

Jim Thomson
Applied Physics Laboratory
Civil & Environmental Engineering
University of Washington
jthomson@apl.washington.edu, 206-616-0858

Education

- PhD, Physical Oceanography, Massachusetts Institute of Technology (2006),
Joint Program with the Woods Hole Oceanographic Institution.
- BA, Physics, Middlebury College, Magna Cum Laude (2000).

Appointments

- Professor, Civil & Environ. Eng., U. of Washington (2019-present).
- Sr Principal Oceanographer, Applied Physics Lab., U. of Washington (2017-present).
- Associate Professor, Civil & Environ. Eng., U. of Washington (2014-2019).
- Principal Oceanographer, Applied Physics Lab., U. of Washington (2011-2017).
- Assistant Professor, Civil & Environ. Eng., U. of Washington (2009-2014).
- Oceanographer, Applied Physics Lab., U. of Washington (2006-2010).
- Postdoctoral Investigator, Woods Hole Oceanographic Institution (2006).
- Graduate Research Assistant, Woods Hole Oceanographic Institution (2001-2006).

Research Areas

- Ocean surface waves and turbulence
- Marine renewable energy
- Ocean instrumentation

Recognition

- Innovations Award (with WA Dept of Ecology), Env. Council of the States (2015)
- APL Science & Engineering Award (2013).
- ONR Young Investigator Program (2007).
- Outstanding Paper Award, Ocean Sciences Meeting (2006).
- Gould Research Prize, Middlebury College (2000).
- Phi Beta Kappa (2000).

Certification

- US Coast Guard Captain's License, 100 ton coastal (1996-present).
- SCUBA diver (1991-present), American Academy of Underwater Sciences research diver (2001-present), Master diver (2006-present).
- US Security Clearance (2009-present).

Teaching

- CEE 347, Fluid Mechanics
- CEE 473 / CEWA 573, Coastal Engineering / Water Wave Mechanics for Engineers
- CEWA 599, Field Methods for Hydrodynamics and Hydrology

Peer-reviewed articles

- Babanin et al., Waves and Swells in High Wind and Extreme Fetches, Measurements in the Southern Ocean, *Frontiers in Marine Science, section Ocean Observation* (accepted).
- Voermans, J., A. Babanin, J. Thomson, M. Smith, H. Shen, Wave Attenuation by Sea Ice Turbulence, *Geophys. Res. Let.* (accepted).
- Guerra, M., J. Thomson, T. Prusa, C. Maloy, C. Krembs, B. Sackmann, Tidal currents observations through Admiralty Inlet from ferry-mounted current profilers, *Journal of Ocean Engineering and Marine Energy* (2019).
- Barbariol, F., J. Bidlot, M. Sclavo, L. Cavaleri, A. Benetazzo, J. Thomson, Maximum wave heights from global model reanalysis, *Prog. in Oceanog.* (2019).
- Smith, M. and J. Thomson, Ocean surface turbulence in newly formed marginal ice zones, *J. Geophys. Res.*, (2019).
- Guerra, M. and J. Thomson, Wake measurements from a hydrokinetic river turbine, *Renewable Energy*, **139**, (2019).
- Kastner, S., A. Horner-Devine, J. Thomson, The Influence of Wind and Waves on Spreading and Mixing in the Fraser River Plume, *J. Geophys. Res.*, (2018).
- Brown, A., J. Thomson, F. Ticona, A. Ellenson, T. Ozkan-Haller, and M. Haller, Kinematics and Statistics of Breaking Waves Observed Using SWIFT Buoys, *IEEE Ocean. Eng.*, (2018).
- Santi et al, On the ocean wave attenuation rate in grease-pancake ice, a comparison of viscous layer propagation models with field data, *J. Geophys. Res.*, (2018).
- Montiel, F., S. Squire, M. Doble, J. Thomson, Attenuation and directional spreading of ocean waves during a storm event in the autumn Beaufort Sea marginal ice zone, *J. Geophys. Res.*, (2018).
- Veras Guimarães, P., Ardhuin, F., Sutherland, P., Accensi, M., Hamon, M., Pérignon, Y., Thomson, J., Benetazzo, A., and Ferrant, P.: A surface kinematics buoy (SKIB) for wave–current interaction studies, *Ocean Sci.*, **14** (2018).
- Gemmrich, J., W. E. Rogers, J. Thomson, and S. Lehner, Wave evolution in off-ice wind conditions, *J. Geophys. Res.*, (2018).
- Persson et al, Shipboard observations of the meteorology and near-surface environment during autumn freeze-up in the Beaufort/Chukchi Seas, *J. Geophys. Res.*, **123** (2018).
- Branch et al, Airborne Lidar measurements and model simulations of tides, waves, and surface slope at the mouth of the Columbia River, *IEEE Transactions on Geoscience and Remote Sensing*, **56**, (2018).
- Lund et al, Arctic sea ice drift measured by shipboard marine radar, *J. Geophys. Res.*, (2018).
- Thomson et al, Overview of the Arctic Sea State and Boundary Layer Physics Program, *J. Geophys. Res.*, **123**, (2018).
- Stopa et al, Wave attenuation through an Arctic Marginal Ice Zone on 12 October, 2015. Part 1: measurement of wave spectra and ice features from Sentinel-1A, *J. Geophys. Res.*, **123**, (2018).
- Ardhuin, F., Boutin, G., Stopa, J., Girard-Ardhuin, F., Melsheimer, C., Thomson, J., et al., Wave attenuation through an arctic marginal ice zone on 12 October 2015: 2.

- Numerical modeling of waves and associated ice breakup. *J. Geophys. Res.*, (2018).
- Smith, M., S. Stammerjohn, O. Persson, L. Rainville, G. Liu, W. Perrie, R Robertson, J. Jackson, and J. Thomson, Episodic reversal of autumn ice advance caused by release of ocean heat in the Beaufort Sea, *J. Geophys. Res.*, **123**, (2018).
 - Zippel, S., G. Farquharson, and J. Thomson, Turbulence from breaking surface waves at a river mouth, *J. Phys. Oceanog.*, **48**, (2018).
 - Thomson, J., J. Girton, R. Jha, A. Trapani, Measurements of Directional Wave Spectra and Wind Stress from a Wave Glider Autonomous Surface Vehicle *J. Atmos. & Ocean. Tech.*, **35**, (2018).
 - Cheng et al, Calibrating a viscoelastic sea ice model for wave propagation in the Arctic fall marginal ice zone, *J. Geophys. Res.*, **122** (2017).
 - Brown, A., J. Thomson, and C. Rusch, Hydrodynamic Coefficients of Heave Plates, with Application to Wave Energy Conversion, *J. Oceanic Eng.*, **99** (2017).
 - Guerra, M, J. Thomson, R. Cienfuegos, and L. Suarez, Tidal Energy Resource Characterization in Chacao Channel, Chile, *International Journal of Marine Energy*, **20** (2017).
 - Lee, C., and J. Thomson, An Autonomous Approach to Observing the Seasonal Ice Zone, *Oceanography Magazine*, **30** (2017).
 - Thomson, J. and J. Girton, Sustained Measurements of Southern Ocean Air-Sea Coupling from a Wave Glider Autonomous Surface Vehicle, *Oceanography Magazine*, **30** (2017).
 - Benetazzo, A., F. Ardhuin, F. Bergamasco, L. Cavaleri, P. V. Guimarães, M. Schwendeman, M. Sclavo, J. Thomson, and A. Torsello, On the shape and likelihood of oceanic rogue waves, *Scientific Reports*, **7** (2017).
 - Guerra, M. and J. Thomson, Turbulence Measurements from 5-beam Acoustic Doppler Current Profilers, *J. Atmos. & Ocean. Tech.*, **34** (2017).
 - Harding, S., L. Kilcher, and J. Thomson, Turbulence Measurements from Compliant Moorings - Part I: Motion Characterization, *J. Atmos. & Ocean. Tech.*, **34** (2017).
 - Kilcher, L. Harding, S., and J. Thomson, Turbulence Measurements from Compliant Moorings - Part II: Motion Correction, *J. Atmos. & Ocean. Tech.*, **34** (2017).
 - Deppe, W., J. Thomson, B. Poloagye, and C. Krembs, Predicting Deep Water Intrusions to Puget Sound, WA (USA), and the Seasonal Modulation of Dissolved Oxygen, *Estuaries and Coasts*, (2017).
 - Thomson, J., S. Ackley, H. H. Shen, and W. E. Rogers, The balance of ice, waves, and winds in the Arctic autumn, *Eos*, **98** (2017).
 - Zippel, S. and J. Thomson, Surface wave breaking over sheared currents: observations from the Mouth of the Columbia River, *J. Geophys. Res.*, **122** (2017).
 - Schwendeman, M., and J. Thomson, Sharp-crested Breaking Surface Waves Observed from a Ship-Based Stereo Video System, *J. Phys. Oceanog.*, **47** (2017).
 - Gemmrich, J., and J. Thomson, Observations of the shape and group dynamics of rogue waves, *Geophys. Res. Lett.*, **44** (2017).
 - Ardhuin et al, Measuring ocean waves in sea ice using SAR imagery: A quasi-deterministic approach evaluated with Sentinel-1 and in situ data, *Remote Sensing of Environment*, **189** (2017).
 - Collins et al, Doppler Correction of Wave Frequency-Spectra Measured by Underway

