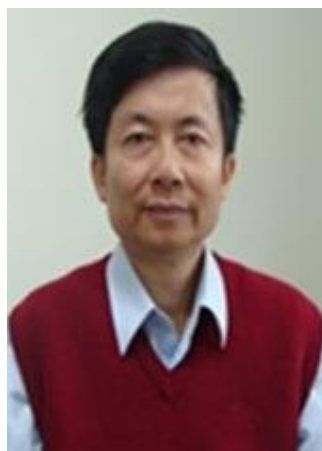


**Note:** Students who plan to enroll in the Master's program of the Division of Marine Engineering and Technology should apply to the Department of Marine Environment and Engineering; students who plan to enroll in the Ph.D. program, must hold a Master's diploma in related fields, should apply to the International Doctoral Program of Marine Science and Technology in the application system.



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***Fields of research***

The sources, transport, fate, and effects of anthropogenic (persistent and emerging organic) pollutants in various environmental mediums, including seawater, particulate matter, sediment, core, and atmosphere.

***Education***

- 1984/08 ~ 1989/07 Ph.D. University of Oklahoma, USA
- 1981/09 ~ 1983/06 M.S. Tennessee Technological University, USA
- 1975/09 ~ 1979/06 B.A. Depart. of Chemical Engineering, National Cheng Kung University, Taiwan

***Awards***

- 2015 Outstanding Research Award, NSYSU
- 2011-2014 , 2016-2019 Research Award, NSYSU
- 2005 Excellent Teaching Award, NSYSU
- 1995, 2001, 2004, 2013 Mentor Award, NSYSU
- 1994 Outstanding Teaching Award, NSYS

***Five most significant publications***

- Huang, Y.-J., Lin, B.-S., Lee, C.-L\*., Brimblecombe, P. (2020, Apr). Enrichment behavior of contemporary PAHs and legacy PCBs at the sea-surface microlayer in harbor water. *Chemosphere*, 245, 125647.
- Shiu, R-F, Lee, C-L\* and Chin, W-C (2018, Jan). Reduction in the exchange of coastal dissolved organic matter and microgels by inputs of riverine organic matter. *Water Research*, (DOI: 10.1016/j.watres.2017.12.030).
- Lee, C-L, Huang, H-C, Wang, C-C, Sheu, C-C, Wu, C-C, Leung, S-Y, Lai, R-S, Lin, C-C, Wei, Y-F, Lai, I-C, Jiang, H., Chou, W-L, Chung, W-Y, Huang, M-S\*, Huang, S-K\*. (2016, Aug). A new grid-scale model simulating the spatiotemporal distribution of PM2.5-PAHs for exposure assessment. *Journal of Hazardous Materials*, 314, 286-294.
- Lai, I-C, Lee, C-L\* and Huang, H-C (2016, Mar). A new conceptual model for quantifying transboundary contribution of atmospheric pollutants in the East Asian Pacific rim region. *Environment International*, 88, 160-168.
- Lin, B-S, P. Brimblecombe, Lee, C-L† and Liu JT, 2013. "Tracing typhoon effects on particulate transport in a submarine canyon using polycyclic aromatic hydrocarbons" *Marine Chemistry* 157, 1-11.



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### ***Fields of research***

Offshore Structural Dynamics, Green Engineering Material, Blue Energy Development, Offshore Structure Health Management.

### ***Education***

- 1990 PhD in Structure and Earthquake Engineering, SUNY Buffalo, N.Y. USA
- 1980 BE in Civil Engineering, National Cheng Kung University, Taiwan.

### ***Other professional activities***

- 2017-2020 Dean, College of Marine Science NSYSU
- 2016-2017 Vice President NSYSU, Office of Research and Development
- 2009-2013 Vice President NSYSU, Office of General Affairs
- 2001-2004 Chairman, Dept. of Marine Environment and Engineering

