

iFAST: The International Forum on Advanced Environmental Sciences and Technology

A series of distinguished seminars by eminent scientists

8 p.m. CDT; 9 p.m. EDT; 1 a.m. GMT (June 10); 9 a.m. Beijing (June 10)

Wednesday, June 9, 2021



Stephen Palumbi

Stanford University

<https://hopkinsmarinestation.stanford.edu/people/stephen-palumbi>

Steve Palumbi is the Jane and Marshall Steel Professor of Marine Science at Stanford University. His research group is engaged in the study of the genetics, evolution and systematics of marine species from corals to sharks to whales. A major focus of his research is on the conservation and management of marine populations, the identification of seafood products available in commercial markets and strategies for finding and protecting the world's strongest Pacific corals. Recently elected to the National Academy of Sciences, Palumbi is a board member for several conservation organizations and a fellow of the Woods Institute of the Environment. His work has been used in the design of the current network of marine-protected areas in California, seafood labeling laws in Japan and the United States and in numerous TV and film documentaries, including the 2017 PBS series *Big Pacific*. His latest book for non-scientists, *The Extreme Life of the Sea*, written with his son Anthony Palumbi, is about the amazing species in the sea. Previous books were *The Death and Life of Monterey Bay: A Story of Revival* and *The Evolution Explosion*.

The adaptive capacity of marine species in the face of climate change: heat tolerance, phenotypic plasticity and genome evolution in corals

Rising sea water temperatures have caused large-scale damage to coral reefs globally as a result of heat-induced coral bleaching. Yet, we know that even within coral species, there is a wide variety of heat tolerance. I will present new studies on heat tolerance variation in corals in American Samoa and Palau: mapping high heat tolerance colonies across reefs, conducting common garden experiments by transplanting corals and analyzing symbiont, genome and transcriptome variation that corresponds to tolerance. The combination of results on heat tolerance patterns and mechanisms sets the stage for using this information in coral reef protection and restoration.



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Register for the Zoom conference at www.ou.edu/ieg/seminars

Organizing Committee Chair: Jizhong Zhou (University of Oklahoma, USA; <https://www.ou.edu/ieg>)
Xueduan Liu (Central South University, China)