UNESCO / IOC
INTERNATIONAL TSUNAMI INFORMATION CENTER (ITIC)

ITIC TRAINING PROGRAMME HAWAII (ITP-HAWAII)
TSUNAMI EARLY WARNING SYSTEMS
AND THE PACIFIC TSUNAMI WARNING CENTER (PTWC) ENHANCED PRODUCTS,
TSUNAMI EVACUATION PLANNING AND UNESCO IOC TSUNAMI READY PROGRAMME

ITP-HAWAII 2023 – SPEAKER AND RESOURCE PERSON BIOGRAPHIES

INTERNATIONAL TSUNAMI INFORMATION CENTRE

DR. LAURA S. L. KONG

Director, UNESCO/IOC – NOAA International Tsunami Information Center (ITIC)
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Dr. Kong has been the Director of the ITIC since 2001. As Director, she oversees a Centre that supports the Intergovernmental Oceanographic Commission in its efforts to deploy tsunami warning and mitigation systems globally, and that works directly with the 46-nation Intergovernmental Co-ordination Group for the Pacific Tsunami Warning and Mitigation System to strengthen national tsunami warnings and preparedness. In this capacity, the ITIC works closely with the USA Pacific and National Tsunami Warning Centers, Japan Meteorological Agency NWPTAC and other Tsunami Service Providers, and national tsunami warnings centres. The ITIC has been primary provider of information and expertise for technology transfer, awareness, training and capacity building in tsunami warning and mitigation for the IOC. Since the 2004 Indian Ocean tsunami, Dr. Kong has been actively involved as part of the IOC's coordination and development of systems in the Indian Ocean, the Caribbean and adjacent regions, and Mediterranean Seas and the north Atlantic Ocean. ITIC is the primary developer of IOC trainings conducted globally on tsunami warning and emergency response standard operating procedures (IOC MG 76) and tsunami evacuation planning (TEMPP, IOC MG 82). Currently, ITIC-CAR and ITIC lead efforts to implement the UNESCO/IOC Tsunami Ready Recognition Programme in the Caribbean and Pacific, and Dr. Kong is the inaugural Chair of the IOC Special Coalition on Tsunami Ready. Dr. Kong also supports the efforts of the ITU/WMO/UNESCO IOC Joint Task Force on SMART Subsea Cables as a co-Chair of its Science and Society Committee. Within the United Sates, serves as the Hawaii State Tsunami Advisor, and supports the US National Tsunami Hazard Mitigation Program. She is the former Chair of the Hawaii State Earthquake Advisory Committee. Previously, she was with the Pacific Tsunami Warning Center, the University of Hawaii's Hawaii Institute of Geophysics, the U.S. Geological Survey's Hawaiian Volcano Observatory, and the University of Tokyo's Earthquake Research Institute. She is a graduate of Brown University and received PhD from the Massachusetts Institute of Technology and Woods Hole Oceanographic Institution in 1990.

DESIREE BAYOUTH GARCÍA

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Desireé Bayouth García is a contractor at the International Tsunami Information Center Caribbean Office (ITIC-CAR) (formerly known as the Caribbean Tsunami Warning Program)

in Mayagüez, Puerto Rico. Her work at ITIC-CAR primarily supports the implementation of the UNESCO/IOC Tsunami Ready Programme in Barbados, Dominica, and Saint Lucia. In 2022, she supported as facilitator the Sub-Regional Tsunami Evacuation Mapping Training Workshop held in Barbados. Desireé obtained her BS in Geology from the University of Puerto Rico Mayagüez Campus in 2019 and is currently a Graduate Research Assistant in the Department of Geology at the same institution. She has had internship experiences with the United States Department of Agriculture, Geological Survey at the Geologic Hazards Science Center and Cascades Volcano Observatory, and Department of Commerce at ITIC-CAR. From these, she has obtained experience in the use of GIS, field work at rainfall and earthquake triggered ground failure sites, landslide, volcano monitoring stations, and tsunami inundation assessment and evacuation mapping. Desiree's research interests include applications of remote sensing to geologic hazards and her current academic work focuses on landslide source area and volume scaling in Puerto Rico.

