

CURRICULUM VITAE

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Education

B.S.—Mechanical Engineering **May 2003**
UNIVERSITY OF MAINE, Orono, ME

M.S.—Mechanical Engineering **August 2005**
UNIVERSITY OF MAINE, Orono, ME

Ph.D.—Mechanical Engineering **May 2010**
UNIVERSITY OF MAINE, Orono, ME
Advisor: Dr. Senthil Vel

Professional Experience

Donald A. Grant Associate Professor of Mechanical Engineering **July 2021 to Present**
Department of Mechanical Engineering
UNIVERSITY OF MAINE, Orono, ME

Associate Professor of Mechanical Engineering **September 2020 to June 2021**
Department of Mechanical Engineering
UNIVERSITY OF MAINE, Orono, ME

Assistant Professor of Mechanical Engineering **September 2018 to September 2020**
Department of Mechanical Engineering
UNIVERSITY OF MAINE, Orono, ME

Libra Assistant Professor of Mechanical Engineering **September 2014 to August 2018**
Department of Mechanical Engineering
UNIVERSITY OF MAINE, Orono, ME

Cooperating Faculty **September 2014 to present**
Advanced Structures and Composites Center
UNIVERSITY OF MAINE, Orono, ME

Research Assistant Professor **March 2010 to August 2014**
Advanced Structures and Composites Center
UNIVERSITY OF MAINE, Orono, ME

Honors and Awards

- University of Maine Advanced Structures and Composites Center Annual Director's Awards, Outstanding Faculty Member Award, 2020.
- University of Maine College of Engineering Early Career Teaching Award, 2018
- Alumni Association Monthly Faculty Excellence Award for October, 2018
- University of Maine College of Engineering Early Career Research Award, 2016
- Bangor Savings Bank and Lyndon Paul LoRusso Faculty Development Award, 2015
- Co-author, OMAE 2014 Best Paper Award, Ocean Renewable Energy Symposium, 2015
- Co-author, The Texas Section of SNAME, 19th Offshore Symposium Best Paper Award, 2014
- University of Maine Advanced Structures and Composites Center Annual Director's Awards, VoltturnUS Team Award and Outstanding Faculty Member Award, 2014
- University of Maine Advanced Structures and Composites Center Annual Director's Awards, VoltturnUS Team Award, 2013
- Maine Economic Improvement Fund Fellowship, 2008
- University of Maine College of Engineering Graduate Assistant Research Award, 2005
- University of Maine College of Engineering Outstanding Teaching Assistant Award, 2005
- University of Maine Provost Fellowship, 2003
- University of Maine Outstanding Student of the College of Engineering, 2003
- University of Maine Valedictorian, 2003

Publications

Book Chapters

- [1] **A.J. Goupee**, S.M.H. Gueydon and A.N. Robertson, *Floating Wind Turbine Tank Testing*, In: *Floating Offshore Wind Energy: The Next Generation of Wind Energy*, J. Cruz and M. Acheson Eds., Springer, 206-233, 2016.

Refereed Journal Articles

- [1] L. Wang, R. Bergua, A. Robertson, A. Wright, D. Zalkind, M. Fowler, E. Lenfest, A. Viselli, **A. Goupee**, R. Kimball, 2023, Experimental investigation of advanced turbine control strategies and load-mitigation measures with model-scale floating offshore wind turbine system, *Applied Energy* **355(1)**: 122343.
- [2] J.L. Lapp, **A. Goupee** and W.A. Friess, 2023, A case study on the administrative impacts of different engineering capstone teaching modalities, *Education Sciences* **13**:1049.
- [3] S. Bhaskaran, A.S. Verma, **A.J. Goupee**, S. Bhattacharya, A.R. Nejad and W. Shi, 2023, Comparison of extreme wind and waves using different statistical methods in 40 offshore wind energy lease areas worldwide, *Energies* **16**:6935.
- [4] M. Fowler, E. Lenfest, A. Viselli, **A. Goupee**, R. Kimball, R. Bergua, L. Wang, D. Zalkind, A. Wright and A. Robertson, 2023, Wind/wave testing of a 1:70-scale performance-matched model of the IEA-Wind 15MW Reference Wind Turbine with real-time ROSCO control and floating feedback, *Machines* **11**:865.

- [5] W.M. West, **A.J. Goupee**, S.T. Hallowell and A.M. Viselli, 2023, Determination of minimum-cost synthetic mooring systems for large floating wind turbines deployed in intermediate water depths, *Journal of Renewable and Sustainable Energy* **15**:013309.
- [6] W. Ramsay, **A. Goupee**, C. Allen, A. Viselli and R. Kimball, 2022, Optimization of a lightweight floating offshore wind turbine with water ballast motion mitigation technology, *Wind* **2**:535-570.
- [7] N. Mendoza, A. Robertson, A. Wright, J. Jonkman, L. Wang, R. Bergua, T. Ngo, T. Das, M. Odeh, K. Mohsin, F.F. Flavia, B. Child, G. Bannga, M. Gowler, **A. Goupee**, R. Kimball, E. Lenfest and A. Viselli, 2022, Verification and validation of a model-scale turbine performance and control strategies for the IEA 15 MW Reference Wind Turbine, *Energies* **15**:7649.
- [8] W.M. West, **A.J. Goupee**, C. Allen and A.M. Viselli, 2022, Floating wind turbine model test to verify a MoorDyn modification for nonlinear elastic materials, *Journal of Offshore Mechanics and Arctic Engineering* **143**(3):032003.
- [9] W. West, **A. Goupee**, S. Hallowell and A. Viselli, 2021, Development of a multi-objective optimization tool for screening designs of taut synthetic mooring systems to minimize mooring component cost and footprint, *Modelling* **2**:728-752.
- [10] A. French, W. Friess, **A. Goupee** and K. Berube, 2021, Design, construction and evaluation of an oscillating vane gust generator for atmospheric flow simulation, *Wind* **1**:63-76.
- [11] J. Ward, **A.J. Goupee**, A.M. Viselli and H. J. Dagher, 2021, Experimental investigation into the dynamic behavior of a floating offshore wind turbine stabilized via a suspended counterweight, *Ocean Engineering* **228**(15):108906.
- [12] J. Ward, **A.J. Goupee**, A.M. Viselli and H. Dagher, 2021, The effect of counterweight mass and line stiffness on the global dynamic performance of a hanging-mass floating offshore wind turbine, *Journal of Offshore Mechanics and Arctic Engineering* **143**(5):052001.
- [13] W.A. Friess and **A.J. Goupee**, 2020, Using continuous per evaluation in team-based capstone projects: A case study, *IEEE Transactions on Education* **63**(2):82-87.
- [14] H.L. Allen, **A.J. Goupee**, A.M. Viselli, C.K. Allen and H.J. Dagher, 2020, Experimental investigation of an annular floating offshore wind turbine hull and comparison to DeepCwind model test data, *Journal of Offshore Mechanics and Arctic Engineering* **142**(2):022001.
- [15] M. Hall and **A.J. Goupee**, 2018, Validation of a hybrid modeling approach to floating wind turbine basin testing, *Wind Energy* **21**(6):391-408.
- [16] M. Hall, **A. Goupee** and J. Jonkman, 2018, Development of performance specifications for hybrid modeling of floating wind turbines in wave basin tests, *Journal of Ocean Engineering and Marine Energy* **4**(1):1-23.
- [17] R. Urbina, J.M. Newton, M.P. Cameron, R.W. Kimball, **A.J. Goupee** and K.P. Thiagarajan, 2017, Characterization of a wind generation system for use in offshore wind turbine development, *Journal of Offshore Mechanics and Arctic Engineering* **140**(2):021901.
- [18] A.C. Young, W. Davids, **A.J. Goupee** and J.D. Clapp, 2017, Computationally efficient finite-element modeling of braided, inflatable structural members with axial reinforcing, *Journal of Engineering Mechanics* **143**(6):04017017.
- [19] A.C. Young, W.G. Davids, D.J. Whitney, J.D. Clapp and **A.J. Goupee**, 2017, Structural testing and analysis of a braided, inflatable fabric torus structure, *Acta Astronautica* **139**:189-200.

