



OPC Academic Roadshow -March 5, 2020

Speaker Biographies

Kathy Boyer - EOS Center, San Francisco State University

Dr. Katharyn Boyer is a coastal ecologist specializing in science-informed restoration of nearshore habitats including tidal marshes, seagrass beds, and oyster reefs. A biology professor at San Francisco State University's Estuary & Ocean Science Center for sixteen years, Dr. Boyer teaches undergraduate and graduate students to apply basic ecological understanding and scientific methodology to conservation and management problems. She develops and tests restoration techniques for climate change adaptation and resilience, including "green infrastructure" enhancements to reduce shoreline erosion, provide refuge for wildlife during flooding, build carbon stores, and locally mitigate acidifying waters. Growing up on Maryland farmland near the Chesapeake Bay sparked her life-long fascination with the connections between human society and the sea.

Andrew Chang - Smithsonian Environmental Research center/EOS center, San Francisco State University

Andy Chang is a Marine Ecologist who studies the population biology and community ecology of marine invertebrates along the Pacific coast, focusing on biological invasions of bays and estuaries by non-native species. Under the bicoastal umbrella of the Smithsonian Environmental Research Center's Marine Invasions Lab, Andy leads the lab's Pacific coast research program, which has been based in San Francisco Bay at the EOS Center since 2000. This program examines a broad swath of human impacts on coastal ecosystems, including invasions, native oyster restoration, climate change impacts, and the consequences of changes to freshwater flow. Andy received his PhD from University of California Davis and completed postdoctoral positions with the San Francisco Bay National Estuarine Research Reserve, UC Davis - Bodega Marine Lab, and SERC.

Marisol Garcia-Reyes - Farallon Institute

Dr. Marisol García-Reyes has a background in physics, atmospheric sciences and oceanography from UC Davis. She has studied coastal upwelling and temperatures, how they change with climate and how these changes impact the marine ecosystems for over 10 years. Marisol is a principal scientist at the Farallon Institute, where she specializes in biophysical relationships, relating ocean and climate changes to changes in biology. For this, she works with several data types and sources and she develops indices that synthesize such data to track coastal conditions, marine heatwaves, and other marine events. Dr. García-Reyes also serves on the Scientific and Statistical Committee for the Pacific Fisheries Management Council. Her research interests include future changes in the California and other eastern boundary currents conditions, climate impacts on the Northeastern Pacific and in particular the California coast, synchronicity between land and ocean extreme events, impacts of climate extreme events on the marine ecosystem, in particular those that impact coastal communities.

Denise Greig - California Academy of Sciences

Denise Greig is a Research Associate at California Academy of Sciences (CAS) and part-time contractor with NOAA's Marine Mammal Health and Stranding Response Program. Her MSc from Moss Landing Marine Laboratories and PhD from the University of St Andrews both focused on harbor seals in central California (pregnancy rates in adults and contaminant levels and health assessment in juveniles). Prior to CAS, she worked at The Marine Mammal Center evaluating causes of death in stranded marine mammals and working to understand the population level impacts of some of those causes (for example, leptospirosis in sea lions). At CAS, she is focused on evaluating long term stranding trends, and using specimens collected from stranded animals to understand the effects of changing ocean conditions on marine mammal health.

Ellen Hines - EOS Center/San Francisco State University

Dr. Ellen Hines, the Associate Director of the Estuary & Ocean Science Center, is a Professor in Geography at San Francisco State University. Her research addresses population and community ecology of threatened and endangered species in local conservation efforts and regional scale coastal and marine management science. Her emphasis is on the evolution of consistent standards of field methods and monitoring techniques, and the creation of educational materials to be applied to community-based conservation planning. Dr. Hines has extensive experience in GIS and remote sensing for marine and coastal spatial planning. She has conducted marine mammal research in Thailand, Vietnam, Cambodia, Myanmar and Belize since 1999. Dr. Hines has been researching dugongs and coastal dolphins and porpoises along the eastern Gulf of Thailand since 2003. She is committed to collaborating with developing country scientists to solve conservation problems threatening marine mammals. Here in California, Dr. Hines works closely with the National Marine Sanctuaries outside and within San Francisco Bay to model habitat and human uses for marine mammals and seabirds. With her students, she works to create risk assessments for anthropogenic threats such as shipping collisions, marine megafauna bycatch and the effects of sea level rise on pinnipeds, sea otters, and birds in coastal estuaries.