### ***Five most significant publications***

- Hsien Hua Lee \* and Cheng-Han Chen 2020, Parametric Study for an Oscillating Water Column Wave Energy Conversion System Installed on a Breakwater, *Energies* 2020, 13, 1926; doi:10.3390/en13081926
- Hsien Hua Lee\*, Thung-Yeh Wu, Chung-You Lin and Yung-Fang Chiu 2020, Structural Safety Analysis for an Oscillating Water Column Wave Power Conversion System Installed in Caisson Structure, *J. Mar. Sci. Eng.* 2020, 8(7), 506; doi: 10.3390/jmse 8070506
- Hsien Hua Lee and Hsu-Hsien Juang 2012, Experimental Study on the Vibration Mitigation of Offshore Tension Leg Platform System with UWTLCD, *Smart Structures and Systems—An Int. J.* Vol.9, No.1, pp.71-104.
- Hsien Hua Lee and Wen-Sen Wang 2003, On the dragged surge vibration of a twin TLP system with multi-interactions of wave and structures, *Journal of Sound and Vibration*, 2003, 263, pp743-774.
- Hsien Hua Lee and Wen-Sen Wang 2001, Analytical solution on the dragged surge vibration of TLPs with wave large body and small body multi-interactions, *Journal of Sound and Vibration*, 2001, Vol. 248(3), pp. 533-556.



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### ***Fields of research***

Marine Environmental System Analysis; ICZM (Integrated Coastal Zone Management) using System Dynamics Approach; Artificial Intelligent and Computer Applications for Marine Environment Study.

### ***Education***

- 1995 PhD in School of Civil Engineering, Purdue University, West Lafayette, Indiana, USA.
- 1991 M.S.C.E. in School of Civil Engineering, Purdue University, West Lafayette, Indiana, USA.

### ***Awards***

- 2018 Outstanding Contribution in Reviewing awarded by Journal of Environmental Management
- 2015-2016, 2018-2019 Teaching Excellence awarded by NSYSU.
- 2016 Research Excellence awarded by NSYSU
- 2015, 2018 Outstanding Contribution in Reviewing awarded by Ocean & Coastal Management.
- 2015 Outstanding Contribution in Reviewing awarded by Ecological Modelling

### ***Five most significant publications***

- Wei-Shing Wu, Chen-Feng Yang, Jung-Chuan Chang, Pierre-Alexandre Château, **Yang-Chi Chang\***, 2015, Risk assessment by integrating interpretive structural modeling and Bayesian network, case of offshore pipeline project, *Reliability Engineering & System Safety*, 142, 515-524
- Hung-Chih Cheng, Pierre-Alexandre Château, **Yang-Chi Chang\***, 2015, Spatial zoning design for marine protected areas through multi-objective decision-making, *Ocean & Coastal Management*, 108, 158-165
- **Yang-Chi Chang**, F.W. Hung, M.T. Lee, 2008, A System Dynamic Based DSS for Sustainable Coral Reef Management in Kenting Coastal Zone, Taiwan, *Ecological Modeling*, Vol. 211, issue 1-2, pp. 153-168
- Pierre-Alexandre Château, **Yang-Chi Chang\***, Hsin Chen, Tsung-Ting Ko, 2012, Building a stakeholder's vision of an offshore wind-farm project: A group modeling approach, *Science of the Total Environment*, Vol. 420, p.43-53.
- Chang-Chieh Chiu, Pierre-Alexandre Château, Hsing-Juh Lin, **Yang-Chi Chang\***, 2019. Modeling the impacts of coastal land use changes on regional carbon balance in the Chiku coastal zone, Taiwan, *Land Use Policy*, Vol. 87.



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### ***Fields of research***

Underwater vehicles; Underwater positioning; Underwater mechatronics.

### ***Education***

- 1996 PhD in Mechanical Engineering, National Cheng Kung University, Taiwan.
- 1993 MSc in Mechanical Engineering, National Cheng Kung University, Taiwan.

### ***Awards***

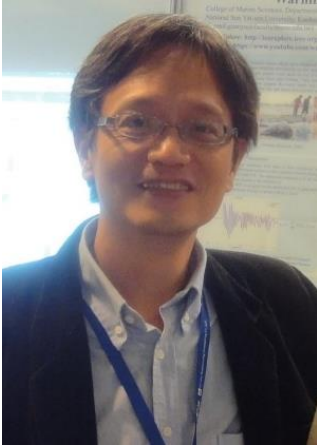
- 2016 Engineering Paper Award. Chinese Institute of Engineers.
- 2016 Best Paper Award. Taiwan Society of Naval Architects and Marine Engineers.