- [20] A.C. Young, **A.J. Goupee**, H.J. Dagher and A.M. Viselli, 2017, Methodology for optimizing composite towers for use on floating wind turbines, *Journal of Renewable and Sustainable Energy* **9**:033305.
- [21] **A.J. Goupee**, R.W. Kimball and H.J. Dagher, 2017, Experimental observations of active blade pitch and generator control influence on floating wind turbine response, *Renewable Energy* **104**:9-19.
- [22] K.A. Berube, **A.J. Goupee** and R.A. Lopez-Anido, 2016, Determining the flexural and shear moduli of fiber reinforced polymer composites using three-dimensional digital image correlation, *Experimental Techniques* **40(4)**:1263-1273.
- [23] J.D. Clapp, A.C. Young, W.G. Davids and **A.J. Goupee**, 2016, Bending response of reinforced, inflated, tubular braided fabric structural members, *Thin-Walled Structures* **107**:415-426.
- [24] J.D. Clapp, W.G. Davids, **A.J. Goupee** and A.C. Young, 2016, Experimental determination of inflatable, braided tube constitutive properties, *Strain* **52**:148-161.
- [25] A.M. Viselli, **A.J. Goupee**, H.J. Dagher and C.K. Allen, 2016, Design and model confirmation of the intermediate scale VoltturnUS floating wind turbine subjected to its extreme design conditions offshore Maine, *Wind Energy* **19**:1161-1177.
- [26] A.M. Viselli, **A.J. Goupee** and H.J. Dagher, 2015, Model test of a 1:8 scale floating wind turbine offshore in the Gulf of Maine, *Journal of Offshore Mechanics and Arctic Engineering* **137(4)**:041901-1.
- [27] M. Hall and **A. Goupee**, 2015, Validation of a lumped-mass mooring line model with DeepCwind semisubmersible model test data, *Ocean Engineering* **104**:590-603.
- [28] B.J. Koo, **A.J. Goupee**, R.W. Kimball and K.F. Lambrakos, 2014, Model tests for a floating wind turbine on three different floaters, *Journal of Offshore Mechanics and Arctic Engineering* **136(2)**:020907.
- [29] **A.J. Goupee**, B.J. Koo, R.W. Kimball, K.F. Lambrakos and H.J. Dagher, 2014, Experimental comparison of three floating wind turbine concepts, *Journal of Offshore Mechanics and Arctic Engineering* **136(2)**:020906.
- [30] H.R. Martin, R.W. Kimball, A.M. Viselli and **A.J. Goupee**, 2014, Methodology for wind/wave basin testing of floating offshore wind turbines, *Journal of Offshore Mechanics and Arctic Engineering* **136(2)**:020905.
- [31] A.J. Coulling, **A.J. Goupee**, A.N. Robertson, J.M. Jonkman and H.J. Dagher, 2013, Validation of a FAST semi-submersible floating wind turbine model with DeepCwind test data, *Journal of Renewable and Sustainable Energy* **5**:023116.
- [32] F.M.J. Naus-Thijssen, **A.J. Goupee**, S.E. Johnson, S.S. Vel, C. Gerbi, 2011, The influence of crenulation cleavage development on the bulk elastic properties and seismic wave velocities of phyllosilicate-rich rocks, *Earth and Planetary Science Letters* **311**:212-224.
- [33] F.M.J. Naus-Thijssen, **A.J. Goupee**, S.S. Vel and S.E. Johnson, 2011, The influence of microstructure on seismic wave speed anisotropy in the crust: Computational analysis of quartz-muscovite, *Geophysical Journal International*, **185**:609-621.
- [34] **A.J. Goupee** and S.S. Vel, 2010, Multiscale thermoelastic analysis of random heterogeneous materials. Part II. Direct micromechanical failure analysis and multiscale simulations, *Computational Materials Science*, **48**:39-53.
- [35] S.S. Vel and **A.J. Goupee**, 2010, Multiscale thermoelastic analysis of random heterogeneous materials. Part I. Microstructure characterization and homogenization of material properties, *Computational Materials Science*, **48**:22-38.

- [36] **A.J. Goupee** and S.S. Vel, 2010, Transient multiscale thermoelastic analysis of functionally graded materials, *Composite Structures*, **92**:1372-1390.
- [37] **A.J. Goupee** and S.S. Vel, 2007, Multi-objective optimization of functionally graded materials with temperature-dependent material properties, *Materials & Design* **28**:1861-1879.
- [38] **A.J. Goupee** and S.S. Vel, 2006, Optimization of natural frequencies of bidirectional functionally graded beams, *Structural and Multidisciplinary Optimization* **32**:473-484.
- [39] **A.J. Goupee** and S.S. Vel, 2006, Two-dimensional optimization of material composition of functionally graded materials using meshless analyses and a genetic algorithm, *Computer Methods in Applied Mechanics and Engineering* **195**:5926-5948.

Conference Proceedings

- [1] L.H. Sirkis, **A.J. Goupee** and R.W. Kimball, A tuned OpenFAST hydrodynamics model of the VoltturnUS semisubmersible floating offshore wind turbine, *Proceedings of ISOPE 2023, The 33rd International Ocean and Polar Engineering Conference, Ottawa, Canada, June 19-23, 2023*.
- [2] M.L. Fowler, E. Lenfest, **A.J. Goupee**, R.W. Kimball, D. Zalkind, A. Wright, R. Bergua, L. Wang and A. Robertson, 1:70-scale model testing of the Reference Open Source Controller (ROSCO) on the IEA-Wind 15 MW Reference Wind Turbine including floating feedback, *Proceedings of ISOPE 2023, The 33rd International Ocean and Polar Engineering Conference, Ottawa, Canada, June 19-23, 2023*.
- [3] Y.R. Alkarem, K. Huguenard, R.W. Kimball, B. Hejrati, **A. Goupee**, S. Albertson, J. Fontaine, S.T. Grilli, S. Steele and J. Dahl, Digital twin model development for mitigating floating offshore wind turbine motions due to wave actions, *Proceedings of ISOPE 2023, The 33rd International Ocean and Polar Engineering Conference, Ottawa, Canada, June 19-23, 2023*.
- [4] A. Friess, **A. Goupee** and J. Lapp, Teaching models for Senior Design courses; a case study, *Proceedings of the ASEE 2022 Annual Conference, Minneapolis, Minnesota, June 26-29, 2022*.
- [5] R. Kimball, A. Robertson, M. Fowler, N. Mendoza, A. Wright, **A. Goupee**, E. Lenfest and A. Parker, Results from the FOCAL experimental campaign 1; turbine control co-design, *Proceedings of The Science of Making Torque from Wind Conference, Delft, Netherlands, June 1-3, 2022*.
- [6] E. Lenfest, **A. Goupee**, A. Wright and N. Abbas, Two-DoF model-informed controller gain tuning for several floating wind platforms, *Proceedings of ISOPE 2021, The 31st International Ocean and Polar Engineering Conference, Rhodes, Greece, June 20-25, 2021*.
- [7] C.K. Allen, **A.J. Goupee** and A.M. Viselli, A computationally-efficient frequency domain model of a floating wind turbine with hull-based tuned mass damper elements, *Proceedings of ISOPE 2021, The 31st International Ocean and Polar Engineering Conference, Rhodes, Greece, June 20-25, 2021*.
- [8] D. Zalkind, M. Shields, E. Lenfest, **A. Goupee** and C. Allen, Open-loop control of adjustable tuned mass dampers for floating wind turbine platforms, *Proceedings of ISOPE 2021, The 31st International Ocean and Polar Engineering Conference, Rhodes, Greece, June 20-25, 2021*.

