areas across California

SESSION 5 **General session**

Laura Solinger* Development of a Generalized Transmission and Proliferation Model for Withering Syndrome for Species of Farmed and Wild Abalone

Ed Dever Wind Forcing and Physical and Bio-optical Variability Over the Washington and Oregon Shelves

Cassia Pianca Can we detect spring-neap variability of San Francisco Bay Plume from space?

Piero Mazzini Space-time Variability of San Francisco Bay Plume from MODIS Imagery

Alyssa Ells* Marine Heat Waves in the San Francisco Bay Estuary

Alex Fisher Measuring Turbulent Stress and TKE Profiles in the OSBL Using an Autonomous Underwater Vehicle

Noel Pelland Observations and simulations of interannual variability in the first migration of Bering Sea northern fur seal pups

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