MARIE C. EBLÉ
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Marie Eblé earned a Master of Science in Physical Oceanography from Texas A&M University in 1984. After completing her degree, she worked two years with the consulting firm of Northern Technical Services, Inc. where she conducted oceanographic and hydraulic field and numerical modeling studies. She joined the National Oceanic and Atmospheric Administration in 1986 as research oceanographer to develop processing and analysis software for interpretation of bottom pressure recorder and sea level time series data in support of a newly established tsunami research effort. In the mid-1990's, Ms. Eblé engaged with Pacific Marine Environmental Laboratory (PMEL) engineers to develop and test a Deep-ocean Assessment and Reporting of Tsunami (DART) measurement capability. In 1999, she served as DART Project Manager to ensure that engineering design efforts met research needs, to oversee web display and distribution of bottom pressure data from PMEL servers, and, beginning in 2002, to coordinate transition of DART array operations and maintenance to NOAA's operational National Data Buoy Center. In 2008 until retirement, Ms. Eblé served as Deputy Director of the NOAA Center for Tsunami Research. Her responsibilities included liaison between NOAA Center for Tsunami Research and all partner agencies, representing NOAA on the National Tsunami Hazard Mitigation Program Mapping & Modeling Sub-committee, and engaging in scientific research, presenting scientific findings at national and international scientific venues. Currently, Ms Eblé continues work with a USGS Powell Center sponsored Tsunami Sources project as co-principal investigator and now serves on the NOAA Tsunami Science Technical Advisory Panel.

TAMMY FUKUJI
Information Technology Specialist
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Tammy Fukuji was born and raised in Honolulu, Hawaii. She graduated from the University of Hawaii at Manoa with a Bachelor of Science in Information and Computer Sciences. Tammy first started working for the National Weather Service Pacific Region Headquarters in 2002 as a Student Intern. In 2005, she became the Information Technology Specialist for the International Tsunami Information Center (ITIC). She plays a key role in distributing, updating and assisting

with the Tsunami Warning Decision Support Tools (TWTools), which includes TideTool, TTT, CISN, and TsuCAT software. She is also the ITIC System Administrator and Webmaster.

CAROLINA HINCAPIÉ-CÁRDENAS
Oceanographer
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Carolina Hincapié-Cárdenas was born and raised in Colombia, she graduated from the University Jorge Tadeo Lozano as a Marine Biologist. In 2003 she moved to Puerto Rico and received her master's degree in Marine Sciences from the University of Puerto Rico, Mayagüez Campus. Worked at the Puerto Rico Seismic Network (PRSN) for ten years in different areas: Research Assistant for projects as "Installation of Six Tsunami Ready Tide Gauges in Puerto Rico, FEMA-USA", "Modeling of Tsunami Behavior - Tsunami Guideline Plan for Operators of Caribbean Ports, NSF-USA", Data Analysis Assistant to support the technical operations, detecting and processing seismic and sea-level data for the PRSN's Area of Responsibility: Puerto Rico, US and British Virgin Islands. Her latest position at PRSN was as Coordinator of the NWS TsunamiReady® Program in Puerto Rico, advising PR Emergency Managers and non-government organizations with their tsunami maps (inundation/evacuation), emergency response plans, evacuation routes and signage, outreach, development of educational materials, etc. Between 2011 and 2015, Carolina participated as Invited Expert for the IOC/ICG/CARIBE EWS Preparedness, Readiness and Resilience Working Group. From 2015 to 2017, she worked as a USA NOAA/NWS contractor to support the International Tsunami Information Center-Caribbean Office and several projects throughout the Caribbean Region. Currently she is based in Honolulu, HI-USA filling the position as Oceanographer at the ITIC since July, 2021.

ETHAN HUI
NWS Pathways Summer Student Intern, Information Technology
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Ethan Hui was born and raised in Honolulu, Hawaii. He is currently a third-year student at the University of California, Los Angeles, studying Computer Science and Engineering. He joined the International Tsunami Information Center (ITIC) as a Summer 2023 Pathways Intern. He has been creating a program which automates reading and collecting tsunami warning center messages about earthquakes and recording the details of each event on the ITIC Event List.

INDIAN OCEAN TSUNAMI INFORMATION CENTRE

ARDITO M. KODIJAT
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Ardito M. Kodijat joined UNESCO in 2006 and currently posted as the National Professional Officer for Disaster Risk Reduction and Tsunami Information unit (DRRTIU) in UNESCO Jakarta Office coordinating, managing, and implementing programmes of the Indian Ocean Tsunami Information Centre (IOTIC) of the Intergovernmental Oceanographic Commission of UNESCO

(UNESCO/IOC). IOTIC has been supporting the Intergovernmental Coordination Group for Indian Ocean Tsunami Warning and Mitigation System of IOC-UNESCO (ICG/IOTWMS) on tsunami risk reduction for Indian Ocean at-risk communities through capacity building in tsunami hazard, awareness, preparedness, education, and mitigation measures. Mr. Kodijat has been actively involved in programs and activities on UNESCO/IOC Tsunami Ready; Tsunami Warning and Emergency Response SOP; Tsunami Risk Reduction Policy; Tsunami Exercises; and Tsunami Evacuation Maps, Plans, and Procedures. Under the UNESCO Science Sector, Mr. Kodijat is coordinating the disaster risk reduction program of UNESCO office Jakarta covering Brunei Darussalam, Indonesia, Malaysia, the Philippines and Timor-Leste focusing on advocating the Youth and Young Professionals in Science, Engineering, Technology, and Innovation for Disaster Risk Reduction and strengthening Disaster Risk Reduction and Management in UNESCO Designated Sites. Prior joining for UNESCO he was the head of Training Centre for the Agency for Assessment and Application of Technology of Indonesia and the Deputy Assistant for International Research Cooperation of the Ministry for Research and Technology of Indonesia.