Brent Hughes - Sonoma State University

Brent Hughes is an Assistant Professor in the Biology Department at Sonoma State University and an Adjunct Faculty member in the Biology Department at San Francisco State University. His research focuses on studying the processes that affect the stability of coastal ecosystems. Research in Dr. Hughes' lab centers around coastal habitats – seagrass, salt marsh, and kelp (aka foundation species) – which provide valuable ecosystem services, yet are threatened by human activities. Currently research in the Hughes lab focuses on four themes: 1) the consequences of predator recovery on the functioning and stability of ecosystems, 2) the relative influence of climatic drivers and anthropogenic threats of coastal ecosystems, 3) the role of foundation species in structuring nearshore diversity and functioning and in turn the drivers maintaining foundation species stability, and 4) informing management and restoration on the processes that drive ecosystem resilience.

Michelle Jungbluth - EOS Center, San Francisco State University

Michelle Jungbluth has a M.S. and Ph.D. in Oceanography from the University of Hawaii at Manoa where she studied the food-web ecology and response of coastal zooplankton to natural environmental disturbances. She was awarded a Delta Science Postdoctoral Fellowship to work with Dr. Wim Kimmerer at the Estuary and Ocean Science Center from 2017-2019 where she is now an Adjunct Assistant Professor of Biology. Dr. Jungbluth has spent over 80 days doing research at sea and over 80 more performing research on small vessels coastally. She has nine peer-reviewed publications, an extensive record of presentations at scientific conferences and public venues, and has been invited to speak about her work to both scientific and agency audiences. Dr. Jungbluth's main fields of interest include the application of molecular methods for studies of aquatic food web ecology, larval organismal biology, and biodiversity. Her current projects utilize next-generation DNA sequencing to reveal the stories of intense biological warfare occurring at the base of aquatic food webs between predators and their prey, and their relationship to biological diversity and introduced species in the San Francisco Estuary. Michelle's future interests include using environmental DNA to monitor species utilization of restoration sites and for the detection of species of interest.

Micheal Lee - California State University East Bay

Michael Lee is an educator and consultant specializing in natural resources and sustainable development. He has over 30 years of experience in the assessment, management and protection of natural resources with an emphasis on water resources, watersheds, and food systems. He has worked in both urban and rural areas as a researcher, teacher and consultant in Central America, Africa, Europe and the United States. Since 1996, he has taught at Cal State East Bay and was the Visiting Scientist at the Moss Landing Marine Laboratories (MLML) in 2016-17 where he focused on researching and planning a potential Center for Aquaculture, aquaculture curriculum and aquaculture research agenda for the CSU. He has been Chair of the MLML Board of Governors since 2016 and is also currently the Chair of the Cal State East Bay Academic Senate. He has consulted in California on the sourcing of sustainable seafood and his current research interests are on the application of life cycle assessment to the evaluation of seafood and aquaculture systems and in support of the concept of Ocean Saving Farms.

Leticia Márquez-Magaña - San Francisco State University

Leticia Márquez-Magaña, PhD is Director of both the SF BUILD project and the Health Equity Research Laboratory at San Francisco State University. She is the first-born daughter of Mexican immigrants and began her education in the U.S. as a monolingual Spanish speaker. Professor Márquez-Magaña attended Stanford University as the first member of her extended U.S. family to complete high school. She earned a co-terminal BS/MS degree in Biological Sciences, and went on to earn a PhD in Biochemistry at UC Berkeley. She joined the faculty at SF State in 1994 targeting her professional efforts to "giving back" through scholarship, student training, and service in science. Professor Márquez-Magaña's research interests lie in disentangling the biological, psychosocial, and historical causes of educational and health disparities in the US. Currently, she is part of a transdisciplinary team studying the embodiment of racism stress, and tools for coping with this chronic stress to improve well being.

