

MARITIME COMMUNITY TSUNAMI WORKSHOP



Dr. Christa G. Von Hillebrandt-Andrade
Manager, Caribbean Tsunami Warning Program
National Weather Service
National Oceanic & Atmospheric Administration

Internationally renowned expert in seismology and tsunamis, Christa G. von Hillebrandt-Andrade was selected in 2010 to manage the National Weather Service's newly-established Caribbean Tsunami Warning Program situated in Mayaguez, Puerto Rico. The Caribbean Tsunami Warning Program is the first step of a phased approach for the establishment of a Caribbean Tsunami Warning Center. With this appointment, Dr. Von Hillebrandt-Andrade has set improving research, education, warning and forecasting capabilities as her priorities.

The Caribbean Tsunami Warning Program currently provides support and guidance for tsunami observations, including seismic and sea level systems, tsunami forecasting, communications and education and preparedness. It works closely with the [Pacific Tsunami Warning Center](#) and the [West Coast and Alaska Tsunami Warning Center](#) which are currently providing tsunami warning and guidance to the Caribbean.

During her tenure at the Seismic Network (1990-2010) and as a member of the University of Puerto Rico's Geology Department, Dr. Von Hillebrandt-Andrade provided key leadership in the modernization, restructuring, staffing and funding of the seismic network to provide earthquake and tsunami monitoring, warning and education services. Her experience in Puerto Rico, the Caribbean and South America has afforded her a unique familiarity with a variety of natural hazards such as volcanoes, earthquakes and tsunamis. Dr. Von Hillebrandt-Andrade was also named as the president of the Seismological Society of America (SSA) in 2011, becoming the first NOAA/NWS official elected to the prestigious post in the organization's 100-plus year history. Her leadership provided the society with an opportunity to strengthen its interaction and involvement with Latin American seismologists.

Since 2005, Dr. Von Hillebrandt-Andrade has also been a member of the United States delegations to the UNESCO meetings on tsunamis and the oceans. She currently serves as Chair of the UNESCO Intergovernmental Coordination Group on Tsunamis and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions — which encompasses nearly 30 nations in the Caribbean and Americas.

The author and co-author of more than 50 journal papers and abstracts on earthquakes and tsunamis, Dr. Von Hillebrandt-Andrade has also served on the Puerto Rico Earthquake Safety Commission and the Puerto Rico Tsunami Technical Review Committee. She is a member of the Seismological Society of America, the Earthquake Engineering Research Institute, the American Geophysical Union and Geological Society of Puerto Rico.

Upon graduation as a geologist of the University of Delaware, von Hillebrandt-Andrade went to Quito, Ecuador as a Fulbright Scholar (1984-1986) and received a master's degree in Geology from the Escuela Politécnica Nacional. She played an important role in monitoring the active volcanoes of this Andean county and co-authored its first volcanic hazard maps as a Research Engineer with the Nacional's Geophysical Institute (1987-1990).

GUEST SPEAKERS

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Dr. Patrick Lynett

Associate Professor of Civil Engineering
University of Southern California

Dr. Patrick Lynett, a New York native, attended Cornell University from 1993-2002, where he received three degrees from the School of Civil and Environmental Engineering. Immediately after completing his Ph.D. thesis, he started the position of Assistant Professor of Civil Engineering at Texas A&M University.

His research interests are directed towards a better understanding of coastal processes, such as near-shore circulations, wave evolution from generation to the shoreline, multi-scale hydrodynamic interactions, and sediment transport. Investigations combine numerical modeling with both controlled experiments and field observations. Short time-scale coastal hazards, such as hurricanes and tsunamis, are of particular interest.

Dr. Lynett was a member of the 2005 International Tsunami Survey Team to Sri Lanka, the 2005 Hurricane Katrina Coastal Impacts Survey Team sponsored by the American Society of Civil Engineers (ASCE), the post-tsunami survey team in American Samoa in 2009, and numerous surveys throughout the Pacific after the 2011 Japan tsunami.