PACIFIC TSUNAMI WARNING CENTER

DR. CHARLES MCCREERY
Director, NOAA Pacific Tsunami Warning Center (PTWC)
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Charles McCreery was born and raised in Kansas City, Missouri, but moved to Honolulu when he was 17 to attend the University of Hawaii. As a freshman, he took a job as a student assistant at the Hawaii Institute of Geophysics where he had his first introduction to tsunamis. They were a topic of much research because the state had been struck five times by destructive tsunamis over just the past 22 years. Several of the geophysics graduate students were members of the “Suicide Squad” for measuring tsunamis. They had Civil Defense passes and were supposed to rush to the beach if there was a tsunami warning, erect a measuring staff, and observe the height of the waves while a partner waited nearby in a car in case a quick escape was necessary. Over the next twenty years, he continued to work at the Institute on a variety of research topics and completed a Ph.D. in Geophysics in 1992. He got involved with tsunamis again as part of a project to investigate whether underwater sound from earthquakes could be used to detect tsunamigenesis. Based on limited data, the results were only suggestive. This topic has resurfaced later as a potential way to detect undersea landslide tsunami sources. In 1993, he left the University and joined the Pacific Tsunami Warning Center where he learned about the challenges of operations in contrast to research. In 1995, he moved to the International Tsunami Information Center as its Director in support of the international cooperation that is essential to the warning system. Then in 1997, he returned to the Pacific Tsunami Warning Center as its Director. On December 26, 2004, the Indian Ocean tsunami disaster demonstrated the terrible effects this hazard can render, especially when communities are not prepared. Then on September 29, 2009 the most destructive tsunami to strike the U.S. since the 1964 hit American Samoa as well as Samoa and Tonga. In 2010 and in 2011, major Pacific-wide tsunamis struck again in the Pacific coming from Chile and then Japan re-emphasizing the overall need to stay prepared and to operate ocean-wide warning systems. Since 2004, his efforts and those of the Center have been focused on improving the tsunami warning system for the U.S. as well as the rest of the world.

DR. STUART A. WEINSTEIN
Deputy Director, NOAA Pacific Tsunami Warning Center (PTWC)
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Stuart Weinstein is the Deputy Director of the Pacific Tsunami Warning Center (PTWC) on Ford Island, Hawaii, USA. He has held this position since 2005, and has been with the PTWC since 1998. He oversees the day-to-day operations of the warning center and conducts tsunami training with the International Tsunami Information Center based in Hawaii. Stuart was born and raised in New York. He received his B.S. in Geophysics and Geology from Binghamton University (New York) in 1983 and an M.S. in Geological Sciences from Northwestern University (Illinois) in 1986. Stuart received his Ph.D. in 1991 from the Johns Hopkins University (Maryland) for his dissertation on thermal convection in planetary mantles. He continued in this area of research with a National Science Foundation Postdoctoral Fellow in Earth Sciences grant at the University of Michigan (Ann Arbor) in 1991 and at the University of Hawaii as the SOEST Young Investigator in 1993. Stuart moved back to NY in 1996 where he worked for Bloomberg L.P. in New York City writing software to analyze Mortgage Backed Securities. Deciding he missed the year-round pleasant climate of Hawaii, Stuart moved back to Hawaii in 1998 (by this time he was well experienced in moving trans-continental distances) and has lived and worked in Hawaii ever since.

DR. NATHAN BECKER
Senior Physical Scientist, NOAA Pacific Tsunami Warning Center (PTWC)
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Dr. Nathan Becker is a Senior Physical Scientist (shift lead) at the NWS's Pacific Tsunami Warning Center (PTWC). Along with his colleagues he monitors the world 24/7 for the phenomena that generate tsunamis and generates forecasts and alerts for tsunamis in the Pacific Ocean and the Caribbean Sea when they occur. Between tsunamis he carries out applied research towards improving the tsunami warning system, such as using geospatial analysis to predict tsunami warning system performance gains from the deployment of SMART cables. He also applies his skills in data visualization towards designing displays and products for PTWC's operations as well as for education and outreach work towards improving tsunami hazard awareness. In particular, he creates animations of earthquakes and tsunamis for PTWC's YouTube channel and NOAA's Science on a Sphere exhibits. In addition to his scientific work Nathan also represents bargaining-unit employees in NWS's Pacific Region as their NWSEO Region Chair, having previously served as the Region's Vice Chair and PTWC's Steward. He also serves as the NWSEO representative on national-level teams that impact the NWS's tsunami program.

