

OCEAN EXPLORATION RESEARCH 2019 SCIENCE REVIEW PANEL

OCT. 16-18, 2019

UNIVERSITY OF RHODE ISLAND
GRADUATE SCHOOL OF OCEANOGRAPHY

Dr. Edward J. Kearns, Panel Chair
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Dr. Edward J. Kearns is the Chief Data Officer for the US Department of Commerce, leading implementation of the Federal Data Strategy and the Foundations of Evidence Based Policy-making Act, among other initiatives. As NOAA's first Chief Data Officer, Dr. Edward J. Kearns led the development of strategies and practices for managing NOAA's data as a national asset. Ed is seeking to promote new uses and wider understanding of federal data through new partnerships and technologies, such as the NOAA Big Data Project. As part of the White House's Leveraging Data as a Strategic Asset initiative, he has also led the Commercialization, Innovation, and Public Use working group towards the development of the new Federal Data Strategy. Prior to his position as NOAA's Chief Data Officer, Ed led the Climate Data Record program and NOAA's data archive; guided coastal ecosystem restoration projects for the National Park Service and evaluated environmental "big data" to inform Everglades restoration; and vicariously calibrated ocean products from NASA's satellites and developed regional integrated ocean observing and data management systems as a professor at the University of Miami. Ed holds degrees in Physical Oceanography from the University of Rhode Island (Ph.D. 1996) as well as Physics and Marine Science from the University of Miami (B.S. 1990).

Review Theme--Ocean Exploration: Mapping, and Characterization

Diva J. Amon, PH.D.

Natural History Museum, London

Research Fellow, Life Science Department

Department of the Life Sciences

Natural History Museum, London



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Diva Amon is a deep-sea biologist who studies deep-sea megafaunal communities and human impacts on the deep ocean, especially related to deep-sea mining. As a result of this work, Diva was recently awarded the International Seabed Authority Secretary-General's Award for Excellence in Deep-Sea Research. Diva is also interested in increasing the capacity of low to middle income countries to explore their deep oceans, as well as bridging the gap between science and policy. She is currently undertaking a Marie Skłodowska-Curie research fellowship at the Natural History Museum in London, UK. In 2013, she completed her PhD at the University of Southampton, UK, after which, she spent three years at the University of Hawai'i, USA, researching the largely unknown abyssal fauna of the Clarion-Clipperton Zone. Throughout her career, Diva has participated in deep-sea expeditions around the world, including as Biology Lead aboard the NOAA Ship Okeanos Explorer. She has done a considerable amount of science communication and public engagement. Diva is also a Co-Lead of the Deep-Ocean Stewardship Initiative's Minerals Working Group, a member of the Species Survival Commission's Marine Conservation Committee of the IUCN, and a co-founder of the non-profit NGO, SpeSeas, dedicated to marine science, education and advocacy in Trinidad and Tobago and the wider Caribbean.

John R. Kreider
Kreider Consulting, LLC
President
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Mr. Kreider has more than 40 years of experience as an ocean engineer and leader developing and operating unique ocean systems and performing projects in unforgiving environments for commercial and government customers. Through 2017, Mr. Kreider was Senior Vice-President of Oceaneering Advanced Technologies (ADTECH) and an Executive Officer of Oceaneering International, Inc., a \$2 billion publicly-traded company on the NYSE. In this position, he led an organization of 1500 employees and had broad P&L responsibility for all non-oilfield business, including manned and unmanned projects in space, undersea, and on land. Prior to Oceaneering, Mr. Kreider was Vice-President at Eastport International (1987–1992), Vice-President at Arctec Incorporated (1982–1987), and manager at Shell Oil/Shell Development Company (1975 – 1982). Mr. Kreider earned a BS in Chemical Engineering from Lehigh University and MS and Engineer’s Degrees in Ocean Engineering from the Massachusetts Institute of Technology and Woods Hole Oceanographic Institution. Mr. Kreider has been a member of the NOAA Ocean Exploration Advisory Board since 2014 and Chair since 2017, and he also serves as Sea Space Symposium Chairman of the Board.

Review Theme: Science and Technology

Jyotika I. Virmani, Ph.D.
XPRIZE
Executive Director, Planet & Environment and Prize Operations

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Dr. Jyotika Virmani holds a Ph.D. in Physical Oceanography from the University of South Florida, a Masters in Atmospheric Science from SUNY at Stony Brook, and a B.Sc. in Physics from Imperial College London. She is an Associate of the Royal College of Science, a Fellow of the Royal Meteorological Society, and a Fellow of The Explorers Club. She joined XPRIZE in 2014 as the Technical Director for the [Wendy Schmidt Ocean Health XPRIZE](#) and in 2015 she became the Executive Director for the [Shell Ocean Discovery XPRIZE](#), to incentivize deep-sea technology to map the sea floor rapidly, accurately, and at a higher resolution. Before joining XPRIZE, Dr. Virmani was the Associate Director of the Florida Institute of Oceanography and as a Senior Scientist at the UK Met Office. She also serves on the Schmidt Marine Technology Partners Advisory Board, American Geophysical Union Centennial Steering

Committee, National Ocean Exploration Forum Advisory Council, Catch the Next Wave Planning Committee, and the U.S. Integrated Ocean Observing System Federal Advisory Committee.