### ***Positions held***

- 2017 till now, Director, Institute of Undersea Technology, National Sun Yat-sen University
- 2017 till now, Adjunct Researcher Fellow, Taiwan Ocean Research Institute, National Applied Research Laboratories (NARLabs)

### ***Five most significant publications***

- L. Y.S. Chiu, A. Y.Y. Chang, H. H. Chen, C. C. Wang, J. Y. Lou, 2020, "Error analysis on normal incidence reflectivity measurement and geoacoustic inversion of ocean surficial sediment properties," *Continental Shelf Research*, Vol. 201.
- Y. C. Chou, C. C. Wang, H. H. Chen, Y. H. Lin, 2019, "Seafloor characterization in the southernmost Okinawa Trough from underwater optical imagery," *Terrestrial, Atmospheric and Oceanic Sciences*, Vol. 30, No. 5, pp. 717-737.
- H. H. Chen, W. N. Chuang, C. C. Wang, 2015, "Vision-based line detection for underwater inspection of breakwater construction using an ROV," *Ocean Engineering*, Vol. 109, pp. 20-33.
- H. H. Chen, 2014, "Travel-time approximation of acoustic ranging in GPS/Acoustic seafloor geodesy," *Ocean Engineering*, Vol. 84, pp. 133-144.
- H. H. Chen, 2013, "The estimation of angular misalignments for ultra short baseline navigation systems. Part II: Experimental results," *The Journal of Navigation*, Vol. 66, No. 5, pp. 773-787.



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### ***Fields of research***

Tsunami, Internal Waves, Ocean Engineering, Infragravity Waves, Storm Surge and Freak Wave

### ***Education***

- 1998 Ph.D., Physical Oceanography, University of Michigan, Ann Arbor
- 1989, Master of Science, Civil Engineering, National Taiwan University

### ***Awards***

- Outstanding research award for collaboration between industry and university in 2013 and 2014 academic years, National Sun Yat-sen University
- Professional Hydraulic Engineer since 1992
- Three-year scholarship (1995-1998) from Ministry of Education, Republic of China, to study abroad

### ***Five most significant publications***

- Chen G.-Y. \*, and Liu, C.-C., 2020. Reciprocal Elevation and Flow Green's Functions and the Simulation of nearshore Tsunami Inundation, *Ocean Eng.*, 210, 107497, <https://doi.org/10.1016/j.oceaneng.2020.107497>.
- Chen, G.-Y\*,, Liu, C.-C., Wijetunge, J. J., and Wang, Y.-F., 2020. Reciprocal Green's Functions and the Quick Forecast of Submarine Landslide Tsunamis, *Nat. Hazards Earth Syst. Sci.*, 20, 771-781, <https://doi.org/10.5194/nhess-2019-124>.
- Chen G.-Y. \*, Chin-Chu Liu, and Cheng-Chung Yao, 2015, A Forecast System for Offshore Water Surface Elevation With Inundation Map Integrated for Tsunami Early Warning, *IEEE Journal of Oceanic Engineering*, 40(1), 37-47, doi:10.1109/JOE.2013.2295948.
- Chen G.-Y. \*, Chung-Lin Wu, and Yu-Huai Wang, 2014, Interface Depth Used in a Two-Layer Model of Nonlinear Internal Waves, *Journal of Oceanography*, 70, 329-342, doi: 10.1007/s10872-014-0233-9.
- Chen G.-Y. \*, Cho-Teng Liu, Yu-Huai Wang, Ming-Kuan Hsu, 2011, Interaction and Generation of Long-crested Internal Solitary Waves in the South China Sea, *Journal of Geophysical Research-Oceans*, 116, C06013, 1-7, doi:10.1029/2010JC006392.



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### ***Fields of research***

Multi-phase flow model; Underwater landslides and Tsunamis; Machine learning for turbulence modelling.

### ***Education***

- 2010 PhD in Hydraulic and Ocean Engineering, National Cheng Kung University, Taiwan.
- 2006 MSc in Hydraulic and Ocean Engineering, National Cheng Kung University, Taiwan.

### ***Awards***

- 2019 MOST Young Scholar Fellowship (Columbus Program).
- 2019 Best Poster Award, National Computational Fluid Dynamics Conference.
- 2020 Honorable Award. The Selection of Innovative Research and Development Results by Young Scholars, Taiwan Comprehensive University System.

