NATIONAL ACADEMIES *Sciences Engineering Medicine*

Polar Research Board
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Exploring Impacts of Rapid Ice Margin Change on Biodiversity in the Coastal Polar Regions

Speaker Biographies

Jacqueline Grebmeier is a Professor at the University of Maryland Center for Environmental Sciences (UMCES), Chesapeake Biological Laboratory (CBL) in the USA. She holds a B.A. in Zoology (1977), a M.S. degree in Biology (1979), M.S. degree in Marine Affairs (1983), and a Ph.D. in Biological Oceanography (1987). Following a postdoctoral position at the University of Southern California, she then spent 20 years at the University of Tennessee (1989-2008) before joining CBL in 2008. Her oceanographic research interests include pelagic-benthic coupling, benthic carbon cycling, and benthic faunal population structure in relation to ecosystem structure in polar marine systems. She has participated in more than 65 oceanographic cruises, primarily in the Arctic, acting as Chief Scientist on many of them. She has lead multiple interdisciplinary Arctic programs and is currently the lead scientist for the Distributed Biological Observatory (DBO) in the Arctic, which has been supported since 2010 by multiple agencies in the US and international collaborators in the Pacific Arctic Group. She was appointed by President Clinton to the US Arctic Research Commission from 2000-2003 and served as the US delegate and one of four Vice-Presidents to the International Arctic Science Committee (IASC) from 2006-2014. She has received multiple awards, including the Alaska Ocean Leadership Award from the Alaska SeaLife Center in 2015, the IASC Medal in 2015, the UMCES President's Award for Excellence in Application of Science in 2017, and she was elected a fellow of the American Association for the Advancement of Science in 2018.

James B. McClintock is the Endowed University Professor of Polar Marine Biology in the department of biology at the University of Alabama at Birmingham. His research focuses on aspects of marine invertebrate nutrition, reproduction, and primarily, Antarctic marine chemical ecology, and has grown to include studies of the impacts of rapid climate change and ocean acidification on Antarctic marine algae and invertebrates. His expertise on the ecological impacts of climate change and ocean acidification on marine life of the Antarctic Peninsula has garnered numerous invited lectures and published pieces. He completed his BS at the University of California at Santa Cruz, and his MS and PhD at the University of South Florida.

Oscar M.E. Schofield, is a distinguished professor and the chair of the Department of Marine and Coastal Sciences at Rutgers, The State University of New Jersey. He is interested in how plankton dynamics structure marine food webs and feedback on the ocean's biogeochemistry. His research focus has combined genetics and biochemistry with the development of new ocean observing technologies (satellites, radars, and autonomous underwater vehicles). He is co-director and co-founder of the Coastal Ocean Observation Laboratory, which has been awarded and managed numerous competitive awards from NOAA, Office of Naval Research, Department of Homeland Security, NASA and the National Science Foundation. Dr. Schofield's research efforts have focused on polar and temperate waters with extensive efforts in the Southern Ocean, with ongoing research along the West Antarctic Peninsula and the Ross and Amundsen Seas. He completed his BA and PhD in Biology at the University of California, Santa Barbara.

Deborah Steinberg is the CSX Professor of Marine Science, and the Chair of the Department of Biological Sciences at the Virginia Institute of Marine Science, William & Mary. Her research interests are in zooplankton ecology and physiology, coastal and deep-sea food webs, and carbon and nutrient cycling. Much of her research program focuses on how zooplankton influence cycling of nutrients and organic matter, and how climate affects long-term change in zooplankton communities. She also uses long-term data sets from the Western Antarctic Peninsula and the Sargasso Sea off Bermuda to study the effects of climate change on zooplankton communities, and how these community changes may affect ocean food webs and biogeochemistry. She completed her BA at the University of California, Santa Barbara and PhD at the University of California, Santa Cruz.

Maria Kavanaugh is a seascape ecologist and Assistant Professor in the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University. She works at the intersection of marine biodiversity and global change-- focusing primarily on the role of plankton in marine carbon cycles and ecosystems. She utilizes in situ experiments, bio-optical instrumentation, remote sensing and marine ecosystem models to understand patterns and mechanisms of coastal and open ocean system responses to changing ocean circulation, temperature, and chemistry. She also works with managers to develop mechanistic biodiversity-based indicators to address issues of sustainable fisheries management and climate adaptation. Her dynamic classification of ocean habitats, or seascapes, are used by the US Marine Biodiversity Observation Network as an objective means to integrate across observation platforms, scale local in-situ observations, and compare taxonomic and habitat diversity across dynamic coastal and ocean environments.

Dr. Kristin Laidre is a Principal Scientist at the Polar Science Center, Applied Physics Laboratory, University of Washington working on problems of applied animal ecology in the Arctic. She is a Professor at the School of Aquatic and Fishery Sciences and is partially supported by the Greenland Institute of Natural Resources in Nuuk, Greenland. Kristin's research is focused on broad questions about Arctic marine mammals. Her research is field-based, largely empirical, and focuses on using quantitative data on individual movements, foraging behavior, and life history to unite behavioral, population, and evolutionary ecology. She is particularly interested in linking individual performance to an animal's selection for habitat resources and predicting how these relationships will be impacted by climate change. Her interests include wildlife conservation and management, scaling questions in ecology, and the application of Geographic Information Systems to spatial data. She is a member of the IUCN Species Survival Commission Cetacean Specialist Group and the co-chair of the IUCN Polar Bear Specialist Group (2021-2024 quadrennium). She has participated in over 40 field expeditions in Greenland and authored or co-authored over 150 peer-reviewed scientific articles and 3 books on high-latitude marine mammals.