Vessels, *J. Atmos. & Ocean. Tech.*, **34** (2017).

- Rogers, E., J. Thomson, H. Shen, M. Doble, S. Cheng, P. Wadhams, Dissipation of wind waves by pancake and frazil ice in the autumn Beaufort Sea, *J. Geophys. Res.*, **121** (2016).
- Thomson et al., Emerging trends in the sea state of the Beaufort and Chukchi Seas, *Ocean Modelling*, **105** (2016).
- Forbush, D., B. Polagye, J. Donegan, J. McEntee, J. Thomson, and L. Kilcher, Performance Characterization of a Cross-flow Hydrokinetic Turbine in Sheared Inflow, *International Journal of Marine Energy*, **16** (2016).
- Gemmrich, J., J. Thomson, W.E. Rogers, A. Pleskachevsky, S. Lehner, Spatial characteristics of ocean surface waves, *Ocean Dynamics*, **66** (2016).
- Thomson, J., M. Schwendeman, S. Zippel, S. Moghimi, J. Gemmrich, E. Rogers, Turbulence in the ocean surface layer, *J. Phys. Oceanog.*, **46** (2016).
- Moghimi, S., J. Thomson, T. Ozkan-Haller, L. Umlauf, S. Zippel, On the modeling of wave-enhanced turbulence near-shore, *Ocean Modeling*, **103** (2016).
- Smith, M. and J. Thomson, Scaling observations of surface waves in the Beaufort Sea, *Elementa*, **4**:000097 (2016).
- Zippel, S. and J. Thomson, Air-Sea Interactions in the Marginal Ice Zone, *Elementa Sci. Anth.*, **4**:000095 (2016).
- Wang, Y., B. Holt, E. Rogers, J. Thomson, and H. Shen, Wind and wave influences on sea ice floe size and leads in the Beaufort and Chukchi Seas during the summer-fall transition 2014, *J. Geophys. Res.*, **121** (2016).
- Schwendeman, M. and J. Thomson, Observations of whitecap coverage and the relation to wind stress, wave slope, and turbulent dissipation, *J. Geophys. Res.*, **120** (2015).
- Carini, R., C. Chickadel, A. Jessup, J. Thomson, Estimating wave energy dissipation in the surf zone using thermal infrared imagery, *J. Geophys. Res.*, **120** (2015).
- Thomson, J., J. Talbert, A. de Klerk, A. Brown, M. Schwendeman, J. Goldsmith, J. Thomas, C. Olfe, G. Cameron, C. Meinig, Biofouling effects on the response of a wave measurement buoy in deep water, *J. Atmos. & Ocean. Tech.*, **32** (2015).
- Zippel, S. and J. Thomson, Wave breaking and turbulence at a tidal inlet, *J. Geophys. Res.*, **120** (2015).
- Schwendeman, M. and J. Thomson, A Horizon-Tracking Method for Shipboard Video Stabilization and Rectification, *J. Atmos. & Ocean. Tech.*, **32**, (2015).
- McCaffrey, K., B. Fox-Kemper, P.E. Hamlington, J. Thomson, Characterization of Turbulence Anisotropy, Coherence, and Intermittency at a Prospective Tidal Energy Site: Observational Data Analysis. *Renewable Energy*, **76**(4), 441-453 (2015).
- Thomson, J., S. Zippel, A. Horner-Devine, C. Rusch, R. Geyer, Wave breaking turbulence at the offshore front of the Columbia River Plume, *Geophys. Res. Lett.*, **41**, (2014).
- Thomson, J. and E. Rogers, Swell and sea in the emerging Arctic Ocean, *Geophys. Res. Lett.*, **41** (2014).
- Bassett, C., J. Thomson, P. Dahl, and B. Polagye, Flow noise and turbulence in two tidal channels, *J. Acoust. Soc. Amer.*, **135** (2014).

- Durgesh, V., J. Thomson, M. Richmond, and B. Polagye, Noise correction of turbulent spectra obtained from Acoustic Doppler Velocimeters, *Flow Measurement and Instrumentation*, **37** (2014).
- D'Asaro, E. , J. Thomson, A. Shcherbina, R. Harcourt, M. Cronin, M. Hemer, B. Fox-Kemper, Quantifying upper ocean turbulence driven by surface waves, *Geophys. Res. Letters*, **41** (2014).
- Schwendeman, M., J. Thomson, and J. Gemmrich, Wave breaking dissipation in a fetch limited sea, *J. Phys. Oceanog.*, **44** (2014).
- Rinehimer, J.P. and J. Thomson, Observations and modeling of heat fluxes on tidal flats, *J. Geophys. Res.*, **119** (2014).
- Thomson, J., E. D'Asaro, M. Cronin, E. Rogers, R. Harcourt, and A. Shcherbina, Waves and the equilibrium range at Ocean Weather Station P, *J. Geophys. Res.*, **118** (2013).
- Richard, J.B., J. Thomson, B. Polagye, and J. Bard, Method for Identification of Doppler Noise Levels in Turbulent Flow Measurements Dedicated to Tidal Energy, *Int. J. of Marine Energy*, **3-4** (2013).
- Thyng, K., J. Riley, and J. Thomson, Inference of turbulence parameters from ROMS, *Ocean Modeling*, **72** (2013).
- Palodichuk, M., B. Polagye, and J. Thomson, Resource mapping at tidal energy sites, *J. Ocean. Eng.*, **38**, (2013).
- Rinehimer, J. P., J. Thomson, and C. Chickadel, Thermal observations of ebb flows on fine-grained tidal flats: Evidence of exfiltration, *Cont. Shelf Res.*, **60S**, (2013).
- Polagye, B. and J. Thomson, Tidal energy resource characterization: methodology and field study in Admiralty Inlet, Puget Sound, US, *Proc. IMechE, Part A: J. Power and Energy*, **227**, (2013).
- Bassett, C., J. Thomson, B. Polagye, Sediment-generated noise and bed stress in a tidal channel, *J. Geophys. Res.*, **118**, (2013).
- Thomson, J., Observations of wave breaking dissipation from a SWIFT drifter, *J. Atmos. & Ocean. Tech.*, **29**, (2012).
- Bassett, C., B. Polagye, M. Holt, and J. Thomson, A vessel noise budget for Admiralty Inlet, Puget Sound, WA (USA), *J. Acous. Soc. Amer.*, **132** (2012).
- Thomson, J., M. Richmond, B. Polagye, V. Durgesh, Measurements of turbulence at two tidal energy sites, *J. Ocean. Eng.*, **37** (2012).
- Elgar, S., B. Raubenheimer, J. Thomson, M. Moulton, Resonances in an evolving hole in the swash zone, *J. Waterways, Port, Coastal, and Ocean Eng.*, **138** (2012).
- Thomson, J., Observations of thermal diffusivity and a relation to the porosity of tidal flat sediments, *J. Geophys. Res.*, **115** (2010).
- Thomson, J. J.R. Gemmrich, and A.T. Jessup, Energy dissipation and the spectral distribution of whitecaps, *Geophys. Res. Let.*, **36** (2009).
- Thomson, J. and A.T. Jessup, A Fourier-based method for the distribution of breaking crests from video observations, *J. Atmos. & Ocean. Tech.*, **26** (2009).
- Thomson, J., S. Elgar, and T.H.C. Herbers, Refraction and reflection of infragravity waves over complex bathymetry, *J. Geophys. Res.*, **112** (2007).

