Michael J. Lawson
Senior Scientist
National Wind Technology Center
National Renewable Energy Laboratory

Education

B.S.	Virginia Tech	Mechanical Engineering	2005
M.S.	Virginia Tech	Mechanical Engineering	2006
Ph.D.	The Pennsylvania State University	Mechanical Engineering	2010

Experience

2018–	Senior Scientist, Wind and Water Power Program, National Renewable Energy Laboratory
2015–2017	Technical Advisor, Wind and Water Power Technologies Office, U.S. Department of Energy
2012–2014	Scientist, Water Power Program, National Renewable Energy Laboratory
2010–2012	Postdoctoral Researcher, Water Power Program, National National Renewable Energy Laboratory

Selected Publications

1. **Tom N., Lawson, M., Yu, Y., Wright, A.**, 2016. "Spectral Modeling of an Oscillating Surge Wave Energy Converter with Control Surfaces". *Applied Ocean Research*, 56, pp. 143-156.
2. **Tom N., Lawson, M., Yu, Y., Wright, A.**, 2016. "Development of a Nearshore Oscillating Surge Wave Energy Converter with Variable Geometrys". *Renewable Energy*, 96 (A), pp. 410-424.
3. **Lawson, M., Barahona Garzon, B., Wendt, F., Yu, Y., Michelen, C.**, 2016. "COER Hydrodynamic Modeling Competition: Modeling the Dynamic Response of a Floating Body Using the WEC-Sim and FAST Simulation Tools". *Proceedings of the ASME 35th International Conference on Ocean, Offshore and Arctic Engineering*, Paper No. OMAE2015-42288.
4. **V. Neary, M. Previsic, R. Jepsen, M. Lawson, Y. Yu, A. Copping, A. Fontaine, K. Hallett, D. Murray**, 2014. "Methodology for Design and Economic Analysis of Marine Energy Conversion (MEC) Technologies". *SAND2014-9040*
5. **Lawson, M., Yu, Y., Weber, J., Coe, R., Neary, V.**, 2014. "Extreme Conditions Modeling Workshop Report", *Dept. of Energy Report*, DOE/GO-102014-4450.
6. **Lawson, M., Craven, B., Paterson, E., and Settles, G.**, 2012. "A Computational Study of Odorant Transport and Deposition in the Canine Nasal Cavity: Implications for Olfaction". *Chemical Senses*, 37 (6), pp. 553-566.
7. **Hargather, M., Lawson, M., Settles, G., and Weinstein, L.**, 2011. "Seedless Velocimetry Measurements by Schlieren Image Velocimetry". *American Institute of Aeronautics and Astronautics Journal*, 49 (3), pp. 611-620.
8. **Craven, B., Paterson, E., Settles, G., and Lawson, M.**, 2009. "Development and Verification of a High-fidelity Computational Fluid Dynamics Model of Canine Nasal Airflow". *Journal of Biomechanical Engineering*, 131, pp. 091002.
9. **Lawson, M., and Thole, K.**, 2008. "Heat Transfer Augmentation Along the Tube Wall of a Louvered Fin Heat Exchanger Using Practical Delta Winglets". *International Journal of Heat and Mass Transfer*, 51(9-10), pp. 2346-2360.

Research Interests and Expertise

- Computational modeling of floating structures and fluid structure interactions
- Wind farm wake dynamics and wind farm control and performance optimization
- Design, control, and optimization of wave energy converter systems

Relevant Experience

1. **Code development:** Key member of the team the developed the WEC-Sim wave energy converter design and simulation code (wec-sim.github.io/WEC-Sim/) that is used in the U.S. and internationally to design and analyze the performance wave energy conversion system.
2. **Management experience:** Supported the management and strategic plan development for U.S. Department of Energy Atmosphere to Electrons (A2e) program that is focused on advancing wind farm technologies through advancing the fundamental physics that govern wind farm performance.