- [9] E. Lenfest, **A.J. Goupee**, A. Wright and N. Abbas, 2020, Tuning of nacelle feedback gains for floating wind turbine controllers using a two-DoF model, *Proceedings of OMAE 2020, ASME 39th International Conference on Ocean, Offshore and Arctic Engineering*, Fort Lauderdale, Florida, USA, June 28-July 3, 2020.
- [10] J.C. Ward, **A.J. Goupee**, A.M. Viselli and H.J. Dagher, 2020, Influence of the mass and line stiffness on the dynamic line tension of a floating offshore wind turbine stabilized by a suspended counterweight, *Journal of Physics: Conference Series* **1542**:012043.
- [11] W.M. West, **A.J. Goupee**, A.M. Viselli and H.J. Dagher, 2020, The influence of synthetic mooring line stiffness model type on global floating offshore wind turbine performance, *Journal of Physics: Conference Series* **1542**:012044.
- [12] W.A. Friess and **A.J. Goupee**, Transformation of a mechanical engineering capstone experience, *Proceedings of the 2019 IEEE Frontiers in Education Conference*, Cincinnati, Ohio, October 16-19, 2019.
- [13] C.K. Allen, **A.J. Goupee**, J. Linder and R. Berry, Simulation of a floating offshore wind turbine with an integrated response mitigation technology, *Proceedings of IOWTC, ASME 1st International Offshore Wind Technical Conference*, San Francisco, California, November 4-7, 2018.
- [14] J.C. Ward, M.J. Fowler, A.M. Viselli, **A.J. Goupee** and H.J. Dagher, Design and validation of a multi-scale model floating offshore test wind turbine, *Proceedings of IOWTC, ASME 1st International Offshore Wind Technical Conference*, San Francisco, California, November 4-7, 2018.
- [15] K.A. McDonald, **A.J. Goupee**, K.A. Berube and R.A. Lopez-Anido, Numerical model for predicting carbon fiber composite cable forces in a cable-stayed bridge, *Proceedings of the 11th International Workshop on Structural Health Monitoring*, Stanford, California, September 12-14, 2017.
- [16] M.J. Fowler, **A.J. Goupee**, C. Allen, A. Viselli and H. Dagher, 1:52 scale testing of the first US commercial scale floating wind turbine, VoltturnUS: Testing overview and the evaluation of scale model testing methods, *Proceedings of OMAE 2017, ASME 36th International Conference on Ocean, Offshore and Arctic Engineering*, Trondheim, Norway, June 25-30, 2017.
- [17] M.G. Dwyer, A.M. Viselli, H.J. Dagher and **A.J. Goupee**, Experimental verification of ABS concrete design methodology applied to the design of the first commercial scale floating offshore wind turbine in the United States, *Proceedings of OMAE 2017, ASME 36th International Conference on Ocean, Offshore and Arctic Engineering*, Trondheim, Norway, June 25-30, 2017.
- [18] M. Hall and **A. Goupee**, Comparing fatigue loads in floating wind turbine basin tests: geometric-scaled, performance-scaled, and hybrid approaches, *Proceedings of ISOPE 2017, The 27th International Ocean and Polar Engineering Conference*, San Francisco, California, June 25-30, 2017.
- [19] C.K. Allen and **A.J. Goupee**, Assessment of wind/wave basin capability for emulating active blade pitch and generator control influence on floating wind turbine response, *Proceedings of ISOPE 2017, The 27th International Ocean and Polar Engineering Conference*, San Francisco, California, June 25-30, 2017.

- [20] C.K. Allen, **A.J. Goupee**, A.M. Viselli and H.J. Dagher, Experimental validation of a spectral-based structural analysis model implemented in the design of the VoltturnUS 6MW floating offshore wind turbine, *Proceedings of ISOPE 2017, The 27th International Ocean and Polar Engineering Conference*, San Francisco, California, June 25-30, 2017.
- [21] D. Todd Griffith, J. Paquette, M. Barone, **A.J. Goupee**, M.J. Fowler, D. Bull and B. Owens, 2016, A study of rotor and platform design trade-offs for large-scale floating vertical axis wind turbines, *The Science of Making Torque from Wind, Journal of Physics: Conference Series* **753**:102003.
- [22] S. McElman, E.-J. de Ridder, A. Koop, **A. Goupee** and X. Arino, Simulation and development of a wind-wave facility for scale testing of offshore floating wind turbines, *Proceedings of OMAE 2016, ASME 35th International Conference on Ocean, Offshore and Arctic Engineering*, Busan, South Korea, June 19-24, 2016.
- [23] M.J. Fowler, **A.J. Goupee** and A.M. Viselli, Advances in model scale testing of floating offshore wind turbines utilizing the W² wind/wave basin, *Proceedings of the Offshore Technology Conference (OTC 2016)*, Houston, Texas, USA, May 2-5, 2016.
- [24] **A.J. Goupee**, R.W. Kimball, E.-J. de Ridder, J. Helder, A.N. Robertson and J.M. Jonkman, A calibrated blade-element/momentum theory aerodynamic model of the MARIN stock wind turbine, *Proceedings of ISOPE 2015, The 25th International Ocean and Polar Engineering Conference*, Kona, Big Island, Hawaii, June 21-26, 2015.
- [25] J.M. Newton, M.P. Cameron, R. Urbina, R.W. Kimball, **A.J. Goupee** and K.P. Thiagarajan, Characterization of a wind tunnel for use in offshore wind turbine development, *Proceedings of OMAE 2015, ASME 34th International Conference on Ocean, Offshore and Arctic Engineering*, St. John's, Newfoundland, May 31-June 5, 2015.
- [26] A.M. Viselli, **A.J. Goupee**, H.J. Dagher and C.K. Allen, VoltturnUS 1:8 Conclusion of 18-months of operation of the first grid-connected floating wind turbine prototype in the Americas, *Proceedings of OMAE 2015, ASME 34th International Conference on Ocean, Offshore and Arctic Engineering*, St. John's, Newfoundland, May 31-June 5, 2015.
- [27] C.K. Allen, **A.J. Goupee**, H.J. Dagher and A.M. Viselli, Validation of global performance numerical design tools used for design of floating offshore wind turbines, *Proceedings of OMAE 2015, ASME 34th International Conference on Ocean, Offshore and Arctic Engineering*, St. John's, Newfoundland, May 31-June 5, 2015.
- [28] J.D. Clapp, A.C. Young, W.G. Davids and **A.J. Goupee**, Structural response of hypersonic inflatable aerodynamic decelerator braided tube components and elements, *Proceedings of the 23rd AIAA Decelerator Systems Technology Conference and Seminar*, Daytona Beach, Florida, March 30-April 2, 2015.
- [29] A.M. Viselli, H.J. Dagher, S.M. Tomlinson, A.C. Young, **A.J. Goupee** and S.A. Hettick, Design, fabrication, and testing of a composite tower for floating offshore wind turbine, *Proceedings of the Composites and Advanced Materials Expo*, Orlando, Florida, October 13-16, 2014.
- [30] A.M. Viselli, **A.J. Goupee** and H.J. Dagher, Model test of a 1:8 scale floating wind turbine in the Gulf of Maine, *Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering*, San Francisco, California, June 8-13, 2014.
- [31] **A.J. Goupee**, M.J. Fowler, R.W. Kimball, J. Helder and E.-J. de Ridder, Additional wind/wave basin testing of the DeepCwind semi-submersible with a performance-matched wind turbine, *Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering*, San Francisco, California, June 8-13, 2014.