Karina Nielsen - EOS Center/San Francisco State University

Karina Nielsen is Director of the Estuary & Ocean Science Center and a Professor of Biology at San Francisco State University. She is an interdisciplinary marine ecologist who studies how the functioning, diversity and resilience of coastal ecosystems intersects with climate change, human culture and policy. She has extensive experience doing research on the ecological communities of rocky shores, sandy beaches and estuaries, with a focus on marine invertebrates and macrophytes. Her current research focuses on coastal acidification, habitat restoration and climate adaptation in estuaries. Before joining San Francisco State University in 2014, she was a Professor of Biology at Sonoma State University for 11 years. Karina studied filmmaking and photography at Hampshire College, and then worked as chef in New York City, before enrolling at Brooklyn College where she earned her BS in Biology. She holds a PhD in Zoology from Oregon State University. She was a National Science Foundation International Postdoctoral Fellow in Chile at Universidad Católica's Estación Costera de Investigaciones Marinas and a postdoctoral fellow with the Partnership for Interdisciplinary Studies of Coastal Oceans. Karina was an active participant as a science advisor for California's Marine Life Protection Act Initiative. She is a fellow of the California Academy of Sciences, and currently serves as president of the Western Association of Marine Laboratories, a Science Advisory Team member for the Ocean Protection Council, as chair of the executive committee for the CSU Council on Ocean Affairs, Science and Technology (COAST) and on the Management Advisory Board for the San Francisco Bay National Estuarine Research Reserve.

Patty Oikawa - California State University East Bay

I am a biogeochemist with expertise in greenhouse gas measurements. I joined the Earth and Environmental Sciences Department at CSU East Bay in September 2016. I am a Bay Area native and studied as a postdoctoral scholar at UC Berkeley for 3 years before coming to CSU East Bay. My research focuses on how ecosystems interact with the atmosphere. I am currently studying how wetland restoration in the Bay Area can be used to mitigate climate change. I am also involved in improving continental-scale methane budgets from tidal wetlands.

Ellen Plane - San Francisco Estuary Institute

Ellen Plane is an Environmental Analyst at the San Francisco Estuary Institute (SFEI). Ellen earned her BA in Biological Sciences from Dartmouth College and holds a Master of City Planning and Master of Landscape Architecture in Environmental Planning degrees from the University of California at Berkeley. During her graduate studies, Ellen modeled shallow coastal groundwater in the San Francisco Bay Area and explored ways to finance coastal adaptation using the land-use mechanism of transfer of development rights. Prior to SFEI, Ellen worked in Natural Resource Damage Assessment and Restoration at a Boston-area environmental consulting firm and on park planning and climate vulnerability assessment at Golden Gate National Recreation Area. At SFEI, she is a member of the Resilient Landscapes program. Her research focuses on the impacts of sea-level rise on shallow coastal groundwater, tidal wetland restoration, and sea-level-rise adaptation planning.

Aritree Samanta - San Francisco State University

Dr. Aritree Samanta is an Assistant Professor in the Environmental Studies Program at San Francisco State University. Prior to teaching at San Francisco State, she held the position of a Postdoctoral Research Associate at the Department of Forestry and Natural Resources at Purdue University in Indiana. She holds a Ph.D. in Urban and Public Affairs from Cleveland State University, OH and earned her Masters and Bachelors degrees in Social Work and Economics respectively, from University of Delhi, India. As an interdisciplinary scholar, Dr. Samanta works in the areas of governance and collaboration in regional watershed systems, urban adaptation to climate change, and community resilience. During her postdoctoral work, Dr. Samanta conducted research on the social dimensions of watershed management focusing on the intersections between climate change, water quality, and land use management in the U.S. Midwest. Dr. Samanta's research has appeared in various environmental and public administration journals including *Society and Natural Resources*, *Journal of Environmental Planning and Management*, *Journal of Environmental Studies and Sciences*, and *Administrative Theory and Praxis*. Her professional work in India included projects in the areas of urban sustainability and climate change adaptation in low-income communities. In the United States, she has held fellowship and research positions with the Alliance for the Great Lakes in Chicago, IL and the Northeast Midwest Institute in Washington D.C.

