

# UConn

## UNIVERSITY OF CONNECTICUT

Department of Marine Sciences  
Presents a Seminar by

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Ensenada (CICESE-Ensenada)**

### **Physical and biogeochemical variability off Baja California (Mexico): insights from numerical NPZD models**

Physical-biogeochemical Nitrate-Phytoplankton-Zooplankton-Detritus (NPZD) numerical models are used to study the variability of nutrients and phytoplankton biomass in coastal waters off Baja California Peninsula, a region of high socioeconomic importance located in the southern California Current System. The focus of these analyses has been the effects of interannual climatic anomalies. For example, the year 2006 was anomalously warm and with low chlorophyll (Chl) levels, associated with warm phases of El Niño-Southern Oscillation (ENSO) and the Pacific Decadal Oscillation (PDO) and a weakening of the North Pacific Gyre Oscillation (NPGO). The year 2011, on the other hand, was a cold year with enhanced upwelling during the spring, associated with cold phases of ENSO and PDO and an intensification of the NPGO. The effects of the North Pacific "Blob" have been also analyzed, which include an intense deepening of the nutricline and the thermocline, and hence of the subsurface Chl maximum, during the 2013-2016 period. Long-term changes in the nutrients/phytoplankton fields along the Baja California Peninsula associated to climate change have been also explored. Downscaling of a global circulation model indicates that coastal upwelling overcomes the increased stratification under high greenhouse-emission scenarios (RCP6.0 and RCP8.5) by mid 21st century. Finally, other applications in adjacent seas will be discussed.

**Host:** Paola Batta Lona

**Time & Date:** 11:00 am, Friday, February 8, 2019

**Place:** Marine Sciences Building, Seminar Room 103

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