Before joining PTWC Nathan pursued his graduate studies in Geology and Geophysics at the University of Hawai'i at Mānoa, earning a Ph.D. in these subjects in 2005. His research focused on volcanic and tectonic processes associated with the Juan de Fuca Ridge, the Mariana Trench, and Kama'ehuakanaloa (Lō'ihi) Seamount, work that required him to become adept with sea-floor mapping sonars and deep-sea submersibles. In the aftermath of the devastating 2004 Indian Ocean tsunami the United States expanded its tsunami warning program, including hiring additional personnel. Dr. Becker joined PTWC in 2006 and has been there ever since.

Outside of work Nathan enjoys photography, especially landscape, nature, and astrophotography, and the travel that goes along with it.

DR. STANLEY GOOSBY
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Dr. Goosby is a Duty Scientist at the Pacific Tsunami Warning Center (PTWC) where he has worked for 5years. Prior to working at PTWC, he held a similar position at the National Tsunami Warning Center in Alaska for 2 years. As a Duty Scientist, Dr Goosby detects and monitors tsunamis when they occur, predicts their arrival times and identifies the affected coastal areas, and provides the appropriate alerts to management agencies and the public. Additionally, Dr. Goosby was the Chief Scientist for the Pacific Disaster Center for 10 years, where he conducted studies and developed applications for assessing the impacts disasters on populations and infrastructures. Originally from California, Dr. Goosby has lived in Hawaii for over 25 years. His areas of interest are artificial intelligence, machine learning, community outreach, and how to make our communities and planet more resilient to the impacts of disasters, including climate change. He enjoys learning about and experimenting with new technologies that can potentially improve our ability to communicate and interact with each other. He also enjoyed running, watching sunsets, and taking long walks on the beach.

KANOA KOYANAGI
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DR. ANDREI NATAROV
Oceanographer, NOAA Pacific Tsunami Warning Center (PTWC)
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Andrei Natarov is an oceanographer at the NOAA/NWS Pacific Tsunami Warning Center. He received his MS in in Physics and Applied Mathematics from Moscow Institute of Physics and Technology in 1996 and a PhD in Physical Oceanography and Scientific Computing from University of Michigan in 2001. After spending a few years conducting Office of Naval Research (ONR) funded post-doctoral research on internal waves at the University of Hawaii, Andrei joined the International Pacific Research Center (IPRC) – an international climate research center that is focused on Asia-Pacific region, where he carried out research in equatorial oceanography, hydrodynamic instability theory, waves, oceanic mixing, and a multitude of other topics. He participated in a large number of oceanographic research cruises, such as, for example DYNAMO/CINDY program at in the Indian Ocean in 2011, and a series of MIXET (MIXing in the Equatorial Thermocline) cruises funded by the National Science Foundation (NSF). Dr. Natarov joined the PTWC in January of 2021, where he now performs the functions of a duty scientist, conducts applied research, presents results of the research conducted at the PTWC at scientific conferences, and serves as the PTWC's Steward.

DR. DAVID WALSH
Senior Oceanographer, NOAA Pacific Tsunami Warning Center (PTWC)
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David Walsh received a BA in Physics in 1984 from Earlham College in Richmond, Indiana, and a PhD in Oceanography in 1992 from the MIT/Woods Hole Oceanographic Institution Joint Program in Oceanography. After earning his PhD he took a post-doctoral position in the Oceanography Department at Dalhousie University in Halifax, Nova Scotia. His thesis work focused on the dynamics of oceanic mesoscale eddies, while his post-doctoral work dealt with

turbulence and double-diffusive mixing processes in the ocean. Following his post-doctoral appointment and prior to coming to PTWC in 2006, David worked at NASA/GSFC (Goddard Space Flight Center) in Greenbelt, Maryland, then as an Associate Research Professor at the International Arctic Research Center (IARC) and University of Alaska Fairbanks (UAF), and as a Research Oceanographer at the Naval Research Laboratory (NRL).

DR. DAILIN WANG
Senior Oceanographer, NOAA Pacific Tsunami Warning Center (PTWC)
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Dailin Wang received a B.S. degree in Mechanics in 1982 and a M.S. degree in fluid dynamics in 1985 from Peking University, Beijing, China. Upon receiving a Ph.D. degree in oceanography from the University of Hawaii in 1993, he received a postdoctoral research fellowship from the Advanced Study Program at the National Center for Atmospheric Research in Boulder, Colorado, USA. He joined the International Pacific Research Center at University of Hawaii in 1998 as a researcher. His areas of research included theories and modeling of ocean circulation and oceanic turbulence. In 2006, he joined the Pacific Tsunami Warning Center as a senior oceanographer. Beside his watch standing duty, he is responsible for tide prediction at PTWC and is a developer of the PTWC real-time tsunami forecast model RIFT.