- Thomson, J., S. Elgar, B. Raubenheimer, T.H.C. Herbers, and R.T. Guza, Tidal modulation of infragravity waves via nonlinear energy losses in the surfzone, *Geophys. Res. Let.*, **33** (2006).
- Thomson, J., S. Elgar, and T.H.C. Herbers, Reflection and tunneling of ocean waves observed at a submarine canyon, *Geophys. Res. Let.*, **32** (2005).
- Pedlosky, J., and J. Thomson, Baroclinic instability of time-dependent currents, *J. Fluid Mech.*, **490** (2003).

Conference Proceedings

- Yim et al, A PRELIMINARY STUDY ON THE MODELING AND ANALYSIS OF NONLINEAR EFFECTS OF OCEAN WAVES AND POWER-TAKE-OFF CONTROL ON WAVE ENERGY CONVERSION SYSTEM DYNAMICS, *Proceedings of the ASME 2019 38th International Conference on Ocean, Offshore and Arctic Engineering*.
- Thomson et al, A new version of the SWIFT for wave, currents and turbulence at the ocean surface, *Currents, Waves, and Turbulence Measurements workshop*, San Diego, CA (2019).
- Cavagnaro et al, Survey and Numerical Model Analysis for Siting Kilowatt-Scale Tidal Turbines, *EWTEC 2019*.
- Brown, A, and J. Thomson, Breaking waves observed during storms at a wave energy test site, *EWTEC 2017*.
- Guerra, M. and J. Thomson, TURBULENCIA EN SITIOS ADECUADOS PARA LA EXTRACCION DE ENERGIA HIDROKINETICA, XXIII CONGRESO CHILENO DE INGENIERÍA HIDRÁULICA, 2017.
- Deng et al, Analysis of error in surface current mapping by an along-track interferometric FMCW SAR, *IGARS 2016*.
- Shen et al, A Field Study of Waves in Ice in the Beaufort/Chukchi Sea Fall 2015, *23rd IAHR International Symposium on Ice*, 2016.
- Cheng et al, Preliminary Calibration of a Rheological Sea Ice Model for Wave-In-Ice using Field Data, *23rd IAHR International Symposium on Ice*, 2016.
- Guerra, M. and J. Thomson, ORPC RivGen wake characterization, *Marine Energy Technology Symposium 2016*.
- Thomson et al, Extreme Conditions at Wave Energy Sites, *Marine Energy Technology Symposium 2016*.
- Ellenson et al, Wave Resource Assessment: Predicting the Peaks of Extreme Wave Conditions, *Marine Energy Technology Symposium 2016*.
- Brown, A. and J. Thomson, Phase-resolved heave plate dynamics for wave energy converters, *Marine Energy Technology Symposium 2016*.
- Forbush, D. et al, Characteristics and control of cross-flow turbine in shear flow, *Marine Energy Technology Symposium 2015*.
- Brown, A. and J. Thomson, Heave plate dynamics for Wave Energy Conversion, *Marine Energy Technology Symposium* (2015).
- Cavagnaro et al, Evaluation of a hydrokinetic turbine to assess control and power quality, *EWTEC*, 2015.

- Filipot, J.F., M. Prevosto, C. Masiondieu, M. Le Boulluec, J. Thomson, Wave and turbulence measurements at a tidal energy site, *Currents, Waves, and Turbulence Measurements workshop*, St. Petersburg, FL, (2015).
- Thomson, J., J. Talbert, A. de Klerk, S. Zippel, M. Guerra, L. Kilcher, Turbulence measurements from moving platforms, *Currents, Waves, and Turbulence Measurements workshop*, St. Petersburg, FL, (2015).
- Thomson, J., L. Kilcher, S. Harding, Multi-scale coherent turbulence at tidal energy sites, *International Conference on Ocean Energy* (2014).
- Rusch, C., J. Thomson, S. Zippel, and M. Schwendeman, Video recognition of breaking waves, *Oceans 2014*, St. Johns, Newfoundland (2014).
- Kilcher, L, J. Thomson, J. Colby, Determining the spatial coherence of turbulence at MHK sites, *Marine Energy Technology Symposium (GMREC)*, Seattle, WA (2014).
- Davis, A., B. Fabien, J. Thomson, and T. Mundon, Modeling and Analysis of a Multi Degree of Freedom Point Absorber Wave Energy Converter, *Proceedings of the ASME 2014 33rd International Conference on Ocean, Offshore and Arctic Engineering (OMAE2014)*, June 8-13, 2014, San Francisco, USA , (2014).
- Deppe, W, J. Thomson, C. Krembs, and B. Polagye, Hypoxic intrusions to Puget Sound from the Ocean, *Oceans 2013 MTS/IEEE*, San Diego, CA (2013).
- Richard, J.B., J. Thomson, B. Polagye, and J. Bard, Method for Identification of Doppler Noise Levels in Turbulent Flow Measurements Dedicated to Tidal Energy, *European Wave and Tidal Energy Conference* (2013).
- Thomson, J., L. Kilcher, M. Richmond, J. Talbert, A. deKlerk, B. Polagye, M. Guerra, and R. Cienfuegos, Tidal turbulence spectra from a compliant mooring, *Marine Energy Technology Symposium (GMREC)*, Washington, DC (2013).
- Nair, B. et al, Low-cost utility-scale wave energy enabled by magnetostriction, *Marine Energy Technology Symposium(GMREC)*, Washington, DC (2013).
- Polagye, B. and J. Thomson, Implications of tidal phasing for power generation at a tidal energy site, *Marine Energy Technology Symposium(GMREC)*, Washington, DC (2013).
- Polagye, B. et al. Cross-flow turbine performance and wake characterization, *Marine Energy Technology Symposium(GMREC)*, Washington, DC (2013).
- Holman, R. and J. Thomson, Remote-sensing of bathymetry and currents in a tidal inlet, *Coastal Dynamics* (2013).
- Polagye, B., J. Thomson, M. Palodichuk, Multiscale tidal resource characterization: a case study of Admiralty Inlet, Puget Sound, WA (USA), *International Conference on Ocean Energy* (2012).
- Graber, J, J. Thomson, B. Polagye, A. Jessup, Land-based infrared imagery for marine mammal detection, *SPIE Remote sensing and Modeling of Ecosystems for Sustainability VIII* (2011).
- Bassett, C., J. Thomson, B. Polagye, Underwater noise measurements from a 1/7 scale wave energy converter, *Oceans 2011*, Hawaii (2011).
- Harding, S., J. Thomson, B. Polagye, M. Richmond, V. Durgesh, I. Bryden, Extreme value analysis of tidal stream velocity perturbations, *European Wave and Tidal Energy Conference* (2011).

