Curriculum Vitae

Tetsu Hara
Professor
Graduate School of Oceanography
University of Rhode Island
Narragansett, RI 02882

Professional Preparation
University of Tokyo, Civil Eng., B.Eng. 1983
University of Tokyo, Civil Eng., M.Eng. 1986
Massachusetts Institute of Technology, Civil Eng., Ph.D. 1990
Woods Hole Oceanographic Institution, Applied Ocean Physics and Engineering, Postdoctoral Scholar/Investigator, 1990-1992

Appointments
2003-present: Professor, Graduate School of Oceanography, University of Rhode Island
1997-2003: Associate Professor, Graduate School of Oceanography, University of Rhode Island
1992-1997: Assistant Professor, Graduate School of Oceanography, University of Rhode Island

Research Areas
Air-sea interactions
Air-sea fluxes of momentum, energy, heat, and gases
Impact of ocean surface waves on air-sea fluxes and oceanic/atmospheric turbulence
Generation, propagation, and dissipation of ocean surface waves
Ocean surface wave modeling in high wind (tropical cyclone) conditions
Effects of ocean surface waves on ocean currents and storm surge modeling

Synergistic Activities (**broader impact of my professional and scholarly activities)**
I have been an editor of Journal of Atmospheric and Oceanic Technology from 2017.
I served as an associate editor of Journal of Geophysical Research (Oceans) from 1996 to 1998.
I served on American Meteorological Society Air-Sea Interaction Committee from 2010 to 2016.
I have developed a new graduate level course entitled “Air-Sea Interaction”, which covers air-sea fluxes, surface wave dynamics, near surface turbulence, and other related topics. I have developed a new undergraduate/graduate level course entitled “Ocean waves and storm surge modeling”.
Our research group has developed a variety of novel numerical techniques in fluid dynamics and a variety of software to process ocean surface gravity wave data and near surface turbulence data.
Our research group has contributed to the development of software and hardware of a scanning laser slope gauge that measures the spectrum of ocean surface short wind waves.

Individuals I served as Thesis Advisor or Postgraduate-Scholar Sponsor
Austin Blair, Yalin Fan (Naval Research Lab.), Kurt Hanson, Christian Janssen (U. Hamburg), Andrey Karachintsev, Tobias Kukulka (U. Delaware), Yackar Mauzole (NASA JPL), Il-Ju Moon (Jeju U., Korea), Brandon Reichl (NOAA GFDL), Nicholas Scott, Qingtao Song, Michael Sutherland, Nobuhiro Suzuki (IFREMER), Cheng-An Tung, Mete Uz (NSF), Eric VanInwegen, Hua Wei, Dmitry Zuykov.

Bibliography

Key:
J = Articles in Professional Journals (refereed)
C = Papers in Conference Proceedings (refereed)
B = Book and Book Sections
P = Popular Articles
O = Other
T = Thesis
Underlined key = Papers by students and staff resulting from work completed at my direction

2018

J Bigdeli, A., T. Hara, B. Loose, and A. T. Nguyen, 2018: Wave Attenuation and Gas Exchange Velocity in Marginal Sea Ice Zone. Journal of Geophysical Research: Oceans, 123. https://doi.org/10.1002/2017JC013380

J Wang, D., T. Kukulka, B. G. Reichl, T. Hara, I. Ginis, P. Sullivan, 2018: Interaction of Langmuir turbulence and inertial currents in the ocean surface boundary layer under tropical cyclones. *J. Phys. Oceanogr.,* 48(9); https://doi.org/10.1175/JPO-D-17-0258.1

J Chen, X., I. Ginis, and T. Hara, 2018: Sensitivity of Offshore Tropical Cyclone Wave Simulations to Spatial Resolution in Wave Models. *J. Mar. Sci. Eng*., 6(4), 116; https://doi.org/10.3390/jmse6040116

2017

J Blair, A., Ginis, I., Hara, T., & Ulhorn, E., 2017: Impact of Langmuir turbulence on upper ocean response to Hurricane Edouard: Model and observations. Journal of Geophysical Research: Oceans, 122. https://doi.org/10.1002/2017JC012956

2016

J Reichl, B. G., D. Wang, T. Hara, I. Ginis, and T. Kukulka, 2016: Langmuir Turbulence Parameterization in Tropical Cyclone Conditions. *J. Phys. Oceanogr.,* 46, 863-886.

