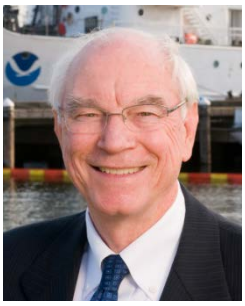
Introduction of Awardees (2016)

Prof. Nobuo Shuto: Emeritus Professor of Tohoku University, Japan; Professor of Nihon University, Japan

Professor Nobuo Shuto established a tsunami numerical model to predict tsunami characteristics and behaviors in the nearshore zone. He led the TIME (Tsunami Inundation Modeling Exchange) project supported by UNESCO Intergovernmental Oceanographic Commission (IOC) and made the numerical model of Tohoku University accessible without fees. His numerical model became the standard for UNESCO/IOC, and was transferred to 24 countries and 52 organizations, including the United States, Korea, Turkey, and Mexico. He also contributes to the quantification of tsunami damage based on post-tsunami field surveys. In the recovery process from the 2011 Tohoku Earthquake, a combination of his numerical model and his method of damage estimation is being utilized to guide the optimal siting of residential zones as well as the structural requirements for residential buildings. He was awarded the International Coastal Engineering Award given by the American Society of Civil Engineers and the Japan Academy Prize for "Comprehensive research on tsunami hazard mitigation."

Dr. Eddie Bernard: Former Director of NOAA's Pacific Marine Environmental Laboratory, USA



Dr. Eddie Bernard, who served as the founding chair of the U.S. National Tsunami Hazard Mitigation Program, made significant contributions to the development of the tsunami detection and flooding forecast system in use in the United States and along the Pacific Rim. These flooding forecasts are based on real-time data obtained by DART buoys, which accurately measure tsunamis in the deep sea and transmit these data thorough satellites to tsunami warning centers. Deep sea tsunami data are then assimilated into numerical models that forecast flooding before tsunami arrival. After the 2004 Indian Ocean tsunami, the system was expanded to the Indian Ocean and the Caribbean Sea and became the worldwide standard of the tsunami warning system. He was awarded a Service to America Medal(2008) and the Department of Commerce Gold Medal(2005) for his work in establishing an international tsunami detection and forecast system and a U.S. tsunami mitigation program.

National Office of Emergency of the Interior Ministry (ONEMI),Republic of Chile

When a massive tsunami hit Chilean coasts in 2010, tsunami warning was not properly issued because of miscommunication among the three agencies responsible for earthquake monitoring, tsunami forecasting and issuance of warning. Therefore, ONEMI unified the roles of the three organizations, developed a simplified protocol and successfully made the tsunami warning system prompt and reliable. They also conducted tsunami evacuation drills including that at night with the participation of 60,000 people. As a result, the preparation activity for disaster mitigation in Chile was drastically improved. When another large tsunami attacked Chilean coasts in 2015, a regional office of ONEMI issued an order of preventative evacuation 8 minutes after the earthquake occurrence and the ONEMI head office released a warning 2 minutes later. These actions resulted in that 97 percent of residents in the coastal area of the fourth region of Chile (~ 60,000 people) evacuated to safety zones. Such high percentage of evacuation contributed to the reduction of human los

Introduction of Awardees (2017)

Prof. Philip Li-Fan Liu: Vice President (Research and Technology) and Distinguished Professor, National University of Singapore; Class of 1912 Professor in Engineering, Emeritus, Cornell University, USA

Prof. Philip Li-Fan Liu, who coordinated National Science Foundation (USA) sponsored tsunami research programs that involved several institutions in 1990s and 2000s, made significant contributions in fundamental understanding of tsunami generation, propagation and coastal effects. His numerical model, COMCOT, has been employed in many countries for developing tsunami warning system and inundation maps, and assessing tsunami damage. He has also taken leadership role in organizing several post-tsunami field studies, including the 1992 Flores Island (Indonesia) tsunami and the 2004 Indian Ocean tsunami. In recent years, he has been promoting tsunami research by organizing annual South China Sea Tsunami Workshops, providing a forum for researchers in the South China Sea region to exchange knowledge and experience, and to develop the tsunami hazard mitigation program. In 2015 he was elected as a Member of National Academy of Engineering (USA) for "coastal engineering research, education, computer modeling, and leadership for tsunami and wave damage".