- Thomson, J., M. Richmond, B. Polagye, and V. Durgesh, Quantifying turbulence for tidal power applications, *Oceans 2010 MTS/IEEE*, Seattle, WA (2010).
- Polagye, B., J. Epler, J. Thomson, Limits to the predictability of tidal current power, *Oceans 2010 MTS/IEEE*, Seattle, WA (2010).
- Epler, J., B. Polagye, J. Thomson, Shipboard acoustic Doppler current profiler surveys to assess tidal current resources, *Oceans 2010*, Seattle, WA (2010).
- Bassett, C., J. Thomson, B. Polagye, Characterizing Underwater Noise at a Tidal Energy Site, *Ocean 2010 MTS/IEEE*, Seattle WA (2010).
- Gooch, S., J. Thomson, B. Polagye, and D. Meggitt, Site Characterization for Tidal Power, *Oceans 2009 MTS/IEEE*, Biloxi, MS (2009).
- Thomson, J., More data, more people, more relevance, *Oceanography in 2025*, National Academy of Sciences workshop, Irvine, CA (2009).

Other publications

- Thomson, J. (2018), Autumn in the Arctic, *Eos*, 99, <https://doi.org/10.1029/2018EO102933>. Published on 26 November 2018.
- Johnson, N. and J. Thomson, Wave Energy Resource Characterization for San Nicholas Island, Technical Report APL-UW 2-18. Applied Physics Laboratory, University of Washington, Seattle, June 2018, 34 pp (2018).
- Guerra, M. and J. Thomson, Rich Passage Tidal Energy Resource Characterization, Technical Report APL-UW 2-18. Applied Physics Laboratory, University of Washington, Seattle, June 2018, 17 pp (2018).
- Thomson, J., S. Merrifield, J. Girton, S. Swart, C. Meinig, L. Lenain, Air-sea observations from Autonomous and Lagrangian Platforms (ALPS), *ALPSII Workshop Proceedings* (2017).
- Thomson, J., B. Polagye, and V. Neary, Field measurements for tidal resource characterization and assessment, Chapter in *Marine Renewable Energy: Resource Characterization and Physical Effects*. Springer (2017).
- Feddersen et al, Inner Shelf DRI Science Plan, APL Tech Report 1602 (2016).
- Lee et al, Science and Experiment Plan: Stratified Ocean Dynamics of the Arctic, Technical Report APL-UW 1601. Applied Physics Laboratory, University of Washington, Seattle, September 2012, 48 pp (2016).
- Wadhams, P. and J. Thomson, The Arctic Ocean Cruise of the R/V Sikuliaq 2015: an investigation of waves and the advancing ice edge, *Il Polo*, LXX-4, (2015).
- Kilcher, L., J. Thomson, J. Talbert, and A. deKlerk, “Measuring turbulence from moored acoustic Doppler velocimeters A manual to quantifying inflow at tidal energy sites”, NREL technical report TP-5000-62979 (2016).
- Belka, D., M. Schwendeman, J. Thomson, M. Cronin, “Historical wave and wind observations at Ocean Station P”, APL Technical Report 1407 (2014).
- Thomson, J., V. Squire, S. Ackley, P. Wadhams, A. Babanin, P. Guest, T. Maksym, S. Stam-merjohn, C. Fairall, O. Persson, M. Doble, E. Rogers, H. Graber, H. Shen, J. Gemmrich, S. Lehner, B. Holt, and T. Williams, *Science and Experiment Plan: Sea State and Boundary Layer Physics of the Emerging Arctic Ocean*, Technical Report APL-UW 1306, Applied Physics Laboratory, University of Washington, Seattle, September 2012, 59 pp (2013).
- Lee, C.M., S. Cole, M. Doble, L. Freitag, P. Hwang, S. Jayne, M. Jeffries, R. Krishfield, T. Maksym, W. Maslowski, B. Owens, P. Posey, L. Rainville, B. Shaw, T. Stanton, J. Thomson, M.-L. Timmermans, J. Toole, P. Wadhams, J. Wilkinson, and Z. Zhang, *Marginal Ice Zone (MIZ) Program: Science and Experiment Plan*, Technical Report APL-UW 1201. Applied Physics Laboratory, University of Washington, Seattle, September 2012, 48 pp (2012).
- Gaffney, P., P. Beauchamp, M. Beck, V. Browning, C. Garrett, A. Grilli, J. Hamilton, T. Ozkan-Haller, E. Philpot, B. Rath, R. Schmitt, J. Thomson, L. Webber, Z. Yang, An Evaluation of the U.S.

Department of Energy's Marine and Hydrokinetic Resource Assessments, National Academies Press, (2012)

- Neary, V., B. Gunawan, M. Richmond, V. Durgesh, B. Polagye, J. Thomson, M. Muste, A. Fontaine, *Field Measurements at Rivers and Tidal Current Sites for Hydrokinetic Energy Development: Best Practices Manual*, Oak Ridge National Laboratory Technical Manual 2011/419, (2011).

Service/Synergistic activities

- France Energies Marines, Science and Technology Review committee (2019-present)
- NSF review panel, physical oceanography (2010, 2018)
- Guest editor, JGR special issue (2017-2018).
- Guest editor, Elementa special issue (2016-2017).
- Session co-chair, Ocean Sciences Meeting (2016).
- Session chair, Gas Transfer at Air-Water Interface Symposium (2015).
- Workshop on extreme waves for Wave Energy Converters (2014).
- Session chair, Marine Energy Technical Symposium (2014).
- National Academies NRC committee on Marine Hydrokinetic Energy (2010-2012)
- Workshop on Marine Energy projects in Chile (2011).
- Workshop on data gaps for Offshore Renewable Energy (2011).
- DOE SBIR-STTR Reviews (2011)
- NOPP review panel, Integrated Ocean Observing System (2010)
- Session chair, AGU fall meeting (2010)
- Chair, Marine Renewable Energy track, *Oceans 2010* conference
- Maine Technology Asset Fund reviewer (2010)
- Session chair, Workshop on Environmental Effects of Tidal Energy (2010)
- Workshop on air-sea interactions under tropical cyclones (2010),
- Session chair, IEEE International Geoscience & Remote Sensing Symposium (2008)
- Journal peer reviews: Continental Shelf Research, Marine Pollution Bulletin, J. Phys. Oceanog., J. Atmos. Ocean. Tech., Ocean Modeling, Marine Geology, IEEE Trans. on Geosci. and Remote Sens., J. Waterway, Port, Coastal and Ocean Eng., J. of Fluid Mech., J. of Geophys. Res., Estuar. Coast. and Shelf Science, IEEE J. of Ocean. Eng..

