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Department of Marine Sciences  
Presents a Seminar by

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## **Is there potential for macroalgae to mitigate ocean acidification and hypoxia *in situ*? Lessons learned from California kelp forests**

As oceans become increasingly acidic and hypoxic, policymakers and managers are looking for localized mitigation solutions and adaptation strategies. Submerged aquatic vegetation have the potential to locally ameliorate chemical conditions through uptake of carbon and release of oxygen through photosynthesis. Kelp forests, with their high photosynthetic biomass and rates of production, are one foundation species that might offer this ecosystem service on a scale meaningful for kelp forest inhabitants. We collected extensive measurements of biogeochemistry, hydrodynamics, and kelp attributes in Central and Southern California in 2018 and 2019. Our results suggest that chemical benefits of kelp forests are dependent on the physical context of sites, and that the largest benefits are likely restricted to the surface waters near the kelp canopy. Interdisciplinary approaches combining physics, biology, and chemistry are required to address these complex issues. While kelp forests in some circumstances may locally ameliorate chemistry, the only way we can stop ocean acidification is to stop emitting carbon.

**Host:** Matt Sasaki

**Time & Date:** 11:00 am, Friday, February 25, 2022

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