Stuart Siegel - EOS Center, San Francisco State University

Dr. Stuart Siegel is the Coastal Resilience Specialist at the San Francisco Bay National Estuarine Research Reserve and a Research Professor in the Department of Earth and Climate Sciences at San Francisco State University. He is located at the University's Estuary & Ocean Science Center in Tiburon. He has 35 years' experience working in wetlands restoration in San Francisco Bay. He has focused for years on climate change adaptation, and lead the design teams of many of the region's innovative and early "nature-based" adaptation projects, including Aramburu Island, Sears Point, Sonoma Creek, and the Corte Madera Ecological Reserve. Over his career he has been actively engaged in regional planning and policy efforts and "management relevant science" around ecosystem restoration and climate change adaptation in the San Francisco Bay and Delta and he has worked on ecological recovery in California's coastal lagoon systems. Dr. Siegel holds a Masters and PhD in Geography, a BA in Environmental Science, and a BS in Chemistry, all from UC Berkeley. As a career-long interdisciplinary environmental scientist, Dr. Siegel is particularly interested in the technical, sociological and economic aspects of bringing nature-based climate change adaptation projects to fruition. Advancing our collective efforts at climate change adaptation draws upon a diverse array of expertise and requires collaboration and interdisciplinary synthesis. One research line of interest involves extracting lessons learned from our past efforts, both effective and not so effective, and applying these lessons going forward. We have a 40+ year history of wetland restoration in the San Francisco Estuary but the last systematic assessment of restoration efficacy was nearly 20 years ago. Another research line of interest involves designing and field testing new adaptation approaches. Each adaptation effort can and should embody as many experiments as possible. The third research line of interest is exploring the sociological aspects of bringing communities together to where they can support implementation of adaptation efforts. Across all these lines of interest is my overarching interdisciplinary synthesis focus, sometimes also called Transdisciplinary Science or Convergence Science.

William Sydeman - Farallon Institute

William Sydeman, PhD, careers extends over four decades of applied research on climate variability and change and effects on marine ecosystems. He has supervised many studies examining climate change, oceanography, and effects across trophic levels from plankton to forage fish to top predators including work on predatory fish, seabirds, and marine mammals. He has published over 200 papers in the primary literature, including numerous efforts looking at climate change and upwelling dynamics in the California and Benguela current ecosystems, and others describing dramatic and abrupt ecosystem changes in response to climate variability. In 2014, Sydeman was commissioned by the State of California/Ocean Science Trust to prepare a report entitled "Potential effects of Climate Change on California's Fish and Fisheries." Sydeman was also a coauthor on Chapter 30 "Oceans," published as part of the Intergovernmental Panel for Climate Change (IPCC) Assessment Report 5 (AR5). Currently, he serves on the Scientific Advisory Team (SAT) for the State of California/Ocean Science Trust.

Nicole Thometz - University of San Francisco

Dr. Nicole Thometz is an Assistant Professor of Biology at the University of San Francisco. She earned her BS in Biology from the University of Portland and her PhD in Ecology and Evolutionary Biology from the University of California Santa Cruz. Dr. Thometz is a broadly trained physiological ecologist who specializes in marine mammal physiology, ecology, and behavior. She has spent her career studying the ontogeny of energy demands, diving capacities, and behavior of southern sea otters; and was the first to quantify the extreme cost of reproduction in this species. Given the importance of adult female survival in species recovery, one of her main areas of research concerns the physiological implications of reproduction. Further, Dr. Thometz is interested in better understanding factors limiting northern range expansion of this threatened keystone species. In addition to her work with sea otters, Dr. Thometz has an ongoing research collaboration examining the physiological requirements and diving capacities of ice-dependent Arctic seals. This research program aims to better understand the sensitivity and/or resilience of Arctic seals to ongoing sea ice loss and environmental change.

Frances Wilkerson - EOS Center, San Francisco State University

Frances Wilkerson is a Biological Oceanographer studying nutrient and phytoplankton interactions in ocean and estuaries. She obtained her BA in Natural Sciences at the University of Cambridge, England and her PhD at University of Bristol, England and then was funded by a NATO Fellowship for postdoctoral work at UCLA and UCSB, She has been a Senior Research Scientist at The EOS Center, SF State since 1996 and became a Fellow of the California Academy of Sciences in 2004. Her research concerns nitrogen cycling and phytoplankton that fuel pelagic food webs in coastal upwelling areas and anthropogenically impacted estuaries such as San Francisco Bay and Drakes Estero.

Chela Zabin - Smithsonian Environmental Research center/EOS Center, San Francisco State University

Chela Zabin is an expert in marine invasive species and in native Olympia oyster restoration, based at the Estuary and Ocean Science center Tiburon, CA. She has worked for the Smithsonian Environmental Research Center for 15 years. Based in the San Francisco Bay region, she has also worked extensively in Elkhorn Slough, Tomales Bay, and with collaborators along the West Coast, Hawaii, Guam, and Micronesia. She received her PhD in Zoology from the University of Hawaii and holds a bachelor's degree from UC

Santa Cruz. She is a passionate advocate for the involvement of community scientists in data collection and problem-solving for environmental issues. Her current research focuses on the restoration ecology of native oysters, approaches for considering ecological interactions with native and non-native species in restoration design, and on living shorelines and living seawalls as potential habitats for rocky shore species in the face of sea level rise.