### ***Five most significant publications***

- Lee, C.-H., 2021. Two-phase modelling of submarine granular flows with shear-induced volume change and pore-pressure feedback. *J. Fluid Mech.* 907, A31,1-24.
- Lee, C.-H., Huang, Z., 2020. Multi-phase flow simulation of impulsive waves generated by a sub-aerial granular landslide on an erodible slope. *Landslides*. <https://doi.org/10.1007/s10346-020-01527-y> (In Press).
- Lee, C.-H., 2019. Multi-phase flow modeling of submarine landslides: Transformation from hyperconcentrated flows into turbidity currents. *Adv. Water Resour.* 131, 103383.
- Lee, C.-H., Low, Y.M., Chiew, Y.-M., 2016. Multi-dimensional rheology-based two-phase model for sediment transport and applications to sheet flow and pipeline scour. *Phys. Fluids* 28, 053305.
- Lee, C.-H., Huang, Z., Chiew, Y.-M., 2015. A three-dimensional continuum model incorporating static and kinetic effects for granular flows with applications to collapse of a two-dimensional granular column. *Phys. Fluids* 27, 113303.



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### ***Fields of research***

Nonlinear water wave theory, Freak wave, Wave stability, Three-dimensional wave-current coupled model.

### ***Education***

- 2005 PhD in Hydraulic and Ocean Engineering, National Cheng Kung University, Taiwan.

### ***Awards***

- 2016 Tech. Award of COUTA, Taiwan.
- 2015 The Best Paper, The Taiwan Ocean Society of Ocean Engineering.

### ***Five most significant publications***

- M. Abid, C. Kharif, **H.C. Hsu**, Y.Y. Chen (2019), Transverse instability of gravity–capillary solitary waves on deep water in the presence of constant vorticity, *Journal of Fluid Mechanics* 871, 1028-1043
- **H.C. Hsu**, C. Kharif, M. Abid, Y.Y. Chen (2018), A nonlinear Schrödinger equation for gravity–capillary water waves on arbitrary depth with constant vorticity. Part 1, *Journal of Fluid Mechanics* 854, 146-163
- **H.C. Hsu** (2018), Exact Steady Azimuthal Internal Waves in the f-Plane, *Journal of Mathematical Fluid Mechanics* 20 (2), 255-261
- O. Kimmoun, **Hung-Chu Hsu**, H. Branger, M.S. Li, Y.Y. Chen, C. Kharif, M. Onorato, E. J. R. Kelleher, B. Kibler, N. Akhmediev, A. Chabchoub, (2016) “Modulation Instability and Phase-Shifted Fermi-Pasta-Ulam Recurrence”, *Scientific Reports*. 2016 Jul 20;6:28516. doi: 10.1038/srep28516 (SCI, IF= 5.228)
- **Hung-Chu Hsu**, M. Francius, P. Montalvo, C. Kharif, (2016) “Gravity–capillary waves in finite depth on flows of constant vorticity”, *Proceeding Royal Society of London A: Mathematical, Physical and Engineering Science*, doi: 10.1098/rspa.2016.0363.



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### ***Fields of research***

Intelligent guidance, navigation, and control for autonomous underwater vehicles; Underwater system design; Multi-agent system design.

### ***Education***

- 2009 Ph.D. in Mechanical and Aeronautical Engineering, University of California at Davis, USA.
- 2007 M.S. in Mechanical and Aeronautical Engineering, University of California at Davis, USA.

### ***Awards***

- 2018, 2019 Excellent Teamwork Performance Award, National Sun Yat-sen University.
- 2016 Engineering Paper Award, Chinese Institute of Engineers.
- 2016 Outstanding Paper Award, Taiwan Society of Naval Architects and Marine Engineers.

### ***Other professional activities***

- 2018-2021 Subproject Principle Investigator, Semiconductor Moonshot Project, Ministry of Science and Technology, Taiwan.
- 2016-2020 Researcher, Investigation of Mineral Resource Potential in the Offshore Southeastern Taiwan, Ministry of Economic Affairs, Taiwan.

### ***Five most significant publications***

- Chou, Y.-C., Nakajima, M., Chen, H.-H., 2018. A feasibility study of applying laser scanning to AUV hydrodynamic parameter identification. *J. Navig.* 71, 1143-1160.
- Chou, Y.-C., Wang, C.-C., Chen, H.-H., Lin, Y.-H., 2019. Seafloor characterization in the southernmost Okinawa Trough from underwater optical imagery. *Terr. Atmospheric Ocean. Sci.* 30(5), 717-737.
- Chou, Y.-C., Nakajima, M., 2018. A clonal selection algorithm for energy-efficient mobile agent itinerary planning in wireless sensor networks. *Mob. Netw. Appl.* 23(5), 1233-1246.
- Liu, T.-K., Chou, Y.-C., Wen, Y.-T., 2017. Hybrid evolutionary optimization for nutraceutical manufacturing processes. *J. Intell. Manuf.* 28(8), 1933-1946.
- Chou, Y.-C., Fan, Y.-H., Nakajima, M., Liao, Y.-L., 2016. Constrained design optimization of active magnetic bearings through an artificial immune system. *Eng. Computation.* 33(8) 2395-2420.