Outreach

- Volunteering:
 - North Slope (Alaska) traveling science fair (2019)
 - Polar Science Weekend (2014-present)
 - UW College of Engineering Discovery Days (2010-present),
 - Pacific Science Center *Science EXPO* (2012),
 - Ocean Inquiry Project (2009-2012),
 - Washington Weekend open house demonstrations (2007).
- Invited talks / guest lectures:
 - Floating Frontiers Offshore Wind conference (2018)
 - Frye Museum panel (2018)
 - Reed College environmental history program (2018)

- DOE-ONR round table (2017)
- Nortek 20th Anniversary Symposium (2016)
- IARPC webinar (2016)
- Annual Town hall meetings, Barrow AK (2015-2016)
- Sea ice modeling workshop, Boulder CO (2016)
- North American Arctic Domain Awareness Workshop, Anchorage AK (2015)
- Strait Science Series, Nome AK (2015),
- Navy Science & Technology Expo (2015),
- Karles Invitational Conference, Naval Research Lab (2014),
- Pacific Science Center “Cool jobs” series (2013),
- Columbia River Maritime Museum “Science on Tap” (2013),
- PSC Environmental Science and Technology Practicum (2012),
- Washington Dept of Ecology seminar series (w/ Christopher Krembs) (2011),
- Panelist, Washington Ocean Energy Conference (2011),
- COSEE Community College Faculty Summer Teaching Institute (2011),
- Institute for Journalism and Natural Resources (2011),
- Panelist, Ocean Renewable Energy Conference V / EnergyOcean (2010),
- Mid-C Seminar (2010),
- Nortek User Symposium (2010),
- Panelist, Global Marine Renewable Energy Conference (2010),
- UW Water Center series (2010),
- UW Energy Future lecture (2009),
- Pacific Science Center *Science Cafe* with KCTS public television (2009),
- Society of Naval Architects and Marine Engineers (2009),
- Marine Technology Society (2008),
- Cape Cod Community College (2005).
- Media coverage / engagement:
 - Witness the Arctic, ARCUS newsletter, Jun 2018
 - Science et Vie Magazine (Paris), Apr 2018.
 - Seattle Times, “Nets plugged with mussels in Atlantic salmon net-pen failure,” 26 Jan 2018
 - OSU “Engineering Out Loud” Podcast, Oct 2017.
 - Mara Johnson-Groh, “Validating Tall Tales of Rogue Waves,” *Hakai Magazine*, March 13, 2017
 - NPR “Living on Earth” interview, 2016.
 - Deadliest Catch / The Bait, Discovery Channel, May 2015
 - Harris, M, “Waves of destruction”, Scientific American, May 2015.
 - CNN “Wish you were here” video segment, Nov 2014.
 - Washington Post, “Sixteen-foot swells reported in once-frozen region of Arctic Ocean” (30 Jul 2014). Also Nation Geographic News, CBC radio, Slate, and Christian Science Monitor.
 - Environmental Monitor, “Sensor-equipped ferry to monitor Admiralty Inlet, gateway to Puget Sound” (1 Jul 2014).
 - TVW, “High tech sensors for the ferries” (18 June 2014).
 - Seattle PI, “Ferries for Science” (16 June 2014).
 - AGU online research highlight and blog post (spring 2014)

- Quartz online journal, “The melting polar icecap is creating waves the size of houses” (29 Apr 2014).
- King 5 Weather Special, “Beyond the Forecast: Power Play” (21 Nov 2013).
- Santiago Times, “Tides are changing to expand renewable energy options in Chile” (20 Feb 2013).
- New York Times “Scientists at Work” blog (2012-2013) and Science Times article (16 Oct 2012).
- AGU online research highlight and blog post (fall 2012)
- UW TV, “UW 360: tidal energy research in Puget Sound,” (Dec 2011)
- MSNBC, “IBM sees energy, money in motion of the ocean,” (1 Nov 2011)
- CNNMoney, “Renewable tidal energy’s reality check,” (21 Oct 2011)
- KUOW, “Harnessing tides in the Northwest” (25 Aug 2011).
- Seattle Times, NW Jobs profile (12 June 2011).
- KUMO news radio (9 June 2011).
- King 5 news (8 June 2011).
- KUOW & Oregon Public Radio, “Researchers Study Potential Impact Of Tidal Power Turbines,” (25 May 2011).
- Seattle Times, “Admiralty Inlet an ideal spot for tidal power,” (14 Dec 2010).
- King 5 news, “Tides could be tapped for clean energy,” (14 Oct 2010).
- King 5 news, “[Infrared] Camera paints orca portrait,” (26 Aug 2010).
- King 5 news, “Fresh water in mud flats,” (5 Apr 2010).
- Seattle Times (May 2009)
- KUOW, May 2009

Graduate Student Advising

- S. Brenner, PhD (expected 2022)
- S. Kastner, MS (2017) PhD (expected 2020)
- M. Smith, MS (2016), PhD (expected 2019)
 - Valle fellow
- M. Guerra, PhD (2018)
 - Fullbright fellow
- S. Zippel, MS (2014), PhD (2017)
- M. Schwendeman, MS (2012), PhD (2016)
 - ARCS Fellow
- C. Bassett, MS (2010), PhD (2013)
 - NSF Graduate Research Fellow
- J.P. Rinehimer, PhD (2013)
 - National Defense Industry Association Fellow, UW CEE Henry Gray Fellow
- W. Deppe, MS (2013)
- M. Palodichuk, MS (2012)
- S. Henriksen, MS (2011)
- J. Graber, MS (2011)
- S. Gooch, MS (2009)

Graduate Student Committees

- Hannah Glover, PhD (expected 2020)
- Lindsay Alma, PhD (expected 2020)
- Robin McLachlan, PhD (expected 2019)
- David Fertitta, MS (2019)
- Marcel du Plessis, PhD (2018)
- Fadia Ticono, MS (2018)
- Raul Flores Audibert, PhD (2018)
- Je-Yuan (Andy) Hsu, PhD (2017)
- Arvin Saket, PhD (2017)
- David Ortiz-Suslow, PhD (2017)
- Ashley Ellenson, MS (2017)
- E. Eidam, PhD (2017)
- M. Mckeen, ABD (2016)
- H. Dosser, PhD (2015)
- B. Kilbourne, PhD (2015)
- J. Joslin, PhD (2015)
- R. Hale, PhD (2014)
- Y. Yuan, PhD (2012)
- D. Nowacki, MS (2010)
- J. Epler, MS (2010)
- M. Avener, MS (2009)

Postdoctoral mentoring

- Morteza Derakhti (2018-present)
- Adam Brown (2014-2017)
- Michael Schwendeman (2016-2017)

Conference Abstracts

- Kumar et al, Modeling Coastal Ocean Dynamics in the Arctic, *Gordon Res. Conf. 2019*.
- Derakhti et al, Predicting the breaking onset and strength of gravity water waves from deep to shallow water, *WISE 2019*.
- Thomson et al, Intermittent wave breaking and turbulence, *WISE 2019*.
- Barbariol et al, Maximum wave heights from numerical wave models, *Future Paths and Needs in Wave Modelling workshop in Trondheim (Norway) 2019*
- Kastner, S., A. Horner-Devine, J. Thomson, The fate of freshwater in the surf zone, *Gordon conf on coastal dynamics 2019*.
- Derakhti, M., J. Kirby, J. Thomson, Wave breaking turbulence: significance of bubbles, *Two-phase modeling for Sediment dynamics (THESIS) 2019*.
- Brenner et al, Evolution of an Arctic melt-water front, *Liege Colloquium 2019*.
- Barbariol et al, Global assessment of maximum wave heights from model reanalysis, *EGU 2019*.
- Persson et al, Understanding and Modeling of Coupled Air-Ice-Ocean Interactions, *EGU 2019*.
- Voermans et al, Turbulence-Induced Wave Attenuation in the Marginal Ice Zone, *EGU 2019*.
- Stearns et al, Ferry Vessel Propeller Wash Effects on Scour at the Kingston Ferry Terminal, *PORTS 2019*.
- Simmons et al, Stratified Ocean Dynamics in the Arctic, *Alaska Marine Sciences Symposium 2019*.
- Thomson et al, Wave-ice-ocean interactions along the Arctic coast, *Alaska Marine Sciences Symposium 2019*.
- Wood et al, The Arctic Heat Open Science Experiment 2018: collaboration, initial results, and data availability, *Year of Polar Prediction workshop 2019*.
- Derakhti et al, A unified formulation for predicting the breaking strength of gravity water waves from deep to shallow water, *AGU Fall Meeting 2018*.
- Smith, M. and J. Thomson, Pancake ice dynamics using shipboard stereo imagery, *AGU Fall Meeting 2018*.
- Lund, B. et al, Marine X-band Radar Observations of Sea Ice Drift Fields in the Arctic, *AGU Fall Meeting 2018*.
- Kovach, et al, Multi-Platform Observations of Headland Eddy-Internal Wave Interactions, *EPOC 2018*.