Dr. Lynett has been the recipient of research grants from the National Science Foundation (NSF), the U.S. Army Corps of Engineers, the United States Geological Survey, the Nuclear Regulatory Commission, the NOAA Sea Grant Program, the Office of Naval Research, various California state agencies, and private industry. Since 2003, he has been a Primary Investigator (P.I.) or co-P.I. on research and equipment grants totaling \$8.6 million, including three large, collaborative National Science Foundation research grants of over \$1 million each, two of which he was the lead P.I.. Notable awards include the Department of the Army Commander's Award for Public Service given for Dr. Lynett's post-Katrina work, a prestigious Guggenheim Fellowship in 2010, and the ASCE Walter L. Huber Civil Engineering Research Prize in 2013.



Roy A. Watlington

Retired Professor of Physics, Oceanographer
University of the Virgin Islands

A native St. Thomian, Roy Watlington retired from the University of the Virgin Islands after 27 years serving as tenured professor of physics, researcher and occasional administrator. As chief scientist of UVI's Anegada Climate Tracers Study, he organized 13 deep water expeditions to study indicators of climate change in ocean water. His published refereed scientific papers include one on Kick-em-Jenny submarine volcano, and he is co-author of *Disaster and Disruption in 1867; Hurricane, Earthquake and Tsunami in the Danish West Indies*.

In 1997 he convened a meeting in St. John of global tsunami experts who would begin advancement of tsunami hazard awareness in the Caribbean and support the development of formal international organizations that now lead intergovernmental tsunami preparedness efforts in the region. He serves as an elected member to the Stakeholders' Council of the Caribbean Ocean Observing System and as consultant for oceanographic research and development.

GUEST SPEAKERS



Aurelio Mercado-Irizarry

Professor of Physical Oceanography, Department of Marine Sciences
Coastal Hazard Center Director & Coastal Hazard Specialist,
Sea Grant Program

University of Puerto Rico-Mayaguez

Mr. Mercado holds two degrees in physics from the University of Puerto Rico and conducted Ph.D. studies in physical oceanography at MIT and the University of Miami. He was selected in September 2010 to be a quality control expert on tsunami and coastal hazards for the R3I project that involves the British Virgin Islands and the Dutch islands, under the auspices of UNDP and the European Union.

He currently serves as a Professor of Physical Oceanography at Department of Marine Sciences, University of Puerto Rico (UPR), and as the Coastal Hazards Specialist and Director of the Coastal Hazards Center under UPR's Sea Grant College Program.

Mr. Mercado previously served professor, associate professor and assistant professor in UPR's Department of Marine Sciences. He has also served as an auxiliary instructor in physics, at UPR, as a research assistant at the Department of Meteorology, Massachusetts Institute of Technology (MIT), and a graduate assistant in the Department of Physical Oceanography at the Rosenstiel School of Marine and Atmospheric Sciences, University of Miami.

He has served on the International Tsunami Commission of the International Union of Geophysics and Geodesy and the Mapping and Modelling Sub-Committee of the USA National Tsunami Hazard Mitigation Program. Mr. Mercado has also served as chairperson of the Working Group 2, Hazard Assessment and Modelling, Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions. Mr. Mercado is also a member of the American Geophysical Union; The Oceanography Society; The Tsunami Society; American Shore and Beach Preservation Association; Sigma Xi Scientific Research Society.

His funded academic research experience includes serving as the principle investigator in the determination of the tsunami hazard for western Puerto Rico from local sources and for updating the coastal topography and bathymetry for Puerto Rico and its adjacent Islands (Vieques, Culebra, and Mona). His research also included potential tsunami hazard on the north coast of Puerto Rico due to submarine slides along the Puerto Rico Trench, an estimate of the tsunami hazard in the Greater Antilles from local, earthquake-related tsunami sources. Sea Grant College Program, UPR.