- [32] R. Kimball, **A.J. Goupee**, M.J. Fowler, E.-J. de Ridder and J. Helder, Wind/wave basin verification of a performance-matched scale-model wind turbine on a floating offshore wind turbine platform, *Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering*, San Francisco, California, June 8-13, 2014.
- [33] B. Koo, **A.J. Goupee**, K. Lambrakos and H.-J. Lim, Model test data correlations with fully coupled hull/mooring analysis for a floating wind turbine on a semi-submersible platform, *Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering*, San Francisco, California, June 8-13, 2014.
- [34] A.C. Young, S. Hettick, H.J. Dagher, A.M. Viselli and **A.J. Goupee**, VoltturnUS 1:8-scale FRP floating wind turbine tower: Analysis, design, testing and performance, *Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering*, San Francisco, California, June 8-13, 2014.
- [35] M.J. Fowler, B. Owens, D. Bull, **A.J. Goupee**, J. Hurtado, D.T. Griffith and M. Alves, Hydrodynamic module coupling in the Offshore Wind Energy Simulation (OWENS) toolkit, *Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering*, San Francisco, California, June 8-13, 2014.
- [36] A.M. Viselli, H.J. Dagher and **A.J. Goupee**, VoltturnUS 1:8 - Design and testing of the first grid-connected offshore wind turbine in the U.S.A., *Proceedings of the Texas Section of the Society of Naval Architecture and Marine Engineers 19th Offshore Symposium*, Houston, Texas, USA, February 6, 2014 (Received Conference Best Paper Award), 2014.
- [37] K.P. Thiagarajan, R. Kimball, **A. Goupee** and M. Cameron, Design and development of a multi-directional wind-wave ocean basin, *Proceedings of the Texas Section of the Society of Naval Architecture and Marine Engineers 19th Offshore Symposium*, Houston, Texas, USA, February 6, 2014.
- [38] M. Masciola, A. Robertson, J. Jonkman, A. Coulling and **A. Goupee**, Assessment of the importance of mooring dynamics on the global response of the DeepCwind floating semi-submersible offshore wind turbine, *Proceedings of ISOPE 2013, The 23rd International Ocean and Polar Engineering Conference*, Anchorage, Alaska, June 30-July 5, 2013.
- [39] A.J. Coulling, **A.J. Goupee**, A.N. Robertson and J.M. Jonkman, Importance of second-order difference-frequency wave-diffraction forces in the validation of a FAST semi-submersible floating wind turbine model, *Proceedings of OMAE 2013, ASME 32nd International Conference on Ocean, Offshore and Arctic Engineering*, Nantes, France, June 9-14, 2013.
- [40] M.J. Fowler, R.W. Kimball, D.A. Thomas III and **A.J. Goupee**, Design and testing of scale model wind turbines for use in wind/wave basin model tests of floating offshore wind turbines, *Proceedings of OMAE 2013, ASME 32nd International Conference on Ocean, Offshore and Arctic Engineering*, Nantes, France, June 9-14, 2013.
- [41] A.N. Robertson, J.M. Jonkman, **A.J. Goupee**, A.J. Coulling, I. Prowell, J. Browning, M. Masciola and P. Molta, Summary of conclusions and recommendations drawn from the DeepCwind scaled floating offshore wind system test campaign, *Proceedings of OMAE 2013, ASME 32nd International Conference on Ocean, Offshore and Arctic Engineering*, Nantes, France, June 9-14, 2013.
- [42] B. Koo, **A.J. Goupee**, K. Lambrakos and H.-J. Lim, Model test correlation study for a floating wind turbine on a tension leg platform, *Proceedings of OMAE 2013, ASME 32nd International Conference on Ocean, Offshore and Arctic Engineering*, Nantes, France, June 9-14, 2013.

- [43] I. Prowell, A. Robertson, J. Jonkman, G.M. Stewart and **A.J. Goupee**, Numerical prediction of experimentally observed scale-model behavior of an offshore wind turbine supported by a tension-leg platform, *Proceedings of the Offshore Technology Conference (OTC 2013)*, Houston, Texas, USA, May 6-9, 2013.
- [44] R.W. Kimball, **A.J. Goupee**, A.J. Coulling and H.J. Dagher, Model test comparisons of TLP, spar-buoy and semi-submersible floating offshore wind turbine systems, *Proceedings of the 2012 SNAME Annual Meeting and Expo*, Providence, Rhode Island, October 24-26, 2012.
- [45] **A.J. Goupee**, B. Koo, K. Lambrakos and R. Kimball, Model tests for three floating wind turbine concepts, *Proceedings of the Offshore Technology Conference (OTC 2012)*, Houston, Texas, USA, April 30-May 3, 2012.
- [46] B. Koo, **A.J. Goupee**, K. Lambrakos and R. Kimball, Model tests for a floating wind turbine on three different floaters, *Proceedings of OMAE 2012, ASME 31st International Conference on Ocean, Offshore and Arctic Engineering*, Rio de Janeiro, Brazil, July 1-6, 2012.
- [47] **A.J. Goupee**, B. Koo, R. Kimball and K. Lambrakos, Experimental comparison of three floating wind turbine concepts, *Proceedings of OMAE 2012, ASME 31st International Conference on Ocean, Offshore and Arctic Engineering*, Rio de Janeiro, Brazil, July 1-6, 2012.
- [48] H. Martin, R. Kimball, A. Viselli and **A.J. Goupee**, Methodology for wind/wave basin testing of floating offshore wind turbines, *Proceedings of OMAE 2012, ASME 31st International Conference on Ocean, Offshore and Arctic Engineering*, Rio de Janeiro, Brazil, July 1-6, 2012.
- [49] A. Jain, A.N. Robertson, J.M. Jonkman, **A.J. Goupee** and R.W. Kimball, A.H.P. Swift, FAST code verification of scaling laws for DeepCwind floating systems tests, *Proceedings of ISOPE 2012, The 22nd International Ocean and Polar Engineering Conference*, Rhodes, Greece, June 17-22, 2012.
- [50] G.M. Stewart, M.A. Lackner, A. Robertson, J. Jonkman and **A.J. Goupee**, Calibration and validation of a FAST floating wind turbine model of the DeepCwind scaled tension-leg platform, *Proceedings of ISOPE 2012, The 22nd International Ocean and Polar Engineering Conference*, Rhodes, Greece, June 17-22, 2012.
- [51] J.R. Browning, J. Jonkman, A. Robertson and **A.J. Goupee**, Calibration and validation of the FAST dynamic simulation tool for a spar-type floating offshore wind turbine, *Proceedings of the Science of Making Torque from Wind Conference*, Oldenburg, Germany, October 9-11, 2012.
- [52] S.S. Vel and **A.J. Goupee**, Multiscale design of functionally graded materials, *Proceedings of the 2008 NSF CMMI Engineering Research and Innovation Conference*, Knoxville, Tennessee, January 2008.
- [53] S.S. Vel and **A.J. Goupee**, Multi-objective optimization of geometric dimensions and material composition of functionally graded components, *Proceedings of the Multiscale and Functionally Graded Materials Conference 2006*, Honolulu, Hawaii. Editors G. H. Paulino, M.-J. Pindera, R. H. Dodds, Jr., F. A. Rochinha, E. V. Dave, and L. Chen, American Institute of Physics, 978, pp. 610-615, 2008.
- [54] S.S. Vel, **A.J. Goupee** and J.L. Pelletier, Multi-objective design optimization of functionally graded materials, *Proceedings of the 2006 NSF Design, Service, and Manufacturing Grantees and Research Conference*, St. Louis, Missouri, July 24-27, 2006.

- [55] S.S. Vel and **A.J. Goupee**, A Methodology for the optimization of material composition of functionally graded materials, *Proceedings of the 2005 NSF Design, Service and Manufacturing Grantees and Research Conference*, Scottsdale, Arizona, Jan 3-6, 2005.
- [56] **A.J. Goupee** and S.S. Vel, Two-dimensional thermomechanical analysis and optimization of functionally graded materials, *Advances in Computational and Experimental Engineering and Sciences*, Editors A. Tadeu and Satya N. Atluri, pp. 1705-1710, Tech Science Press., 2004.

