

# UConn

## UNIVERSITY OF CONNECTICUT

Department of Marine Sciences  
Presents a Seminar By

**Simon R. Thorrold**  
**Woods Hole Oceanographic Institution**

**Towards a predictive understanding of  
connectivity in ocean ecosystems**

Understanding the degree of connectivity among geographically-separated populations is central to understanding the functioning of ocean ecosystems and a fundamental requirement for science-based spatial management of marine resources. However, quantifying movement patterns in the ocean remains a formidable logistic challenge and we know considerably less about the movements of ocean animals compared with terrestrial counterparts. On coral reefs, connectivity among fish populations is largely determined during a pelagic larval phase. Our lab has been investigating larval dispersal in the orange clownfish (*Amphiprion percula*) in Kimbe Bay, Papua New Guinea using otolith tagging and DNA parentage analysis to provide empirical estimates of population connectivity. We are combining these estimates with a coupled biophysical model to assess the role played by regional circulation and larval behavior in determining connectivity patterns. On larger scales, we are investigating migratory connectivity in pelagic sharks and rays using satellite telemetry. Tagging studies in the north Atlantic are revealing remarkable movements of a number of species including white sharks (*Carcharodon carcharias*) and devil rays (*Mobula tarapacana*). Our results highlight the likely importance of meso- and bathy-pelagic fish and squid as prey for these ocean nomads. Effective conservation and sustainable management strategies requires a predictive understanding of connectivity that is largely beyond our current understanding of ocean ecosystem functioning. This knowledge gap is particularly troubling given both increased pressure on ocean ecosystem services and the negative effects of climate change on the global ocean in the near future.

**Host:** Dave Lund

**Time & Date:** 11:00 am, Friday, September 18, 2015

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

Please see this [page](#) for cancelations and additional seminar information, email [marinesciences@uconn.edu](mailto:marinesciences@uconn.edu), or call 860-405-9152 or 860-405-9151