Delta Independent Science Board – Member Bios

Elizabeth Canuel – Chair

Professor, Department of Physical Sciences, School of Marine Science, The College of William & Mary, Gloucester Point, VA

Dr. Canuel's major research interests include the biogeochemistry and cycling of organic carbon in aquatic and sedimentary systems, with emphasis on applications of lipid biomarkers, stable isotopes, studies of sediment diagenesis, and influence of humans on the carbon cycle in coastal ecosystems. Currently, she works as a Professor, Department of Physical Sciences, Virginia Institute of Marine Science, College of William & Mary (W&M), Gloucester Point, VA. Prior to joining the faculty of the College of W&M, she was a NRC postdoctoral fellow at United States Geological Survey, Menlo Park. (1992-1994). A member of the American Society of Limnology and Oceanography (ASLO), Estuarine Research Federation (ERF), Geochemical Society, and European Association of Organic Geochemists (EAOG), she has authored 50-plus peer-reviewed publications and co-authored the book, "Chemical Biomarkers in Aquatic Ecosystems." Dr. Canuel received her B.S. (1981), Stonehill College; Ph.D. (1992), University of North Carolina at Chapel Hill.

Jay Lund – Chair Elect

Director, Center for Watershed Sciences, and Ray B. Krone Professor of Environmental Engineering, University of California, Davis, California

Dr. Lund’s research and teaching interests focus on applying systems analysis and economic methods to infrastructure and environmental problems, including policy, planning, and management studies. His work is primarily in water resources and environmental system engineering, but with substantial past work in solid and hazardous waste management, dredging and coastal zone management, and urban, regional, and transportation planning. He received his Ph.D. in Civil Engineering from the University of Washington. Dr. Lund has been honored with numerous awards: Julian Hinds Award, American Society of Civil Engineers/Environment and Water Resources Institute, Hugo B. Fischer Award, California Water and Environmental Modeling Forum, ASCE/EWRI Planning and Management Council Service to the Profession Award, and the Boggess Award for best paper in the Journal of the American Water Resources Association.

Stephen Brandt – Past Chair

Professor, Department of Fisheries and Wildlife, Oregon State University, Corvallis, OR

Dr. Brandt specializes in fish ecology and management of marine and freshwater ecosystems. He has produced over 100 scientific publications, given 250 scientific presentations, and led over 80 research cruises studying food webs, fish bioenergetics, underwater acoustics, coastal hypoxia, and physical/biological interactions in a wide variety of ecosystems including the Great Lakes, Chesapeake Bay, the Northern Gulf of Mexico, the Adriatic Sea, and the open oceans. As part of the Federal Senior Executive Service, he directed the NOAA Great Lakes Environmental Research Laboratory for 12 years and earned the President's Rank Award. He created and led the NOAA Center of Excellence for Great Lakes and Human Health. Previously, he has held tenured faculty positions in Maryland at the Chesapeake Biological Laboratory and in New York (Buffalo, Syracuse) and spent 5 years in Australia working on deep-sea biology. More recently, Dr. Brandt directed the Oregon Sea Grant Program and served as a member of the Oregon's Ocean Policy Advisory Council (OPAC) where he chaired the Scientific and Technical Advisory Committee. He received his M.S. and Ph.D. in Oceanography and Limnology from the University of Wisconsin, Madison.

Tracy Collier

Science Director for the Puget Sound Partnership, Retired

Dr. Collier worked for more than 30 years at NOAA's Northwest Fisheries Science Center, ending as the Director of the Environmental Conservation Division, where his research portfolio included environmental toxicology and chemistry, assessing oil spill impacts, harmful algal blooms, seafood safety, and watershed processes. Following his 'retirement' from that position, he served as the science advisor for NOAA's Oceans and Human Health Initiative from 2010-2014, and also was a technical advisor to NOAA and other natural resource trustees charged with assessing injuries to marine mammals and sea turtles after the Deepwater Horizon oil spill, from 2010-2016. He accepted a role from 2012-2014 as the Science Director for the Puget Sound Partnership, a Washington State agency charged with protecting and recovering Puget Sound, protecting the ecosystem services that it provides, and with using science to inform management and policy. Tracy has been on the Delta Independent Science Board since 2010, and served as chair from 2013 to 2015.

Dr. Collier has been consulting with Vietnam on regional planning in the Mekong River Delta, specifically to protect both wild capture and cultured fisheries, and he also consults with First Nations in British Columbia on environmental and human health risks associated with proposed pipeline projects. Dr. Collier received his Ph.D. from the University of Washington in 1988, has over 160 scientific publications, and he plans to retire again someday.

Harindra Joseph Shermal Fernando

Professor of Engineering, University of Notre Dame, Notre Dame, Indiana

Dr. Fernando is currently the Wayne and Diana Murdy Endowed Professor of Engineering and Geosciences at University of Notre Dame, USA. Earlier he was affiliated with the Department of Mechanical & Aerospace Engineering at Arizona State University (ASU), starting as an Assistant Professor ('84), and serving as an Associate Professor ('88), Professor ('92) and the founding Director of the Arizona Board of Regents Center for Environmental Fluid Dynamics ('94), a position he held until 2009 while holding a co-appointment with the School of Sustainability. In January 2010, he joined University of Notre Dame with primary affiliation in the Department of Civil and Environmental Engineering & Earth Sciences and a joint appointment in Aerospace & Mechanical Engineering. He received his education at the University of Sri Lanka, (B.S. in Mechanical Engineering, 79), the Johns Hopkins University (M.A., 82 and Ph.D., 83) and Caltech (Post-doctoral, 83-4).