Patents

- [1] C.K. Allen, A.M. Viselli, **A.J. Goupee**, H.J. Dagher, R.E. Berry, J.L. Lindner, G.S. Gant, J.S. Townsend, R.L. Williams, Motion absorbing system and method for a structure, U.S. Patent 11,279,452, issued March 22, 2022.
- [2] H.J. Dagher, A.M. Viselli and **A.J. Goupee**, Floating hybrid composite wind turbine platform and tower system with suspended mass, U.S. Patent 10,598,155, issued March 24, 2020.
- [3] H.J. Dagher, A.M. Viselli and **A.J. Goupee**, Floating hybrid composite wind turbine platform and tower system, U.S. Patent 9,518,564, issued December 13, 2016.
- [4] H.J. Dagher, A.M. Viselli and **A.J. Goupee**, Floating wind turbine platform and method of assembling, U.S. Patent 9,394,035 B2, issued July 19, 2016.

Technical Reports

- [1] C. Allen, A. Viselli, H. Dagher, **A. Goupee**, E. Gaertner, N. Abbas, M. Hall and G. Barter, Definition of the UMaine VoltturnUS-S Reference Platform Developed for the IEA Wind 15-Megawatt Offshore Reference Wind Turbine, *NREL Report NREL/TP-5000-76773*, July 2020.
- [2] **A. Goupee**, Analysis of Eastern Wind Power 30m² VAWT Field Data, *Advanced Structures and Composites Center Report Number 17-8-1451*, August 2016.
- [3] **A. Goupee**, C. Allen, M. Cameron, C. Libby and R. Urbina, Wave Basin Testing of the 1:50-scale Float Inc. System, *Advanced Structures and Composites Center Report Number 16-17-1330*, January 2016.
- [4] **A. Goupee**, C. Allen, M. Cameron, C. Libby and R. Urbina, Wave Basin Testing of the 1:50-scale Oscilla Power Inc. System, *Advanced Structures and Composites Center Report Number 16-16-1330*, January 2016.
- [5] **A. Goupee**, C. Allen, M. Cameron, C. Libby and R. Urbina, Wave Basin Testing of the 1:50-scale RTI Wave Power System, *Advanced Structures and Composites Center Report Number 16-15-1330*, January 2016.
- [6] A. Robertson, J. Jonkman, M. Masciola, **A. Goupee**, A. Coulling and C. Luan, Definition of the Semisubmersible Floating System for Phase II of OC4, *NREL Report NREL/TP-5000-60601*, September 2014.
- [7] M. Fowler, D. Bull and **A. Goupee**, A Comparison of Platform Options for Deep-water Floating Offshore Vertical Axis Wind Turbines: An Initial Study, *Sandia Report SAND2014-16800*, August 2014.
- [8] H. Dagher, A. Young and **A.J. Goupee**, Feasibility of Using a Composite Materials Tower Atop a Floating Offshore Wind Turbine Steel Spar Hull, *Advanced Structures and Composites Center Report Number 13-37-1134*, July 10, 2013.

- [9] **A.J. Goupee**, P. Drown, C. Libby, D. Gjeta and Y. Yamamoto, Detailed Cost of Energy Analysis for SWF System, *Advanced Structures and Composites Center Report Number 13-44-1048*, May 24, 2013.
- [10] A. Viselli, **A.J. Goupee**, H.J. Dagher, J. Chung, T. Snape, M. Lankowski, D. Jalbert, Feasibility Study for Offshore Floating Wind Turbine Composite Towers, *AEWC Report Number 12-15.941A*, December 7, 2011.
- [11] **A.J. Goupee**, Oceanwind XS-770 Floating Wind Turbine Initial Analysis Final Report, *AEWC Report Number 11-28*, September 13, 2010.

Presentations

- [1] **A.J. Goupee**, The NASA Floater: High-efficiency concrete floating turbine foundation with motion mitigation technology, *Afloat – American Floating Offshore Wind Technical Summit*, September 11-14, 2022.
- [2] W. Ramsay, C.K. Allen and **A.J. Goupee**, Optimization of a lightweight floating offshore wind turbine with water-ballast motion mitigation technology, *National Wind Technology Seminar Series*, July 21, 2022.
- [3] **A. Goupee** and E. Lenfest, Development of a Generic FOWT Control Tuning Strategy – A Work in Progress, *National Wind Technology Seminar Series*, July 25, 2019.
- [4] **A. Goupee**, A. Friess, C. Davis and Z. Hindley, Development of experimental and computational methods for improving upweller flow characteristics, *Northeast Aquaculture Conference and Exposition*, January 9-11, 2019.
- [5] **A.J. Goupee**, Optimal damping of large structures using a fluid harmonic absorber, *Maine Space Grant Consortium Annual Affiliate Meeting*, June 28, 2018.
- [6] **A.J. Goupee**, Floating Wind Turbine Technology Development at the University of Maine, *University of New Hampshire Center for Coastal and Ocean Mapping/Joint Hydrographic Center/Center for Ocean Engineering Seminar Series*, February 23, 2018.
- [7] **A.J. Goupee**, New England Aqua Ventus I: US DOE Advanced Technology Demonstration Program for Offshore Wind, Keynote address given at *The 27th International Ocean and Polar Engineering Conference*, San Francisco, California, June 25-30, 2017.
- [8] D. Lopez, **A. Goupee** and J. Arimond, Blade fatigue test design by genetic algorithm optimization, *AWEA WINDPOWER 2017 Conference & Exhibition*, Anaheim, CA, May 22-25, 2017.
- [9] M. Hall and **A.J. Goupee**, A single-axis hybrid modelling system for floating wind turbine basin testing, *EERA DeepWind'2016 Deep Sea Offshore Wind R&D Conference*, Trondheim, Norway, January 20-22, 2016.
- [10] **A.J. Goupee**, Basin testing of floating turbines: Current state and technical gaps, UMaine W², *Matthew R. Simmons Memorial Summit: A Technology Roadmap for Floating Offshore Wind*, Orono, Maine, October 1-2, 2015.
- [11] **A.J. Goupee**, Floating Offshore Wind: Becoming a Reality?, *Penobscot Marine Museum*, September 25, 2014.
- [12] A.M. Viselli, **A.J. Goupee**, H.J. Dagher and C. Allen, Design and model confirmation of the intermediate scale VoltturnUS floating turbine subject to its extreme design conditions, *AWEA WINDPOWER 2014 Conference and Exhibition*, Las Vegas, Nevada, May 5-8, 2014.

- [13] A.J. Coulling, **A.J. Goupee**, A.N. Robertson, J.M. Jonkman and H.J. Dagher, Validation of a FAST floating wind turbine model using data from the DeepCwind semi-submersible model tests, *AWEA WINDPOWER 2013 Conference and Exhibition*, Chicago, Illinois, May 5-8, 2013.
- [14] A.J. Coulling, **A.J. Goupee**, A.N. Robertson, J.M. Jonkman and H.J. Dagher, Validation of a FAST floating wind turbine model using data from the DeepCwind semi-submersible model tests, *AWEA Offshore WINDPOWER 2012 Conference and Exhibition*, Virginia Beach, Virginia, October 9-11, 2012.
- [15] **A.J. Goupee**, H.R. Martin, A.M. Viselli, R.W. Kimball, H.J. Dagher, Model testing of the coupled aero-hydro-elastic response of three floating wind turbine concepts, *AWEA Windpower 2012 Conference and Exhibition*, Atlanta, Georgia, June 3-6, 2012.
- [16] **A.J. Goupee**, Model testing of the coupled aero-hydro-elastic response of three floating wind turbine concepts, *Colloquium*, Department of Physics & Astronomy, University of Maine, Orono, Maine, September 2011.
- [17] **A.J. Goupee**, DeepCwind 1/50th scale floating wind turbine model testing overview, *2011 Wind Energy Research Workshop*, UMass Lowell Inn & Conference Center, Lowell, Massachusetts, September 2011.
- [18] **A.J. Goupee**, DeepCwind 1/50th scale floating wind turbine model testing overview, *8th Annual Energy Ocean International Conference and Exhibition*, Portland, Maine, June 2011.
- [19] **A.J. Goupee**, Refinement and validation of a fully coupled aero-hydro-servo-elastic floating wind turbine simulator, *First Annual Deepwater Offshore Wind Conference*, Northport, Maine, October 2010.