Dr. Allan Adams
Massachusetts Institute of Technology

Research Scientist, CMS/W
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Allan Adams is a physicist and PI of the Future Ocean Lab at MIT. Adams earned degrees in physics from Harvard, Berkeley, and Stanford, and spent three years in the Harvard Society of Fellows, before joining the faculty of the MIT Dept of Physics in 2008. Along the way, Adams developed a passion for ocean conservation and photography; his documentary work and art have been exhibited at the New England Aquarium, the Wildlife Conservation Society, the Boston Museum of Science, Charles Hayden Planetarium, The Franklin Institute, and beyond. In 2015, Adams joined MIT's Creative Art Council. In 2016, after many years happily exploring the physics of black holes and string theory, Adams officially switched his research focus to engineering and communication for ocean conservation. In January of 2017, Adams opened the Future Ocean Lab, devoted to developing low-cost, low-power sensors and imaging technologies for marine research, and to using those technologies to document the world's changing oceans. Adams is also a dedicated educator and public speaker — his introductory lectures on quantum mechanics from MIT have been viewed nearly two million times, and his TED talks have been viewed more than that 3 million times. His 2016 TED talk about the LIGO discovery of Gravitational Waves was chosen as one of the top 10 TED Talks of 2016.



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Theme: Engagement

Ambassador Cameron R. Hume Business Consultant

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Cameron R. Hume was U.S. Ambassador to Indonesia from 2007 to 2010. He retired from the Foreign Service with a rank of Career Minister. His earlier assignments included Italy, Tunisia, Syria, Lebanon, the United Nations, and the Holy See. More recently, he served as Ambassador to Algeria and to South Africa, and as Charge d’Affaires to Sudan. While Ambassador to Indonesia, he focused on oceans, climate changes, and education as elements of “soft power” diplomacy. He has published three books and numerous articles on foreign policy, and has been a fellow or guest scholar at the Council on Foreign Relations, Harvard University’s Center for International Affairs, and the United States Institute for Peace. He is a lawyer and admitted to practice in New York and the District of Columbia. His foreign languages include Arabic, French, and Italian. Ambassador Hume led the effort to bring the NOAA ship Okeanos Explorer to Indonesia for the Indonesia-U.S. ocean exploration partnership expedition—the first ever such joint expedition in Indonesia. He considers the U.S. Indonesia ocean exploration partnership and the Okeanos Explorer visit to Indonesia as a defining event of his tenure there.

Since leaving the Foreign Service, Ambassador Hume has served as a consultant to various interests based in Indonesia. He brokered a settlement between Greenpeace and Sinar Mas, one of the world’s largest palm oil producers, that committed the company to less disruptive forestry practices. He also served as a panelist on the Decadal Independent Review of the NOAA ocean exploration program. Ambassador Hume will serve an initial five-year term.

John Weiss Human Design

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John Weiss has spent his twenty year career fully immersed in design, spanning multiple agencies and disciplines, with a singular focus on how to create compelling and rich experiences that are rooted in elegant design, innovative

technology, and create lasting relationships and shape the future. His work is guided by purpose, passion, simplicity, beauty, innovation and surprise.

After the acquisition of his own design agency in 2008, John went on to build and lead high performing design teams as Director, Experience Design at the world's second largest privately held PR firm (WE-Communications) and the nation's largest independently owned digital agency (SMITH), and as Executive Creative Director at WebMD Health Services. John left his stint at Crispin Porter + Bogusky in 2013 to co-found Human Design, a full service design agency working with clients that include the United Nations, Discovery, Twitter, Nike, Vulcan Inc, Adidas and several start-ups spanning multiple verticals.

John's an active investor, advisor, university guest lecturer, and speaker at conferences and events.

Theme: Data and Information

Vicki Ferrini, Ph.D.
Research Scientist
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Dr. Vicki Ferrini is a Research Scientist at Columbia University's Lamont-Doherty Earth Observatory (LDEO) and an Affiliate Associate Professor at the Center for Coastal and Ocean Mapping at the University of New Hampshire. She holds a Master's Degree in Marine Environmental Science and a Ph.D. in Coastal Oceanography, both from Stony Brook University. She

currently serves as the Chair of GEBCO's Sub-Committee on Regional Undersea Mapping and is the Head of the Seabed 2030 Regional Data Center for the Atlantic and Indian Oceans.



Dr. Ferrini's research focuses on using mapping techniques to understand the processes that shape the seafloor in a variety of environments. Over the past 20+ years she has participated in more than 20 expeditions mapping shallow water and deep-sea environments using ships, boats, submersibles and towed platforms. For nearly 15 years she has worked on multiple projects focused on ensuring that high-quality marine geoscience research data are made available to the science community and to the public.

Charles E. Powell

Ph.D. Student

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Charles Powell is a graduate of Stanford University, Brown University, and Bard College at Simon's Rock. Currently, he is a full-time doctoral student investigating earth science applications for NASA's CYGNSS mission at the University of Michigan. Previously, Charles advised senior NOAA leadership regarding its end-to-end data and information infrastructure from observation to product delivery. First entering government as a Presidential Management Fellow in NOAA's Satellite and Information Service, Charles has also served in NOAA's Office of Legislative and Intergovernmental as the agency's primary liaison to Congress for space and satellite matters, as well as the Office of the Assistant Secretary for Environmental Observation and Prediction, where he assisted NOAA's Senate-confirmed leadership in day-to-day operations and strategic direction of nearly \$3.4 billion in annual spending. At NOAA, Charles supported a number of high-visibility initiatives, including the launch campaigns of GOES-R, JPSS-1, GOES-S, and COSMIC-2; the 2016 Presidential Transition activities; and the formulation and initialization of key NOAA priorities in cloud computing and next-generation satellite observing architectures. In 2019, Charles was the recipient of the NOAA Silver Sherman award for his distinguished service to acting NOAA Administrator Neil Jacobs.