- Moulton, M., C. Chickadel, and J. Thomson, Observations and modeling of rip-current plumes in the surf zone and inner shelf, *EPOC 2018*.
- Kastner, S., A. Horner-Devine, J. Thomson, *PECS 2018*.
- Rosenberg et al, Development and field testing of PTO control strategies for two-body flexibly-connected WECs, *METS 2018*.
- Guerra, M. and J. Thomson, Field observations of ORPC RivGen turbine wake, *METS 2018*.
- Thomson, J. and J. Girton, Wave glider observations of air-sea exchange and the ocean mixed layer in the Drake Passage, *Ocean Sciences Meeting 2018*.
- Nylund, S. and J. Thomson, Near-surface current profiles measured with the new 'HR' Mode of Signature1000 Instruments Mounted on SWIFT drifters, *Ocean Sciences Meeting 2018*.
- Moulton et al, Observations of rip-current and internal-wave driven exchange between the surf zone and inner shelf, *Ocean Sciences Meeting 2018*.
- Kastner et al, Drifter measurements of the behavior of a small scale river outflow in the surf zone, *Ocean Sciences Meeting 2018*.
- Brenner et al, Small-scale Upper Ocean Variability and Surface Forcing in the Arctic Ocean, *Ocean Sciences Meeting 2018*.
- Zippel and Thomson, Wave-breaking Turbulence at a River Inlet, *Ocean Sciences Meeting 2018*.
- Branch et al, Lidar measurements of tides, waves, and surface slope at the mouth of the Columbia River, *Ocean Sciences Meeting 2018*.
- Smith and Thomson, Surface turbulence production and suppression at the air-ice-ocean interface, *Ocean Sciences Meeting 2018*.
- Guerra and Thomson, Surface turbulence production and suppression at the air-ice-ocean interface, *Ocean Sciences Meeting 2018*.
- Kovatch et al, Headland Flow Observations Around Pt. Sal, *Ocean Sciences Meeting 2018*.
- MacMahon et al, The spatial variability of heat flux across the surfzone transition region, *Ocean Sciences Meeting 2018*.
- Ricon et al, Observing and Predicting Large Waves and Breakers on the Oregon Coast, *Ocean Sciences Meeting 2018*.
- Syrdell et al, Surface Drifters on the Inner-Shelf: Fronts, Vorticity, and Divergence, *Ocean Sciences Meeting 2018*.
- Thomson, J. M. Schwendeman, S. Zippel, and A. Brown: Field observations of breaking waves, *BWAVES 2018*.
- Gemmrich et al, Wave evolution in off-ice wind conditions: Observations and model results, *WISE 2018*.
- Arduin et al, Wave attenuation across 400 km of an Arctic Marginal Ice Zone: measuring wave heights with Sentinel 1 and numerical modeling, *EGU 2018*.
- Lee, C., J. Thomson, and L. Rainville, Arctic Observing using Integrated Systems of Autonomous Instruments, *Polar 2018*.
- Rainville, L. C. Lee, and J. Thomson, Eddies, Sub-Mesoscale Structures, and Water Mass Variability Across the Beaufort Sea, *Polar 2018*.
- Smith, M., J. Thomson, L. Roach, Waves, turbulence and thin ice at the autumn air-sea-ice interface, *Polar 2018*.
- Jha, R. and J. Thomson, GPS waves measurements on wave gliders, *Oceanology 2018*.
- Guimaraes, P. V., et al, Surface Kinematic buoy measurements in strong current gradients, *IUTAM symposium of wind waves 2017*.
- Kastner, S., A. Horner-Devine, J. Thomson, Wind-influenced mixing and dynamics in the near-field Fraser River plume, *Gordon Coastal circulation conf 2017*.
- Smith et al, Storm-drive mixing in the Arctic, *IGS 2017*.
- Cavagnaro, Brown, and Thomson, Power Dissipation Analysis of a Heaving Point Absorber Excited by Wakes, *METS 2017*.
- Brown, A. and J. Thomson, Breaking waves observed during storms at PMEC, *METS 2017*.
- Benetazzo, Alvise; Arduin, Fabrice; Cavaleri, Luigi; Schwendeman, Michael S.; Sclavo, Mauro; Thomson, Jim, Space-time oceanic rogue waves at different scales and storm conditions, *Wise 2017*.
- Thomson, Gemmrich, Arduin, Are waves groupier in sea ice? *Wise 2017*.
- Brown and Thomson, Buoy motions are metrics for wave breaking, *Wise 2017*.
- Persson et al, Arctic Autumn Air-Ice Ocean Interactions Resulting from Recent Sea-ice Decline, *Arctic Science Summit Week 2017*.
- Kilcher et al, Resource Characterization Measurements at Early-Market U.S. Tidal Energy Sites, *EGU General Assembly 2017*.
- Collins, et al, Doppler Correction of Wave Frequency-Spectra Measured by Underway Vessels, *EGU General Assembly 2017*.
- Persson et al, Arctic Autumn Air-Ice Ocean Interactions Resulting from Recent Sea-ice Decline, *EGU General Assembly 2017*.
- Zippel, S., and J. Thomson, Wave breaking over sheared currents, *EGU General Assembly 2017*.
- Smith and Thomson, Surface Turbulence in the Presence of Pancake Ice in the Autumn Arctic Ocean, *American Meteorological Society 2017*.
- Ellenson et al, Underprediction of extreme wave events in the Northeast Pacific, *American Meteorological Society 2017*.
- Zippel and Thomson, Turbulence estimates from a free drifting platform at a river inlet, *American Meteorological Society 2017*.
- Guerra and Thomson, Ferry-based velocity measurements through Admiralty Inlet, Puget Sound, WA, *American Meteorological Society 2017*.
- Schwendeman and Thomson, Measurements of Whitecap Geometry and Steepness from a Ship-based Stereo Video System, *American Meteorological Society 2017*.
- Thomson et al, Sea State and Boundary Layer Physics in the Emerging Arctic Ocean, *American Meteorological Society 2017*.
- Brozena et al, Airborne Multi-band SAR in the Arctic, *AGU Fall Meeting 2016*.
- Ellenson et al, Underprediction of extreme wave events in the Northeast Pacific, *AGU Fall Meeting 2016*.
- Kastner et al, Winds, waves, and the Fraser river plume, *AGU Fall Meeting 2016*.
- Guerra and Thomson, Turbulence using 5-beam Doppler profilers, *AGU Fall Meeting 2016*.
- Smith and Thomson, Observations of wave-enhanced mixing in the autumn Arctic Ocean, *AGU Fall Meeting 2016*.
- Thomson et al, Sea State and Boundary Layer Physics in the Emerging Arctic Ocean, *AGU Fall Meeting 2016*.
- Stammerjohn et al, Ocean heat losses during the Sea State field campaign, *AGU Fall Meeting 2016*.