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### ***Fields of research***

Non-intrusive measurement techniques; Violent wave impacts on marine structures; Compressible air effects in high-speed fluid impacts; UAS-based nearshore survey; Floating platform model testing; Computational fluid dynamics.

### ***Education***

- 2017 PhD in Civil and Environmental Engineering, Texas A&M University, College Station, Texas, USA.
- 2010 MS in Hydraulic and Ocean Engineering, National Cheng Kung University, Taiwan.
- 2008 BS in Hydraulic and Ocean Engineering, National Cheng Kung University, Taiwan.

### ***Awards***

- 2020 MOST Young Scholar Fellowship – Einstein Program.

### ***Special experiences***

- Profound experience in conducting O&G floating platform model testing in the deep-water wave basin at OTRC, Texas A&M University.

### ***Five most significant publications***

- Chuang, W.-L., Chang, K.-A., Kaihatu, J., Cienfuegos, R., Mokrani, C. (2020) "Experimental study of force, pressure, and fluid velocity on a simplified coastal building under tsunami bore impact." *Natural Hazards*, 103, 1093-1120.
- Chuang, W.-L., Chou, C.-B., Chang, K.-A., Chang, Y.-C., Chin, H.-L (2019) "Atmospheric motion vectors derived from an infrared window channel of a geostationary satellite using particle image velocimetry." *Journal of Applied Meteorology and Climatology*, 58, 199-211.
- Sun, S.-H., Chuang, W.-L., Chang, K.-A., Kim, J.Y., Kaihatu, J., Huff, T., Feagin, R. (2019) "Imaging based nearshore bathymetry measurement using an unmanned aerial system." *Journal of Waterway, Port, Coastal and Ocean Engineering*, 145(2), 04018044
- Chuang, W.-L., Chang, K.-A., & Mercier, R. (2018) "Kinematics and dynamics of green water on a fixed platform in a large wave basin in focusing wave and random wave conditions." *Experiments in Fluids*, 59, 100.
- Chuang, W.-L., Chang, K.-A., & Mercier, R. (2017) "Impact pressure and void fraction due to plunging breaking wave impact on a 2D TLP structure." *Experiments in Fluids*, 58, 68.



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### ***Fields of research***

High-latitude Oceanography (Arctic Ocean), Air-ice-ocean Interaction, Shelf and Coastal Oceanography, Physical Oceanography, Internal Waves, and Frontal Dynamics

### ***Education***

- 2017 PhD in Physical Oceanography, Institute of Marine Science, University of Alaska Fairbanks, Fairbanks, Alaska, USA
- 2007 MSc in Physical Oceanography, Institute of Oceanography, National Taiwan University, Taipei, Taiwan.

### ***Awards***

- 2011 Government scholarship for overseas study in physical oceanography (3-years) issued by Ministry of Education Taiwan.

### ***Positions held***

- Participant and Group Leader of Team Ocean of the international Arctic expedition Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC) during Sep 2019–Jan 2020.
- Scientist in Section of Physical Oceanography of the Polar Seas in Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research in Germany during Sep 2018 – Jan 2021.
- Participant in two icebreaker cruises in the Chukchi Sea during 2012 – 2013.
- Participating field work in Arctic Alaska during 2012 – 2017.
- Designing and participating field work and research cruises for internal wave and Kuroshio studies in Taiwan during 2005 – 2011.

### ***Five most significant publications***

- Fang, Y.-C., and Coauthors, 2020. Circulation and Thermohaline Variability of the Hanna Shoal Region on the Northeastern Chukchi Sea Shelf. *J. Geophys. Res. Ocean.*, 125.
- Fang, Y.-C., and Coauthors, 2017. Surface Current Patterns in the Northeastern Chukchi Sea and Their Response to Wind Forcing. *J. Geophys. Res. Ocean.*, 122.
- Fang, Y.-C., and Coauthors, 2015. Quality Assessment of HF Radar-Derived Surface Currents Using Optimal Interpolation. *J. Atmos. Ocean. Technol.*, 32.