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--- WEBINAR ---

Linking Shoreline and Sea: Wave-Driven Exchange Between Littoral and Pelagic Zones

Prof John Largier (UC Davis, USA)

Wednesday, 10 December 2025 | 16h00 – 17h00 SAST

Venues: NITheCS Seminar Room, Merensky Building, Stellenbosch University; and Online

ABSTRACT

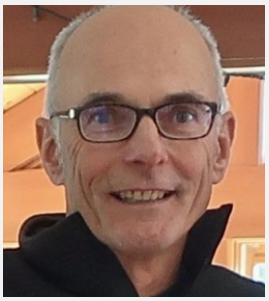
In the absence of major features such as river plumes and tidal jets, it is often implicitly assumed that shoreline and nearshore habitats are negligibly coupled to the ocean, ignoring the importance of subsidies and flushing for ecological communities in the littoral zone. Several nearshore studies show that water properties in this zone (< 1 km from shore) differ from those further offshore.

In this talk, I will introduce the concept of a "coastal boundary layer" and present recent findings showing the importance of wave-driven motions that extend well beyond the surf zone, effectively exchanging water between the littoral and pelagic zones. The challenge now is to quantify this exchange rate in an ecologically meaningful way, and to show when small space and time scales are important in the structure and dynamics of ecological communities in the littoral zone.

BIOGRAPHY

John Largier seeks to address environmental issues through application of principles, analyses, and insights derived from oceanography. His work is deeply interdisciplinary, working with experts in ecology, policy, health, social science, engineering, and other fields – developing an "environmental oceanography" paradigm. Centered on water-borne transport in ocean/bay/nearshore/estuary environments, he has tackled issues that include marine protected areas, fisheries, aquaculture, beach pollution, wastewater discharge, wildlife health, desalination, stormwater pollution, coastal power plants, kelp forest loss, wetland health, marine mining, and coastal development. In addition to advising numerous agencies in the USA, Chile and South Africa, he has published over 200 papers/book chapters.

He is a Distinguished Professor in Environmental Science & Policy, and Director of the Bodega Marine Laboratory at UC Davis. Prior to 2004, he was at UC San Diego (Scripps Institution of Oceanography), the University of Cape Town, and the CSIR in South Africa.



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