- Zippel and Thomson, Wave breaking at the Columbia River Mouth, *AGU Fall Meeting 2016*.
- Thomson, J. and J. Garton, Wind and wave measurements from autonomous platforms, *Data Buoy Cooperation Panel 32*, October 2016.
- Kastner, S., A. Horner-Devine, and J. Thomson, Surface wave process in river plumes, *PECS 2016*.
- Rogers, W.E. Ola Persson, Jim Thomson, Fabrice Ardhuin, Byron Bloomquist and Chris Fairall, Air-wave fluxes with ice cover, *WISE 2016*.
- Schwendeman, M., and J. Thomson, Observations of the geometry and steepness of open ocean whitecaps, as measured from shipboard stereo video, *WISE 2016*.
- Gemmrich, J. and Jim Thomson, The group characteristics of large waves, *WISE 2016*.
- Smith, M. and Jim Thomson, Observations of fetch-limited waves in the emerging Arctic Ocean, *WISE 2016*.
- Zippel, S. and Jim Thomson, Observations of breaking induced by wave-current interaction, *WISE 2016*.
- Fan et al, The Role of Waves in Ice and Ocean Response to a Strong Wind Event in the Beaufort and Chukchi Seas During October 2006, *WISE 2016*.
- Thomson et al, Sea state and boundary layer physics of the emerging Arctic Ocean, *Ocean Sciences Meeting 2016*.
- Shen et al, Preliminary evaluation of the effective viscoelastic parameters for the Arctic marginal ice zone under various sea states, *Ocean Sciences Meeting 2016*.
- Persson et al, Causes and Consequences of Air-Ocean Energy Fluxes During Arctic Freeze-Up, *Ocean Sciences Meeting 2016*.
- Doble et al, Waves in the Beaufort Sea MIZ observed with a dense and persistent array of wavebuoys from spring to autumn 2014, *Ocean Sciences Meeting 2016*.
- Kilcher et al, Motion correction of turbulence measurements, *Ocean Sciences Meeting 2016*.
- Rogers et al, Wave modeling for the Beaufort and Chukchi Seas, *Ocean Sciences Meeting 2016*.
- Martin et al, Does sea ice retreat increase or reduce momentum flux in the Arctic? *Ocean Sciences Meeting 2016*.
- Schwendeman, M. and J. Thomson, Observations of wave-breaking turbulence and whitecap coverage, and the relation to wind stress and wave slope, *Ocean Science Meeting 2016*.
- Smith, M. and J. Thomson, Scaling observations of distance limited waves in the seasonally ice-covered Beaufort Sea, *Ocean Sciences Meeting 2016*.
- Zippel, S. and J. Thomson, Ice and current effects on wave-driven turbulence at the ocean surface, *Ocean Sciences Meeting 2016*.
- Kastner et al, Comparing Observed and Calculated Eddy Diffusivity in the Snohomish River Plume, *Ocean Sciences Meeting 2016*.
- Brozena et al, Airborne Remote Sensing for the ONR Sea State DRI Experiment, *Ocean Sciences Meeting 2016*.
- Guerra, M. and J. Thomson, Ambient and Wake Turbulence Measurements at Marine Energy Sites from a Five Beam AD2CP, *Ocean Sciences Meeting 2016*.
- Yu et al, Preliminary evaluation of the effective viscoelastic parameters for the Arctic marginal ice zone under various sea states, *Ocean Sciences Meeting 2016*.
- Fan, Y., E. Rogers, and J. Thomson, Late summer and fall wave climate in the Beaufort and Chukchi Seas, 2000-2014, *Ocean Sciences Meeting 2016*.
- Thomson et al, Wave breaking turbulence in the ocean surface layer, invited for *AGU Fall Meeting 2015*.
- Gemmrich et al, Spatial heterogeneity of wave fields, *International Workshop on Wave Hindcasting and Forecasting and Coastal Hazards Symposium 2015*.
- Moghimi et al, *Gordon Conf on Coastal Modeling 2015*.
- Thomson et al, Sea state and boundary layer physics of the emerging Arctic Ocean, *CMOS/AMS 2015*.
- Gemmrich et al, Spatial Wave characteristics in Arctic seas, *CMOS/AMS 2015*.
- Wang, Y. et al, Characteristics and changes of sea-ice floe size distribution in Chukchi and Beaufort Seas in fall 2014, *AGU Joint Assembly 2015*.
- Cronin, M. et al, Ongoing Station P time series, *7th International Symposium on Gas Transfer at Water Surfaces*, Seattle, WA, 2015.
- Schwendeman, M. and J. Thomson, Video observations of whitecaps, *7th International Symposium on Gas Transfer at Water Surfaces*, Seattle, WA, 2015.
- Zippel, S. and J. Thomson, Surface turbulence in the marginal ice zone, *7th International Symposium on Gas Transfer at Water Surfaces*, Seattle, WA, 2015.
- Gemmrich, J., S. Vagle, and J. Thomson, Breaking waves, turbulence, and bubbles, *7th International Symposium on Gas Transfer at Water Surfaces*, Seattle, WA, 2015.
- Thomson et al, Wave breaking turbulence in the ocean surface layer, *7th International Symposium on Gas Transfer at Water Surfaces*, Seattle, WA, 2015.
- Zippel, S. and J. Thomson, The surface wave boundary layer in partial ice cover, *Arctic Science Summit Week 2015*.
- Lee et al, Autonomous Investigations of Marginal Ice Zone Processes- Changing Feedbacks and Observational Challenges, EGU General Assembly 2015.
- Gemmrich et al, Spatial Wave characteristics in Arctic seas, EGU General Assembly 2015.
- Harcourt, R., E. D'Asaro, A. Shcherbina, M. Cronin, J. Thomson, Langmuir Turbulence in Algebraic Reynolds Stress Models, *American Met. Soc.*, 2015.
- Brown, A. and J. Thomson, Optimization of reaction plates for wave energy conversion, *AGU fall meeting 2014*.
- Thomson et al, Waves and fetch in the marginal ice zone (invited), *AGU fall meeting 2014*.
- Zippel and Thomson, Wave breaking on a sheared current, *AGU fall meeting 2014*.
- Smith et al, Large scale patterns of waves in a partially ice-covered Arctic Ocean, *AGU fall meeting 2014*.
- Elko et al, Future of nearshore research, *AGU fall meeting 2014*.
- Moghimi et al, Energy transfer from waves to ocean, *AGU fall meeting 2014*.