J Reichl, B. G., I. Ginis, T. Hara, B. Thomas, T. Kukulka, and D. Wang, 2016: Impact of Sea-State-Dependent Langmuir Turbulence on the Ocean Response to a Tropical Cyclone. *Monthly Weather Review,* 144, 4569-4590.

2015

J Rabe, T. J., T. Kukulka, I. Ginis, T. Hara, B. Reichl, E. D'Asaro, R. R. Harcourt, P.P. Sullivan, 2015: Langmuir Turbulence Under Hurricane Gustav (2008). *J. Phys. Oceanogr.,* 45, 657-677.

J Hara, T. and P. P. Sullivan, 2015: Wave Boundary Layer Turbulence over Surface Waves in a Strongly Forced Condition. *J. Phys. Oceanogr.,* 45, 868-883.

J Banari, A., Y. Mauzole, T. Hara, S. T. Grilli, and C. F. Janssen, 2015: The simulation of turbulent particle-laden channel flow by the Lattice Boltzmann method. *International Journal for Numerical Methods in Fluids*, Published online in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/fld.4058.

2014

J Reichl, B. R., T. Hara, and I. Ginis, 2014: Sea state dependence of the wind stress over the ocean under hurricane winds. *J. Geophys. Res.*, 119, 30-51.

J Suzuki, N., T. Hara, and P. P. Sullivan, 2014: Impact of Dominant Breaking Waves on Air-Sea Momentum Exchange and Boundary Layer Turbulence at High Winds. *J. Phys. Oceanogr.,* 44, 1195-1212.

2013

J Suzuki, N., T. Hara, and P. P. Sullivan, 2013: Impact of Breaking Wave Form Drag on Near-Surface Turbulence and Drag Coefficient over Young Seas at High Winds. *J. Phys. Oceanogr.,* 43, 324–343.

2011

J Suzuki, N., T. Hara, and P. P. Sullivan, 2011: Turbulent airflow at young sea states with frequent wave breaking events: large eddy simulation. *J. Atoms. Sci*., 68, 1290-1305.

2010

J Fan, Y., I. Ginis, T. Hara, and I. J. Moon, 2010: Momentum Flux Budget Across Air-sea Interface under Uniform and Tropical Cyclone Winds. *J. Phys. Oceanogr,* 40, 2221–2242.

J Bogucki, D., M. Carr, W.M. Drennan, P. Woiceshyn, T. Hara, and M. Schmeltz, 2010: Preliminary and novel estimates of CO2 gas transfer using a satellite scatterometer during the 2001GasEx experiment. *Int. J. Remote Sensing*, 31, 75-92.

J Kukulka, T., T. Hara, L. Wu, 2010: Computations of wind wave coupling, *Ann. of Diff. Eqs*., 26(3), 322-331.

2009

J Fan, Y., I. Ginis, and T. Hara, 2009: The Effect of Wind-Wave-Current Interaction on Air-Sea Momentum Fluxes and Ocean Response in Tropical Cyclones. *J. Phys. Oceanogr.,* 39**,** 1019–1034.

J Fan, Y., I. Ginis, T. Hara, C. W. Wright, and E. J. Walsh, 2009: Numerical simulations and observations of surface wave fields under an extreme tropical cyclone. *J. Phys. Oceanogr.,* 39**,** 2097–2116.

2008

J Moon, I. J., I. Ginis, and T. Hara, 2008. Impact of the Reduced Drag Coefficient on Ocean Wave Modeling under Hurricane Conditions, *Monthly Weather Review*, 136, 1224-1234.

J Kukulka, T., and T. Hara, 2008: The effect of breaking waves on a coupled model of wind and ocean surface waves. Part I: Mature seas, *J. Phys. Oceanogr*., 38, 2145-2163.

J Kukulka, T., and T. Hara, 2008: The effect of breaking waves on a coupled model of wind and ocean surface waves. Part II: Growing seas, *J. Phys. Oceanogr.*, 38, 2164-2184.