Awarded Research Grants

- [1] ARPA-e Atlantis Phase II: VoltturnUS+ concrete floating wind turbine foundation technology pilot, U.S. Department of Energy, A. Viselli (PI), A.J. Goupee (Co-PI), R. Kimball (Co-PI), C. Allen (Co-PI), H. Dagher (Co-PI), A. Verma (Co-PI), M. Fowler (Co-PI), \$11,662,235, June 2023 to May 2026.
- [2] Norway-US partnership on higher education and research for strengthening the development of next generation offshore Wind infrastructures (NUWind), Norwegian Ministry of Education and Research, A. Verma (PI), **A.J. Goupee** (Co-PI), L. Ross (Co-PI), K. Berube (Co-PI), W. Friess (Co-PI), R. Kimball (Co-PI), \$210,746, November 2022 to December 2026.
- [3] Maine workforce development on offshore wind technology, US Treasury Department, A. Verma (PI), **A.J. Goupee** (Co-PI), R. Kimball (Co-PI), D. Brady (Co-PI), W. Friess (Co-PI) and R. Fisher (Co-PI), \$266,669, October 2022 to September 2023.
- [4] Quantifying spatial and temporal variability of temperate snowpack properties using coupled radar, remote sensing, and modeling techniques, US Department of Defense, Army Corps of Engineers, C. Gerbi (PI), **A.J. Goupee** (Co-PI), K. Schild (Co-PI), K. Kreutz (Co-PI) and S. Campbell (Senior Personnel), \$1,504,064, June 2022 to May 2025.
- [5] Design, validation and certification of taut-synthetic mooring line systems for floating wind turbines in water depths 45-80m to unlock 450GW of inaccessible wind resource off the US coast near dense population centers, New York State Energy Research and Development Authority, A.M. Viselli (PI), **A.J. Goupee** (Co-PI), H.J. Dagher (Co-PI), M.J. Fowler (Co-PI), C.K. Allen (Co-PI), \$1,500,000, January 2020 to January 2023.

- [6] Demonstrating a reduced-footprint synthetic rope mooring system that minimizes fishing impacts and costs for a 10 MW+ floating wind turbine, U.S. Department of Energy, H.J. Dagher (PI), **A.J. Goupee** (Co-PI), A.M. Viselli (Co-PI), C.K. Allen (Co-PI), R.W. Kimball (Co-PI), \$5,000,000, October 2020 to August 2024.
- [7] Demonstration Aqua Ventus 10 MW redesign, U.S. Department of Energy, H.J. Dagher (PI), **A.J. Goupee** (Co-PI), A.M. Viselli (Co-PI), C.K. Allen (Co-PI), R.W. Kimball (Co-PI), \$5,896,535, January 2020 to December 2022.
- [8] The NASA Floater: 15 MW Ultra-light concrete hull with sea-water ballast tuned mass damper, U.S. Department of Energy ARPA-E, A.M. Viselli (PI), **A.J. Goupee** (Co-PI), C.K. Allen (Co-PI), R.W. Kimball (Co-PI), H.J. Dagher (Co-PI), \$1,175,416, January 2020 to December 2021.
- [9] The FOCAL test program, U.S. Department of Energy ARPA-E, A.M. Viselli (PI), **A.J. Goupee** (Co-PI), M.J. Fowler (Co-PI), R.W. Kimball (Co-PI), H.J. Dagher (Co-PI), \$1,500,000, January 2020 to December 2021.
- [10] RII Track-4: Advanced Control Strategies for Floating Offshore Wind Farms, National Science Foundation, **A.J. Goupee** (PI), \$96,275, October 2018 to September 2020.
- [11] Model Test of a Fluid Harmonic Absorber Equipped Floating Wind Turbine, NASA, **A.J. Goupee** (PI), C.K. Allen (Co-PI), \$24,811, September 2018.
- [12] Optimal Damping of Large Floating Wind Turbine Structures Using Fluid Harmonic Absorber and Disruptive Tuned Mass Technologies, Maine Space Grant Consortium, \$25,000, **A.J. Goupee** (PI), A. Viselli (Co-PI) and C.K. Allen (Co-PI), October 2017 to October 2018.
- [13] New England Aqua Ventus I – Part II, U.S. Department of Energy, H. Dagher (PI), A. Viselli (Co-PI), J. Ward (Co-PI), **A.J. Goupee** (Co-PI) and D. Brady (Co-PI), \$3,700,000, June 2016 to December 2017.
- [14] Analysis of Eastern Wind Power 30m² VAWT Field Data, Eastern Wind Power, \$5,000, **A.J. Goupee** (PI) and A.M. Viselli (Co-PI), August 2016.
- [15] Pretesting of 1:50 Scale Wave Energy Device, Oscilla Power, \$9,850, A. Viselli (PI), K. Thiagarajan (Co-PI) and **A.J. Goupee** (Co-PI), October 2015 to November 2015.
- [16] Testing for Vessels and Marine Structures, Maine Technology Institute, \$351,092, **A.J. Goupee** (PI), J. Koskie (Co-PI), H. Dagher (Co-PI), K. Thiagarajan (Co-PI) and A. Viselli (Co-PI), July 2015 to December 2018.
- [17] Proof of Concept Small Scale Wave Energy Converter Testing, U.S. Department of Energy, \$199,805, K. Thiagarajan (PI), A. Viselli (Co-PI) and **A.J. Goupee** (Co-PI), November 2015 to February 2016.
- [18] Aerodynamic Loads Analysis of Eastern Wind Power 30m² VAWT, Eastern Wind Power, \$13,500, A. Viselli (PI) and **A.J. Goupee** (Co-PI), August 2015 to September 2015.
- [19] Makani Floating Station, Google X, \$29,993, H.D. Dagher (PI), A. Viselli (Co-PI) and **A.J. Goupee** (Co-PI), August 2015 to September 2015.
- [20] Behavior and Optimization of Hypersonic Inflatable Atmospheric Decelerator Devices for Spacecraft Re Entry, NASA Experimental Program to Stimulate Competitive Research, \$743,752, W. Davids (PI), J. Clapp (Co-PI), **A.J. Goupee** (Co-PI) and P. Melrose (Co-PI), July 2013 to June 2016.
- [21] Development of W² – A Unique Offshore Wind-Wave Generation System, National Science Foundation, Major Research Instrumentation Program, \$983,997, K. Thiagarajan (PI), Q. Zou (Co-PI), **A.J. Goupee** (Co-PI) and H. Dagher (Co-PI), August 2013 to July 2015.