DR. JONATHAN WEISS
Geophysicist, NOAA Pacific Tsunami Warning Center (PTWC)
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Jonathan is a Geophysicist at the NOAA/NWS/Pacific Tsunami Warning Center (PTWC) with broad interests in active tectonics, geodynamics, crustal deformation, and geohazards. His recent research has focused on using Global Navigation Satellite System (GNSS) and Interferometric Synthetic Aperture Radar (InSAR) data to achieve a synoptic view of the mechanisms that drive Earth-surface deformation, particularly related to the earthquake cycle. Jonathan received a BS in Geology from the College of William and Mary in Williamsburg, Virginia in 2000 and an MS and PhD in Geology and Geophysics from the University of Hawai‘i at Mānoa (UH) in 2004 and 2016, respectively. He studied the rapidly extending and seismically active Gulf of Corinth (Greece) for his MS and investigated Central Andean mountain building for his PhD. Between graduate degrees he spent many days at sea in the U.S. Pacific Islands as a Seafloor Mapping Specialist with the UH-JIMAR-NOAA Coral Reef Ecosystem Division. Afterwards, Jonathan moved to Leeds (UK) where he led a study that used InSAR and GNSS data to measure surface deformation and tectonic strain across Anatolia. Jonathan then relocated to Potsdam (Germany) where he continued to investigate the Andes before he returned to Hawai‘i with his family in mid-2021 to become a PTWC Duty Scientist. In addition to working with colleagues to monitor global earthquakes and tsunamis, Jonathan conducts applied research aimed at improving tsunami warning. He is currently collaborating with academic and government partners to develop a system that uses the optimal real-time combination of broadband acceleration and displacement waveforms from collocated seismic and GNSS stations to create seismogeodetic displacement and velocity time series. These data do not drift or clip and will provide rapid and accurate constraints on earthquake source parameters when dealing with large, complex, and local tsunamigenic events. Jonathan lives on the North Shore of Oahu and when not on duty at PTWC he enjoys spending time in the ocean with his family and eating local fruit and vegetables.

STATE OF HAWAIʻI, HAWAIʻI EMERGENCY MANAGEMENT AGENCY

JAMES BARROS
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Colonel (Retired) James DS. Barros assumed the post of Administrator for the Hawaii Emergency Management Agency (HI-EMA) on February 1, 2023. Barros returned to State service from Booz Allen Hamilton, where he worked as its Senior Exercise Planner with the 25th Infantry Division. Prior to that, he was an emergency management staff officer with the City and County of Honolulu Department of Emergency Management. Barros recently retired from the Hawaiʻi Army National Guard (HIARNG) after a 32-year career, with 22 years in active service. Barros was the Chief of the Joint Staff for the Hawaiʻi National Guard's COVID-19 Joint Task Force. From 2017-2019, Barros served as the Hawaii National Guard Director for Joint Domestic Operations (DOMOPS). While the HING DOMOPS, Barros supported State operations in support of the emergency responses to Kauaʻi flooding, Hawaiʻi island lava eruption, wildfires on Maui, and preparation for and response to Hurricanes Lane, Norman, and Olivia. During his tenure in the HING Joint Staff, Barros expanded international engagements with HING state partners Philippines and Indonesia. He established the Combined Task Force (CTF) 501 which included Urban-Search and Rescue teams from the HING, Philippines and Indonesia. CTF 501 conducted joint confined-space training and high-angle rescues during summer rotations in Hawaiʻi. In 2019, Barros worked with the cities of Makati and Pasig in developing and executing the Community Disaster Resilience Exchange (CDRE) in the Philippines.

ADAM WEINTRAUB
Communication Director, Hawaiʻi Emergency Management Agency
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Adam Weintraub was appointed Communication Director for HI-EMA in October 2021. He oversees the three-person External Affairs team, which is responsible for media relations, social media, intergovernmental affairs, public education and outreach, legislative affairs, and other public-facing aspects of HI-EMA's activities. He has 9 years of professional experience in governmental communications in the areas of public health, social services and emergency management. Before that, he spent more than 30 years as a journalist, reporting and editing for daily and weekly newspapers, magazines and wire services.