Among awards and honors he received are the UNESCO Gold Medal of the Year for the Best Engineering Student (1979), Presidential Young Investigator Award (1986), ASU Alumni Distinguished Research Award (1997), Rieger Foundation Distinguish Scholar Award in Environmental Sciences (2001), William Mong Lectureship from the University of Hong Kong (2004) and Life Time Achievement Award from the Sri Lanka Foundation of the USA (2007). He is a Fellow of the American Society of Mechanical Engineers, American Physical Society, American Meteorological Society and the American Association for the Advancement of Science. He was elected to the European Academy in 2009 and received docteur honoris causa from University of Grenoble, France, in 2014. He serves on the editorial boards of the journals Theoretical and Computational Fluid Dynamics, IAHR Journal of Hydro-Environment, Physics of Fluids and EGS Journal of Non-Linear Processes in Geophysics. He is the Editor-in-Chief of the Journal of Environmental Fluid Dynamics.

He has published more than 250 papers spanning some 50 international archival Journals, covering basic fluid dynamics, experimental methods, oceanography, atmospheric sciences, environmental sciences and engineering, air pollution, alternative energy sources, acoustics, heat transfer and hydraulics, and fluids engineering.

Thomas L. Holzer

Scientist Emeritus, United States Geological Survey

Dr. Holzer is an engineering geologist. His areas of expertise are in earthquake-induced liquefaction, including evaluating hazards and risks of liquefaction, and land subsidence caused by groundwater withdrawal. Dr. Holzer served at the United States Geological Survey from 1975 to 2016 (he is now an emeritus scientist), and held an appointment as a consulting professor at Stanford University from 1994 to 2016. Dr. Holzer has worked on many notable research projects, such as studying global earthquake fatalities, hazard mapping for liquefaction in the San Francisco Bay Area and other regions, investigating ground failure caused by groundwater withdrawal, and evaluating impacts of the 1989 Loma Prieta earthquake. He has published more than 100 peer-reviewed publications. In addition, Dr. Holzer has served on many advisory panels, including chairing the National Academy of Sciences/National Research Council Panel on Land Subsidence from 1985 to 1991 and the committee that developed the 2003 plan for coordinating post-earthquake investigations by Federal agencies. He received his Ph.D. in Geology and M.S. in Hydrology from Stanford University, and his B.S.E. in Geological Engineering from Princeton University

Richard Norgaard

Professor Emeritus, Energy and Resources Group, University of California, Berkeley

A pioneer in the field of ecological economics, Dr. Norgaard's recent research addresses how complex environmental problems challenge disciplinary scientific understanding and the policy process. He serves on the Fifth Assessment of the Intergovernmental Panel on Climate Change and as a member of UNEP's International Panel on Sustainable Resource Management. He was a member of the Environmental Economics Advisory Committee of the Science Advisory Board of the United States Environmental Protection Agency. He has served on the Board of the American Institute of Biological Sciences and as President of the International Society for Ecological Economics.

Dr. Norgaard was a member of the CALFED Independent Science Board, and before that the Water Management Science Board. He earned his doctorate in economics from the University of Chicago. Currently, he works as a Professor, Energy and Resources Group, University of California, Berkeley.

Vince Resh

Professor of Entomology, Department of Environmental Science, Policy, and Management, University of California, Berkeley

Since 1975, Dr. Vincent Resh has worked at the University of California, Berkeley, as a professor and is currently in the Department of Environmental Science, Policy and Management. His research experience includes over 300 published research studies in wetlands, streams, and large rivers on topics ranging from riverine ecology and habitat restoration to design of monitoring programs. In addition, he has served as a long-term consultant on advisory boards of international, intergovernmental agencies. Recently he has led scientific advisory committees on complex and controversial issues, and has been an advisor on monitoring programs throughout Africa, Asia, and, to a lesser extent, South America. Dr. Resh has been honored recently with a Doctor Honoris Causa from the University of Lyon, France in 2009 as well as the 2005 "Award of Excellence" from the North American Benthological Society, and the 2005 "Award of Recognition for Outstanding Contributions to Entomology" from the Entomological Society of America, Pacific Branch.

John Wiens

Emeritus University Distinguished Professor, Colorado State University

Dr. John Wiens is a leader in the field of landscape ecology. An Emeritus University Distinguished Professor at Colorado State University, Winthrop Research Professor at the University of Western Australia, and former Chief Scientist at PRBO Conservation Science (Point Reyes Bird Observatory), he grew up in Oklahoma as an avid birdwatcher. This led to degrees from the University of Oklahoma and the University of Wisconsin-Madison (M.S., Ph.D.). He served on the faculties of Oregon State University, the University of New Mexico, and Colorado State University, where he was a Professor of Ecology. In 2001 he left academia to join The Nature Conservancy as Lead/Chief Scientist, working to integrate scientific research into conservation practice. His research, which has emphasized landscape ecology and the ecology of birds, has led to over 200 scientific papers and seven books.

Joy Zedler

Aldo Leopold Professor Emerita, University of Wisconsin-Madison

Dr. Zedler is the Aldo Leopold Professor Emerita at the University of Wisconsin-Madison. Her research concerns wetlands and the conservation and restoration of biodiversity and ecosystem services. She has taught courses in Adaptive Restoration, helps edit the journals, Restoration Ecology (Society for Restoration Ecology) and Ecosystem Health and Sustainability (Ecological Society of America and Ecological Society of China), and advises agencies on wetlands and restoration. She has collaborated with 80 graduate students and 12 postdocs, leading to 250+ publications. Her new eBook for young investigators and the public describes how her Pacific Estuarine Research Lab uncovered salt marsh secrets while she was a Biology professor at San Diego State University. She is a Fellow of the Society of Wetland Scientists and a Fellow of the Ecological Society of America.