- [22] Durability Evaluation of Composite and Cementitious Materials Through Accelerated Laboratory and Long-term Field Testing, and New Building Technology, U.S. Army Corps of Engineers ERDC, \$1,500,000, H. Dagher (PI), A. Viselli (Co-PI), **A.J. Goupee** (Co-PI), K. Goslin (Co-PI), L. Parent (Co-PI) and W. Davids (Co-PI), August 2013 to August 2014.
- [23] Detailed Cost of Energy Analysis for SWF System, Maine Technology Institute Seed Grant, \$25,000, **A.J. Goupee** (PI), May 2012 to May 2013.
- [24] Innovative Offshore Vertical-Axis Wind Turbine Rotors, U.S. Department of Energy, \$53,590, H.J. Dagher (PI), J. Nader (Co-PI) and **A.J. Goupee** (Co-PI), October 2011 to September 2013.
- [25] Integrated Analytical-computational Analysis of Microstructural Influences on Seismic Anisotropy, National Science Foundation, \$298,171, S. E. Johnson (PI), S.S. Vel (Co-PI), C. Gerbi (Co-PI) and **A.J. Goupee** (Co-PI), July 2011 to June 2014.
- [26] MTI Development Award Grant Writing Assistance for Oceanwind Technology, LLC, Maine Technology Institute Seed Grant, \$4,000, **A.J. Goupee** (PI), October 2010 to February 2011.
- [27] Submerged Web Foundation: Hydrodynamic Simulation, Maine Technology Institute Seed Grant, \$4,000, **A.J. Goupee** (PI), October 2010 to February 2011.

Internally Funded Research Grants

- [1] Optimization and automation of a shellfish nursery upweller, 2018 Research Reinvestment Fund Seed Grant Program, \$62,411, **A.J. Goupee** (PI), W. Friess (Co-PI) and C. Davis (Co-PI).
- [2] Distributed differential pressure measurement for assessment of building infiltration rate, 2017 Research Reinvestment Funds Undergraduate Assistantship Competition, \$7,000, W.A. Friess (PI), **A. Goupee** (Co-PI), D. Dvorak (Co-PI), K. Berube (Co-PI), M. Davis (Co-PI).
- [3] Advancing marine technology for naval and commercial ships using the Alford W² Ocean Engineering Laboratory, 2016 Research Reinvestment Funds Graduate Assistantship Competition, \$20,000, K.P. Thiagarajan (PI), **A.J. Goupee** (Co-PI), W.A. Friess (Co-PI) and M.P. Davis (Co-PI), June 2016 to May 2017.
- [4] Validation of the Advanced Structures and Composites Center's W² Wind/Wave Basin, Funding from 2010 State of Maine Bonds for Maine marine Wind Energy Demonstration Site Fund, \$178,480, **A.J. Goupee** (PI), April 2015 to November 2015.
- [5] Coupled Modeling Support for 100% FEED of Aqua Ventus I Floating Offshore Wind Turbine Demonstration Project, Funding from U.S. Department of Energy project titled New England Aqua Ventus I – 100% Hull Design, \$16,667, **A.J. Goupee** (PI), April 2015 to December 2015.
- [6] Bangor Savings Bank and Lyndon Paul LoRusso Faculty Development Award, \$1,500, **A. J. Goupee** (PI), May 2015.

Teaching Activities

Teaching Assignments at the University of Maine

Course Number	Course	Semester	Enrollment	Overall Rating of Instructor*
MEE 251	Strength of Materials	Fall 2015	28	5.00
MEE 252	Statics/Strength of Materials	Fall 2004	19	4.86
		Fall 2005	29	4.86
MEE 270	Dynamics	Fall 2013	28	4.58
		Fall 2014	32	4.90
		Spring 2015	65	4.49
		Spring 2015	30	4.50
		Spring 2016	49	4.47
		Fall 2016	30	4.81
		Fall 2017	12	4.91
		Spring 2019	37	4.73
MEE 442	Mechanical Lab. II	Fall 2016	30	N/A
MEE 471	Mechanical Vibrations	Spring 2005	44	4.48
		Spring 2017	64	4.54
		Fall 2021	35	4.64
		Fall 2022	50	4.70
MEE 480/ CIE 480	Wind Energy Engineering	Spring 2013	45	4.67
		Spring 2014	67	4.85
		Spring 2016	69	4.74
		Spring 2017	57	4.73
		Fall 2018	69	4.83
		Spring 2022	74	4.88
	Summer 2023	31	4.81	
MEE 487 [#]	Capstone Design I	Fall 2017	76	4.28
		Fall 2018	86	3.80
		Fall 2019	80	4.00
		Fall 2021	112	4.57
		Fall 2022	82	4.79
MEE 488 [#]	Capstone Design II	Spring 2018	74	3.86
		Spring 2019	84	3.67
		Spring 2020 [%]	80	4.41
		Spring 2022	112	4.58
		Spring 2023	82	4.35
MEE 573	Advanced Vibrations I	Spring 2023	12	5.00

*Scale ranges from 1 (Below Average) to 5 (Excellent)

[#]Co-taught courses [%]Individually taught; course format adjusted due to COVID-19

Student Supervision

Ph.D. Students

- [1] C. Allen, Ph.D. in CIE, to be completed in 2024, Co-advised with Dr. Anthony Viselli.
- [2] M. Fowler, “The Floating Offshore Wind and Controls Advanced Laboratory program: 1:70-scale testing of a 15 MW floating wind turbine,” Ph.D. in MEE, 2023, Co-advised with Dr. Richard Kimball.
- [3] W. West, “Optimization of synthetic mooring systems for floating offshore wind turbines,” Ph.D. in MEE, 2022, Co-advised with Dr. Anthony Viselli.
- [4] J. Ward, “Numerical and experimental investigations into the multi-body dynamics of a floating offshore wind turbine stabilized by a suspended counterweight,” Ph.D. in MEE, 2020, Co-advised with Dr. Habib Dagher.
- [5] A. Young, “Large payload HIAD systems: Development of computationally efficient modeling strategies and structural investigations,” Ph.D. in CIE, 2017, Co-advised with Dr. William Davids.
- [6] M. Hall, “Hybrid Modeling of Floating Wind Turbines,” Ph.D. in MEE, 2016.

M.S. Students

- [1] A. Rathbun, M.S. in MEE, to be completed in 2025.
- [2] I. Sewell, M.S. in MEE, to be completed in 2025, Co-advised with Dr. Amrit Verma.
- [3] J. Dagher, M.S. in MEE, to be completed in 2024, Co-advised with Dr. Anthony Viselli.
- [4] L. Sirkis, “A tuned hydrodynamics model of the VoltturnUS semisubmersible floating offshore wind turbine in OpenFAST,” M.S. in MEE, 2023, Advisor.
- [5] B. Blood, “Comparison of global performance of a 15, 20, and 24 MW floating offshore wind turbine,” M.S. in MEE, 2023, Co-advised with Dr. Anthony Viselli.
- [6] W. Ramsay, “Optimization of a lightweight floating offshore wind turbine with water-ballast motion mitigation technology,” M.S. in MEE, 2022, Co-advised with Dr. Anthony Viselli.
- [7] B. Kohler, “Implementation of a structural health monitoring system for carbon fiber composite strands in the Penobscot Narrows Bridge” M.S. in MEE, 2021, Co-advised with Dr. Roberto Lopez-Anido.
- [8] E. Lenfest, “Active blade pitch and hull-based structural control of floating offshore wind turbines,” M.S. in MEE, 2021.
- [9] H. Allen, “Global performance testing, simulation, and optimization of a 6-MW annular floating offshore wind turbine hull,” M.S. in MEE, 2019, Co-advised with Dr. Habib Dagher.
- [10] W. West, “Design and modeling of synthetic moorings for floating offshore wind turbines using a lumped mass mooring model,” M.S. in MEE, 2019, Co-advised with Dr. Anthony Viselli.
- [11] M. Dwyer, “Experimental verification of ABS concrete design methodologies applied to floating offshore structures,” M.S. in CIE, 2017, Co-advisor.
- [12] D. Lopez, “Optimization of wind turbine blade fatigue test design,” M.S. in MEE, 2017.
- [13] J. Newton, “Characterization of a wind tunnel for use in offshore wind turbine development with mitigation measures for the wall effect of proximal structures,” M.S. in MEE, 2016.
- [14] A. Dunham, P.S.M. in Engineering and Business, 2016.
- [15] C. Libby, “Design and Implementation of Data Acquisition Systems for use in a Scaled Deployment of a Floating Offshore Wind Turbine,” M.S. in MEE, 2014.