JILL MATSUMOTO
Information Specialist, Hawaiʻi Emergency Management Agency
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Jill Matsumoto joined HI-EMA in 2022. Her background includes public information for the Hawaiʻi Department of Commerce and Community Affairs, operations at the Hawaiʻi State Legislature, and the long-term care industry. Her projects at HI-EMA include designing the agency's external and internal newsletters, organizing logistic support for an expanded public outreach effort, and supporting production of a 15-part video series on household disaster preparedness. Her next project will be leading the stakeholder outreach campaign for the Great Hawaiʻi ShakeOut, part of the international seismic hazard educational campaign.

MATTHEW WALL
Operations Branch Chief, Hawai'i Emergency Management Agency
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Matthew Wall joined HI-EMA in 2021 and leads the Operations Branch. After a full career as a firefighter, he pursued further education and shifted to new challenges in the fields of community economic development and emergency management. In his current role, his responsibilities include overseeing the State Warning Point – HI-EMA's round-the-clock listening post and coordinating cell – as well as the State Emergency Operations Center, which coordinates statewide response activities during an emergency activation. Agency-wide training and exercises are also operations responsibility, and Matthew and his team are deep in the planning phases for Hawai'i's participation in the Federal Emergency Management Agency's National Level Exercise in summer 2024.

RYAN HIRAE
Assistant Telecom Officer, Hawai'i Emergency Management Agency
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Ryan Hirae is a key part of the HI-EMA Logistics team, with expertise in the All-Hazard Outdoor Warning Siren System and other alert and warning systems that are vital to the agency's mission. The siren network of more than 400 locations is the largest single outdoor siren system in the world, and Ryan's role includes aspects from site selection and permitting all the way through to operational technology and long-term maintenance. He also works with federal government, telecom and broadcast partners to ensure the integrated function of wireless and broadcast alert and warning systems.

STATE OF HAWAI'I, CITY & COUNTY OF HONOLULU
HONOLULU DEPARTMENT OF EMERGENCY MANAGEMENT

HIROKAZU TOIYA
Administrator, Department of Emergency Management
City and County of Honolulu, E-mail: htoiya@honolulu.gov

Hirokazu Toiya is the Director of the City and County of Honolulu Department of Emergency Management. Toiya is responsible for coordinating emergency preparedness, response, and recovery activities with all City departments as well as with state, federal, and non-governmental organizations. Prior to 2019, he served as the Deputy Director of DEM. Toiya is an experienced emergency manager having lived and worked through numerous real world incidents and events to include tsunamis, tropical cyclones, flooding, structural and wild fires, and high profile planned events. Toiya played a key role in the City's COVID-19 response, coordinating between City administration and departments as well as with State Emergency Operations Center, Department of Health, and other external partners.

Toiya began his service in emergency management as a public health graduate student and an evacuee from Hurricane Katrina, starting as a volunteer on the day after the storm's impact. Upon receiving a Master of Public Health degree from Tulane University, Toiya joined the Hawaii State Department of Health in 2008 as a public health emergency planner with a focus on bioterrorism and pandemic preparedness. Seeking to broaden his scope of work and responsibilities, Toiya joined DEM in August 2011 as the Training and Exercise officer and was promoted to deputy director in July 2017.

Born in Yokohama Japan, Toiya is a graduate of the Georgia Institute of Technology with a bachelor's degree in Industrial and Systems Engineering and has worked as an emergency medical technician in Atlanta's 911 system at Grady EMS.

JENNIFER WALTER
Deputy Director, Department of Emergency Management
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Jennifer Walter is the Deputy Director of the City and County of Honolulu's Department of Emergency Management (DEM). This position supports the Director in leading the jurisdiction's comprehensive emergency management program on behalf of the Mayor, which includes preparedness, mitigation, protection, response and recovery activities across all natural, technological and human caused hazards. Ms. Walter's primary areas of focus are on program components related to plans, operations, training, exercises and community readiness.

Ms. Walter joined the City in August of 2019, bringing over 20 years of experience in emergency management within the governmental, private and non-profit sectors. Prior to joining DEM, she served as the Preparedness Branch Chief at the Hawaii Emergency Management Agency, managing the state's planning efforts, as well as statewide programs for training, exercise, hazard mitigation and private sector and voluntary agency engagement. She also served as the Deputy State Coordinating Officer during the series of major disasters that impacted Hawaii in 2018, including the eruption of Kilauea Volcano, Hurricane Lane and historic flooding. Prior to working for the state she was the Emergency Response Manager at Hawaiian Airlines. Her early career was spent with the American Red Cross, first at their headquarters in Washington DC and then at the Hawaii State Chapter as the Response and Preparedness Manager, where she oversaw the day to day operations of the disaster services program, which included the training and development of the 600 member volunteer workforce and the response to approximately 90 disasters a year.
Ms. Walter is a native of Washington, DC. She received a bachelor's degree from the University of Virginia in International Relations.