- Guerra et al, Tidal energy assessment in Chacao Channel, AGU fall meeting 2014.
- Akan et al, A wave-current coupled model of the Columbia, AGU fall meeting 2014.
- Schwendeman and Thomson, Shipboard video observations of whitecaps, AGU fall meeting 2014.
- Gemmrich et al, Wave breaking and bubbles, WISE 2014.
- Zippel et al, Wave breaking and turbulence at a tidal inlet, WISE 2014.
- Schwendeman et al, Video observations of wave breaking, WISE 2014.
- Thomson et al, Measurements of wave breaking turbulence, WISE 2014.
- Maloy et al, Using ferries for marine water quality monitoring in the Salish Sea, *Salish Sea Conference* (2014).
- Maloy et al, Using ferries for marine water quality monitoring in the Salish Sea, *Pacific Estuarine Research Society* (2014).
- Gemmrich, J., S. Vagle, J. Thomson, Breaking waves turbulence and bubbles, EGU General Assembly (2014).
- Thomson et al, Do waves mix river plumes? Ocean Sciences Meeting (2014).
- Schwendeman, M. and J. Thomson, Wave breaking in mixed seas, Ocean Sciences Meeting (2014).
- Zippel, S. and J. Thomson, Wave breaking by depth and currents, Ocean Sciences Meeting (2014).
- McCaffrey, K., P. Hamlington, B. Fox-Kemper, and J. Thomson, Anisotropy and coherent turbulence at a tidal energy site, Ocean Sciences Meeting (2014).
- Bassett, C., J. Thomson, and B. Polagye, Shifting gravel and the acoustic detection of killer whales, *AGU Fall meeting* (2012).
- D'Asaro, E., A. Scherbina, R. Harcourt, and J. Thomson, Did Langmuir see Langmuir Cells? *AGU Fall meeting* (2012).
- Farquharson, G. and J. Thomson, radar measurements at New River Inlet, *AGU Fall meeting* (2012).
- Rinehimer, J.P., J. Thomson, and C. Chickadel, Super-heating flooding fronts on tidal flats, *AGU Fall meeting* (2012).
- Schwendeman, M., J. Thomson, and J. Gemmrich, Wave breaking dissipation in fetch-limited seas, *AGU Fall meeting* (2012).
- Thomson, J., T. Ozkan-Haller, A. Grilli, and A. Hamilton, The ocean wave resource, *AGU Fall meeting* (2012).
- Thomson et al, Demonstration of a mid-water mooring for tidal turbulence measurements, *AGU Fall meeting* (2012).
- Zippel, S. and J. Thomson, Wave breaking at New River Inlet, *AGU Fall meeting* (accepted for 2012).
- Thyng, K., J. Riley, and J. Thomson, Turbulence comparisons between data and a ROMS simulation in the Puget Sound estuary for tidal hydrokinetic turbine siting, *PECS* (2012).
- Gemmrich, J., Thomson, J. M. Schwendeman, Observations of fetch-limited wave evolution, *WISE* (2012).
- Talbert, J. C. Meining, J. Thomson, Deep Water Mooring Design for a Datawell Directional Waverider Buoy, *ONR/MTS Buoy Workshop*, Victoria, BC (2012).
- Henriksen, S. D. Malcolm, and J. Thomson, Errors from use of effective turbulence in site suitability assessments, *EWEA Wind Power Conference*, Copenhagen (2012).
- Thomson, J., J. Gemmrich, M. Schwendeman, Observations of fetch-limited wave evolution, *Ocean Sciences* (2012).
- Gemmrich, J., S. Vagle, J. Thomson, Breaking waves, turbulence, and bubbles, *Ocean Sciences* (2012).
- Rinehimer, J. P., J. Thomson, C.C. Chickadel, The Role of Tidal Flats in the Coastal Heat Budget: Source or Sink?, *Ocean Sciences* (2012).
- Schwendeman, M., J. Thomson, J. Gemmrich, Spectral energy dissipation in broad-band wave fields, *Ocean Sciences* (2012).
- Bassett, C., J. Thomson, B. Polagye, Ambient noise from cobbles shifting under fast currents, *Ocean Sciences* (2012).
- Henriksen, S. D. Malcolm, and J. Thomson, Errors from use of effective turbulence in site suitability assessments, *AWEA Wind Power Conference*, Atlanta GA, (2012).
- Richmond, M, J. Thomon, V. Durgesh, B. Polagye, Field measurements of turbulence for marine and hydrokinetic inflow conditions at Marrowstone Island, WA, *AGU fall meeting* (2011).
- Krembs, K., D. Mora, J. Thomson, B. Polagye, Admiralty Reach as conduit for low oxygen water intrusions into Puget Sound, *Salish Sea Conference* (2011).
- Cronin et al, Ongoing Ocean Station P Time Series, *World Climate Research Programme* (2011).
- Polagye, B., S. Kramer, S. Parker-Stetter, J. Thomson, Developing capabilities for blade strike monitoring of tidal hydrokinetic projects, *AFS meeting* (2011).
- Bassett, C., B. Polagye, J. Thomson, Approaches to ambient noise characterization at tidal energy sites, *AFS meeting* (2011).
- Horne, J., S. Parker-Stetter, B. Polagye, J. Thomson, K. Fresh, B. Hanson, Characterizing and Monitoring Marine Nekton at Puget Sound's Renewable Energy Site, *ASA/AFS Acoustics workshop* (2011).
- B. Polagye, J. Wood, C. Bassett, D. Tollit, and J. Thomson, Behavioral Response of Harbor Porpoises to Vessel Noise in a Tidal Strait, *ASA annual meeting* (2011).
- Bassett, C., B. Polagye, J. Thomson, Estimating the acoustic impact of a tidal energy project, *ASA annual meeting* (2011).
- McClure, B., J. Horne, and J. Thomson, Economical Evaluation of Biological Parameters at Potential MHK Sites Utilizing the Automated, Autonomous Hydroacoustic Systems, *Hydrovision 2011*.
- Thomson, J. and J. Talbert, Dissipation from a Drifter, *AGU fall meeting* (2010).
- Rinehimer, J., J. Thomson, and C. Chickadel, Observations of ebb flows on tidal flats: Evidence of dewatering?, *AGU fall meeting* (2010).
- Polagye, B., J. Thomson, C. Bassett, J. Epler, Comprehensive Characterization of a Tidal Energy Site, *AGU fall meeting* (2010).
- Polagye, B., C. Bassett, and J. Thomson, Passive acoustics, *Renewable Ocean Energy and the Marine Environment* (2010).
- Thomson, J., C. Chickadel, J.P. Rinehimer, Classification of intertidal sediments using infrared sensing, *Ocean Sciences Meeting* (2010).
- Cronin, M., C. Sabine, S. Emerson, M. Robert, M. Alford, J. Nystuen, E. D'Asaro, J. Thomson, R. Harcourt, C. Eriksen, Ongoing Ocean Station P Time Series, *Ocean Sciences Meeting* (2010).
- Bassett, C., J. Thomson, B. Polagye, Characterizing Underwater Noise at a Tidal Energy Site, *Ocean Sciences Meeting* (2010).
- Giffen, D., B. Raubenheimer, S. Elgar, J. Thomson, Wind-driven flows on a mesotidal flat, *Ocean Sciences Meeting* (2010).
- Jessup, A., J. Thomson, J. Gemmrich, Energy dissipation and the spectral distribution of whitecaps via remote sensing, *Ocean Sciences Meeting* (2010).

- Rinehimer, J.P., J. Thomson, C. Chickadel, Thermal remote sensing of tidal flat hydrodynamics, *Ocean Sciences Meeting* (2010).
- Thomson J., B. Polagye, P. Malte, D. Meggitt, A. Copping, Proposed National Tidal Energy Facility, *Naval Energy Forum* (2009).
- Rinehimer, J., J. Thomson, C. Chickadel, Thermal remote sensing of tidal flat hydrodynamics, *Coastal and Estuarine Research Federation conference* (2009).
- Thomson, J., C. Chickadel, and T. Drexler, Tidal flat sediment classification via heat flux observations, *AGU fall meeting* (2008).
- Chickadel, C., J. Thomson, Thermal remote sensing of tidal flat bathymetry and circulation, *AGU fall meeting* (2008).
- Thomson, J., A. Jessup, and J. Gemmrich, Energy dissipation and the distribution of breaking crests, *WISE meeting* (2008).
- Thomson, J., A. Jessup, and J. Gemmrich, Remote estimation and validation of wave-breaking dissipation, *Ocean Sciences Meeting* (2008).
- Thomson, J., A. Jessup, and J. Gemmrich, Deep-water wave breaking signals: infrared and visual, *Argus Workshop* (2007).
- Thomson, J., S. Elgar, B. Raubenheimer, and T.H.C. Herbers, Infragravity energy loss in the surfzone via nonlinear interactions, *Ocean Sciences Meeting* (2006).
- Thomson, J., S. Elgar, and T.H.C. Herbers, Reflection and tunneling of ocean waves observed at a submarine canyon, *Gordon Conference* (2005).
- Thomson, J., S. Elgar, and T.H.C. Herbers, Observations of Wave Reflection from a Submarine Canyon, *AGU fall meeting* (2004).