- [16] M. Fowler, “Development of a Performance Matched Wind Turbine and Analysis Tools for Model Scale Testing of Floating Offshore Wind Turbines,” M.S. in MEE, 2014.
- [17] A. Young, “Investigations Into the Use of a Composite Tower on Floating Offshore Wind Turbine Platforms,” M.S. in CIE, 2013.
- [18] C. Allen, “The Implementation of Morison’s Equation in Dynamic Modeling and Structural Analysis of a Floating Offshore Wind Turbine,” M.S. in CIE, 2013.
- [19] A. Coulling, “Validation of a FAST Semi-submersible Floating Wind Turbine Numerical Model with DeepCwind Test Data,” M.S. in CIE, 2013.
- [20] H. Martin, “Development of a Scale Model Wind Turbine for Testing of Offshore Floating Wind Turbine Systems,” M.S. in CIE, 2011.

Service on Thesis Committees

- [1] L. Dickson, “The performance analysis and optimization of wave energy converters from modeling to basin testing,” M.S. in MEE, 2023.
- [2] A. McGlynn, “Development, verification, and use of active mooring simulators for scale model testing of floating offshore wind turbines at 1:50 and 1:70 scale,” M.S. in MEE, 2023.
- [3] Md.T. Hossain, “Investigating the effectiveness of a haptic feedback system to improve the gait speed of older adults in overground walking,” M.S. in MEE, 2023.
- [4] A. Parker, “Development and testing of a 1:70 scale model wind turbine of the IEA Reference 15 MW floating offshore system,” M.S. in MEE, 2022.
- [5] J. Nagy, “Development of a structural finite element modeling approach for hybrid composite-steel shipping containers,” M.S. in MEE, 2022.
- [6] J. Bloom, “Gait rehabilitation using biomechanics and exoskeletons,” M.S. in MEE, 2020.
- [7] S. Taba, “Characterization of coated particles to use in high-temperature solid particle receivers,” M.S. in MEE, 2020.
- [8] D. Chizhik, “A linear actuator/spring steel driven glove for assisting individuals with activities of daily living,” M.S. in MEE, 2020.
- [9] A. French, “Investigation of infiltration measurements using wind-induced pressure response on an enclosure,” M.S. in MEE, 2020.
- [10] H. Majeed, “Development of finite element techniques to simulate concrete-filled fiber-reinforced polymer tube structures,” Ph.D. in CIE, 2019.
- [11] W. Hsu, “Dynamic modeling and extreme tension analysis of mooring system for a floating offshore wind turbine,” Ph.D. in MEE, 2017.
- [12] F. Al-Mashkoor, “Finite element analysis of impact resistance of foam materials,” M.S. in MEE, 2017.
- [13] J. Clapp, “Structural behavior of inflatable, reinforced, braided, tubular members,” Ph.D. in CIE, 2017.
- [14] R. Zangeneh, “Theoretical and experimental evaluation of heading instability of moored ships in waves and winds,” Ph.D. in MEE, 2017.
- [15] V. Lewis, “Development of an accelerometer instrumentation array embedded into a gel matrix used to simulate brain response,” M.S. in MEE, 2017.
- [16] D. Whitney, “Experimental methods and practices for the study of toroidal inflated, braided fabric members,” M.S. in MEE, 2016.
- [17] A. Viselli, “Model test of a 1:8 scale floating wind turbine in the Gulf of Maine,” Ph.D. in CIE, 2014.

- [18] M. MacNicoll, “Modeling the Efficiency of a Semi-submerged Ocean Wave Energy Converter,” M.S. in CIE, 2013.
- [19] K. Berube, “Integration of Process Parameter Control and Digital Image Correlation Methods in the Investigation of the Variability of Marine Polymer Composite Material Properties,” Ph.D. in MEE, 2012.
- [20] K. Warren, “Resistance Welding of Thermoplastic Composites for Industrial Scale Wind Turbine Blades,” M.S. in MEE, 2012.

Undergraduate Students

- [1] S. Davis, 2023, Advisor for Honor’s Thesis.
- [2] M. Burtis, 2022, Committee member for Honors Thesis.
- [3] A. Kingston, 2017, Advisor for Honor’s Thesis.
- [4] B. Hebert, 2017, Advisor for Engineering Physics capstone project.
- [5] Y. Peng, 2014, Co-advisor for NSF-REU-Sensors program.
- [6] C. Howland, 2012, Committee member for Honor’s Thesis.

Service Activities

- Graduate Coordinator, University of Maine Mechanical Engineering Department, 2021-present.
- Advisor, University of Maine ASME student chapter, 2017-present.
- Advisor, University of Maine Alpha Zeta Chapter of Pi Tau Sigma, 2016-present.
- Coordinator, University of Maine Ocean and Marine Engineering Minor, 2018-present.
- Coordinator, University of Maine Mechanical Engineering Practice, 2018-2020.
- Reviewer, U.S. DOE Technology Commercialization Fund, 2021.
- Panel reviewer, National Science Foundation, 2019.
- Session organizer, International Ocean and Polar Engineering Conference, 2017, 2018, 2019, 2020, 2021, 2022, 2023.
- Session chair, International Ocean and Polar Engineering Conference, 2017, 2023.
- Session co-chair, International Ocean and Polar Engineering Conference, 2015.
- Session organizer, ASME International Conference on Ocean, Offshore and Arctic Engineering, 2011, 2012, 2020.
- Guest speaker, Viola Rand School, 2023.
- Guest speaker, Maine Connections Academy, 2018.
- Guest speaker, Maine DOT TRACS Program, Islesboro Central School, 2017.
- Guest speaker, University of Maine SNAME student chapter, 2016.
- Guest speaker, Appleton Village School Wind Symposium, 2015.
- Guest speaker, Rockland Rotary Club, 2014.
- Guest speaker, American Indian Science and Engineering Society, 2014.
- Guest speaker, University of Maine Sigma Phi Epsilon Fraternity, 2012.
- Guest speaker, Maine Student Chapter of the American Society of Mechanical Engineers, 2010.
- Judge, Maine High School Windstorm Challenge, 2012, 2017, 2018, 2023.
- Judge, DeepCwind Wind Blade Challenge, 2010, 2013.
- Mentor, Orono High School Wind Blade Challenge Team, 2017.

- Consultant, High School Windstorm Challenge, 2010.
- Reviewer for the following journals and conference proceedings:
 - Applied Energy
 - Applied Ocean Research
 - Applied Surface Science Advances
 - Challenges
 - Composites Part B
 - Computational Materials Science
 - Control Engineering Practice
 - Energies
 - Energy Conversion and Management
 - Energy Reports
 - Engineering Structures
 - Experimental Techniques
 - Frontiers Marine Science
 - Journal of Advanced Research
 - Journal of Composite Materials
 - Journal of Fluids and Structures
 - Journal of Materials: Design and Applications
 - Journal of Mechanical Engineering Science
 - Journal of Renewable and Sustainable Energy
 - Journal of Waterway, Port, Coastal and Ocean Engineering
 - Marine Structures
 - Materials
 - Ocean Engineering
 - Philosophical Transactions of the Royal Society A
 - Renewable Energy
 - Renewable and Sustainable Energy Reviews
 - Shock and Vibration
 - Structural Engineering Mechanics
 - Structural and Multidisciplinary Optimization
 - Sustainable Energy Technology and Assessments
 - Wind Energy
 - Wind Energy Science
 - Wind and Structures
 - Proceedings of the ASME International Conference on Ocean, Offshore and Arctic Engineering
 - Proceedings of the International Offshore and Polar Engineering Conference
 - Proceedings of the International Offshore Wind Technical Conference

Professional Activities

- Member since 2012, American Society of Mechanical Engineers
- Member since 2020, International Society of Offshore and Polar Engineers
- State of Maine Engineer Intern No. 5345