RENISE L. HAILI BAYNE
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Renise L. Haili Bayne is the Plans and Operations Staff Officer at the City and County of Honolulu Department of Emergency Management. Her primary duties include emergency management planning, response efforts, and engagement with government, private sector, and non-profit agencies. Ms. Bayne's work in the past 25 years focused on assisting and supporting bereaved first responder families and their respective agencies. Renise has emergency management experience with the State of Hawai'i, Department of Health, and the American Red Cross, where she has served as a volunteer leader in disaster relief since 2010. She is also a Volunteer Pacific Region Direct Services Lead and a certified Advanced Train-the-Trainer Instructor. She is a member of various professional organizations and enjoys traveling and binge-watching DIY projects and tiny home builds.

UNIVERSITY OF HAWAIʻI, AT MĀNOA

PROF. KWOK FAI CHEUNG

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Dr. Kwok Fai Cheung is Professor and Graduate Chair of Ocean and Resources Engineering at the University of Hawaii with over 30 years of experience in academia, research, and consultancy. He received his BASc *Magna Cum Laude* in Civil Engineering from the University of Ottawa in 1985 and his MASc and PhD in Civil Engineering from the University of British Columbia in 1987 and 1991. He obtained his Professional Engineer's license with the Province of British Columbia in 1993 and the State of Hawaii in 1999. He worked at Sandwell Engineering Inc. (currently Ausenco Ltd.), British Columbia from 1991 to 1993, during which he was involved in shoreline management, port development, and offshore oil and gas projects worldwide. Dr. Cheung joined the Department of Ocean and Resources Engineering at the University of Hawaii as Assistant Professor in 1993; became full Professor in 2001; and served two consecutive terms as Department Chair from 2001 to 2007. His research covers theoretical and practical aspects of marine hydrodynamics, ocean wave mechanics, and coastal flood hazards. He has published over 100 refereed journal papers and managed the efforts to develop official tsunami hazard maps for Hawaii, American Samoa, Guam, and British Columbia Capital Regional District. Dr. Cheung has held visiting positions with the Danish Hydraulic Institute, Hørsholm, Denmark, 1996, 1997; National Institute for Coastal and Marine Management, The Hague, The Netherlands, 2001; and Naval Surface Warfare Center Carderock Division, West Bethesda, Maryland, 2004; and has been serving on the coordinating committee of the National Tsunami Hazard Mitigation Program since 2007. He has been active in consultancy for SWATH ship design, harbor and land reclamation projects, metocean analysis, and coastal flood hazard assessment.

PROF. BRUCE HOWE

Ocean and Resources Engineering Dept., School of Earth Science and Technology (SOEST)
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Bruce Howe develops ocean observing sensor network infrastructure, including cable systems. Projects have included basin-scale acoustic thermometry and planning, development and operation of cabled observatories. His long-term goals are to integrate acoustics systems in ocean observing for ocean-basin scale navigation, communications, timing, and science applications, and to develop the (largely cabled) infrastructure to support this. Bruce currently serves as Chair of the international Joint Task Force SMART Cable initiative, (Science Monitoring And Reliable Telecommunications) to incorporate sensors into commercial trans-ocean submarine telecommunication cable systems (that enable Internet as we know it) for climate, ocean circulation and sea level monitoring and tsunami and earthquake warning. This initiative is in transition from concept to wet demonstration, with pilot systems next. Bruce is exploring many possible funding sources including multilateral development banks and governments, and connections with industry and research and education networks. At Station ALOHA 100 km north of Oahu, Bruce (and a whole team!) installed and operates the ALOHA Cabled Observatory – the world's deepest plug-and-play power and Internet node on the planet at 4728 m water depth. ACO provides, for example, real time ocean bottom pressure to the Pacific Tsunami Warning Center. Previously, Bruce worked on ocean acoustic tomography, including Moving Ship Tomography, Acoustic Thermometry of Ocean Climate and the North Pacific Acoustic Laboratory. Bruce helped establish on-going Ocean Observatories efforts

(NEPTUNE, OOI), working on fixed infrastructure (cable power systems and moorings), mobile platforms (gliders as acoustic/navigation/communication nodes), and hybrids (moored vertical profilers). After obtaining engineering and oceanography degrees at Stanford University and the University of California at San Diego, he worked at the Applied Physics Laboratory, University of Washington, and for the last eleven years at the University of Hawaii, Department of Ocean and Resources Engineering, six as Chair.