Prof. Julio Kuroiwa: Professor Emeritus National University of Engineering (UNI) Lima – Peru, and Director and General Manager of Disaster Risk Reduction Peru International SAC, Republic of Peru

Prof. Kuroiwa, as a consultant of the UN and governments, developed plans to reduce tsunami disasters in Tumaco, Colombia; Salinas, Ecuador; and the southwest coast of Peru. Buildings were protected from tsunami forces and foundation erosion. The Disaster Risk Reduction Management (DRRM) proposed by him became Peru's National Policy No. 32 in 2010, and now all engineering projects are required to have the DRRM component. From 2012 to date he has participated as a consultant in a number of important projects for reducing tsunami impacts on buildings, infrastructures, and cities, such as the Terminal Station of Lima - Callao Subway No. 2 and the tunnel under the new runway of Lima International Airport located near the seashore. He received the UN Sasakawa Award for Disaster Prevention for "Active efforts in reducing disaster risk in their communities and advocates for disaster risk reduction."

Kuroshio Town (Kochi prefecture), Japan

Kuroshio town is estimated to be possibly hit by a 34.4-meter-height tsunami that is the maximum height in Japan as the aftermath of Nankai megathrust earthquakes. The town has launched a slogan "confronting the Nankai megathrust earthquake and forming the Japan's best town that goes out with earthquakes and tsunamis." Under the slogan, detailed tsunami disaster prevention activities, such as the construction of evacuation towers and the preparation of evacuation plans for each houshold, improved its inhabitants' awareness of disaster preparedness. The town played a frontrunner in disaster prevention strategy for local administrations in Japan. A canning plant company as a semi-public joint venture company which makes products from local foods in consideration of both promoting disaster prevention and community revitalization should be specially mentioned. In addition, the town delivered lectures to propagate and educate disaster prevention both domestically and internationally, and hosted High School Students Summit on World Tsunami Awareness Day in Kuroshio with Kochi Prefectural Government.

Introduction of Awardees (2018)

Prof. Hajime Mase: Professor Emeritus / Research Professor, Kyoto University, Japan

Professor Hajime Mase has been conducted research on coastal hazard modeling and risk reduction over the past 39 years. He published more than 500 papers both in English and Japanese, and his research achievement is well known over the world. He developed real-time tsunami prediction methodology using offshore buoy network. It established scientific framework of tsunami source inversion and arrival time estimation to land. He has been also developed movable tsunami/storm surge barrier so-called "flap-type gate", which is an automatic watertight wall working by buoyancy of the inundation water without powered machineries, remote control and human operations. Since the installation at a port in Tokushima Prefecture, the developed gates have been installed nationwide. In addition, he has developed a numerical storm surge and wave coupling model, which has been used for assessment of extreme storm surges in Japan, including estimation of the maximum storm surge heights for major three bays, Tokyo, Osaka and Ise (Nagoya) in Japan under present and future climate conditions.

Prof. Harry Yeh: Professor, School of Civil and Construction Engineering, Oregon State University, USA

Professor Yeh has investigated complex phenomena in tsunamis running onto beaches through laboratory experiments and theoretical approaches, and also investigated actual tsunami damage through his extensive field studies. His research outcomes have significant impacts not only to the academic advances in tsunami hydrodynamics but also the development of the guidelines and the software. He took a role as the lead contributor for the development of the "Guidelines for Design of Structures for Vertical Evacuation from Tsunamis" by the Federal Emergency Management Agency (FEMA). He also played a prime role in the development of FEMA's software for tsunami-risk-informed decision making (HAZUS Tsunami Model). At the local level, he also supported and contributed to develop: 1) Evacuation strategies in Seaside, Oregon, 2) Design and assessment of tsunami evacuation building in Cannon Beach, Oregon, 3) Preliminary planning of a tsunami evacuation buildings in Lincoln City, Oregon, and 4) Tsunami evacuation assessment for the Pacific County, Washington.

DONET Development Team, Japan

DONET (Dense Oceanfloor Network system for Earthquakes and Tsunami), developed by the Japan Agency for Marine-Earth Science and Technology, is the cable network system, which has a total of 51 oceanfloor measurement points and observes the crustal activities in the hypocentral region of the Tonankai and Nankai Earthquake on the Nankai Trough. It is the world-first ocean floor observation network for accurate and dense observation in a wide area. When DONET detects an earthquake and tsunami, tsunami arrival time and height, and inundation area on the coast are predicted immediately using Tsunami data base. This system has been implemented and utilized in Mie Prefecture, Wakayama Prefecture, Chubu Electric Power Co., Inc., and Owase City. In particular, the system built in Wakayama Prefectural Government can provide the prediction results to the local governments in the prefecture and the local governments can grasp respectively the risk of tsunami inundation in their areas. Also, they developed the system of calling for tsunami evacuations by informing the coastal residents the tsunami detection and inunadation by area mails, and further local governments are considering the utilization of the system.