DR. KEVIN T. M. JOHNSON
Program Director for Scientific Ocean Drilling, U.S. National Science Foundation and
Professor Emeritus, Department of Earth Sciences, University of Hawai'i at Mānoa

Dr. Johnson is the Lead Program Director for the Ocean Drilling Program in the Division of Ocean Sciences at the National Science Foundation (NSF) in Washington, DC. He directs the U.S. participation in the International Ocean Discovery Program (IODP), which includes supporting the operation of the Drilling Vessel *JOIDES Resolution*. Prior to taking this position, he was on the faculty of the Earth Sciences Department at University of Hawai'i for 16 years, and prior to that he was the research Geologist at the Bishop Museum in Honolulu. Over his long career he worked as a hydrologist for 3 years in Western Sāmoa, did research on volcanoes at Hokkaido University for 2 years, and did high temperature/high pressure experiments on volcanic rocks for more than 3 years at University of Tokyo and Okayama University. He is a graduate of Penn State University (B.S.), University of Hawai'i (M.S.) and the Massachusetts Institute of Technology and Woods Hole Oceanographic Institution (Ph.D.) in 1990.

PROF. IAN ROBERTSON, Ph.D., P.E.
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Dr. Robertson is Professor of Structural Engineering at the University of Hawaii. He received his Ph.D. from Rice University in Houston, Texas. He is a registered structural engineer in the State of Hawaii. His research interests include the performance of steel and concrete structures during seismic, hurricane, tsunami and other extreme loading events. He participated in post-tsunami structural surveys of Samoa, Chile, the Tohoku coast of Japan, and Palu, Indonesia. He served on the technical committees that developed both first and second editions of FEMA P-646, *Guidelines for the Design of Structures for Vertical Evacuation from Tsunamis*, and he was sole editor of the third edition of this document. He serves as vice-chair of the ASCE 7 Tsunami Loads and Effects sub-committee that developed the first comprehensive tsunami design chapter for ASCE 7-16, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*. He also developed a design manual to accompany the ASCE 7-16 design provisions to introduce practicing engineers to the new code requirements.

UNIVERSITY OF HAWAI'I, SEA LEVEL CENTER

DR. MATTHEW WIDLANSKY
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Matthew Widlansky received a BS in Earth and Atmospheric Sciences in 2005 from Georgia Tech in Atlanta, Georgia. He continued studying there, completing his MS (2007) and PhD

(2010), with a focus on the atmosphere dynamics of the South Pacific Convergence Zone. Matthew then took a post-doctoral position in the International Pacific Research Center at the University of Hawaii at Manoa in Honolulu, Hawaii. His post-doctoral work included research on climate change affecting the tropical Pacific Islands as well as the understanding of sea level variability. Following his post-doctoral appointment, Matthew joined the University of Hawaii Sea Level Center (UHSLC) in 2016 and began researching opportunities for forecasting sea level variability. He became the associate director of UHSLC in 2018, where he continues to research climate variability and coastal impacts.

JERARD 'ZIGGY' JARDIN
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Jerard Jardin was born and raised in Hawai'i and is the 4th generation of his ancestors who travelled to Hawaii from Portugal as whalers and laborers. Jerard considers himself an islander and is very aware of the bond he holds with islanders all over the world. Jerard received a BS in Mechanical Engineering with honors from the UH Engineering School in 1989. Jerard served for 3 years as an ASUH student body senator as well as Engineering Council Secretary while in college. After earning his BS in ME, Jerard worked at Pearl Harbor Shipyard as a Nuclear Shift-Test Engineer (Code 2340; GS7-GS9 rating) responsible for the safety in the engine room of nuclear powered, fast attack submarines during various stages of overhaul and repair. After 4 years at Pearl Harbor, Jerard took a severance leave during the RIF of 1994 and proceeded to travel backpacking alone around the world for almost 2 years. In 1997 UHSLC was looking for an engineer who could handle remote, untraditional travel alone to maintain and upgrade their remote tide gauges. Jerard was a perfect fit. For the last 26 years Jerard has installed many new tide gauges around the world including 10 in Indonesia (post tsunami), 15 in the Caribbean and 4 in American Samoa. In Jerard's constant effort to assist the international tide gauge network, he has taken private, consulting work to provide and install tide gauges in various other countries in the world that are looking for an affordable tide gauge/tsunami warning gauges. Jerard remains active throughout the world working mainly for the UHSLC tide gauge network but also helping and volunteering whenever possible to train and consult with all countries/agencies that need his help. Jerard continues to be an integral part of the innovative UHSLC technical staff who have recently became the first agency to change over to iridium transmissions from the traditional GOES and decipher the network and data pathways to get the data to the same places for public use. UHSLC is in constant R&D to improve tide gauge options for the world with improved infrastructure and assembly. They also conduct independent testing of sensors and equipment to bring attention to vendors of problems so they can improve their products. One of the latest priorities in Jerard's career is spearheading the efforts to bring the leveling history of international tide gauges up to date such that the sea level datasets can be processed for long term sea level studies.