



TREVOR K. HOWARD

Oregon State University, Nuclear Engineering

Degrees:

B.S. in Nuclear Engineering, Oregon State University

M.S. in Nuclear Engineering, Oregon State University

Advisor:

Wade Marcum, PhD

Scholar Award Donors:

Lynn & Steve Pratt

About the Scholar:

Trevor works a variety of fluid-structure interaction (FSI) problems and computation verification and validation (V&V). Both FSI and V&V extend across multiple disciplines. His dissertation problem looks specifically at vortex shedding between parallel plates through computational simulations. His current work deals with the Hydro-Mechanical Fuel Test Facility at Oregon State University, primarily writing codes and calculations in support of the experimental results achieved from the facility.

Trevor enjoys running, hiking, camping and adventuring throughout the Oregon outdoors.

Benefits to Society:

Trevor's work supports the development of clean, efficient, cheap energy and advancements in other design based fields.

Awards and Honors:

Distinguished Master's Thesis, OSU Dept. of NE/RHP, 2014-2015 Academic Year

Best Graduate Presentation, Nuclear Engineering, OSU ANS Student Conference, 2015

Best Graduate Presentation, Nuclear Engineering, OSU ANS Student Conference, 2014

Licensed Reactor Operator, OSU TRIGA, 2012-Present

Publications and Posters:

Howard, T.K., Marcum, W.R., Jones, W.F., "A Novel Approach to Modeling Fluid Structure Interactions," *Nuclear Engineering and Design*, Accepted.

Marcum, W.R., Holschuh T.V., **Howard, T.K.** "On the Steady Mechanical Response of a Heterogeneous Fuel Plate", *Nuclear Technology*, Invited Article, Special Issue, Accepted.

Jones, W.F., Marcum, W.R., Weiss, A., **Howard, T.K.**, Woolstenhulme, N., Phillips, A.M., Weist, J., “On the Characterization of a Drop-in Miniplate Experiment – Structural Response Analysis”, *2015 American Nuclear Society Annual Meeting*, In Print.

Marcum, W.R., Weiss, A., Jones, W.F., Woolstenhulme, N., Phillips, A.M., Holdaway, K., Moussaoui, M., Harmon, P.L., **Howard, T.K.**, Wiest, J., Campbell, J. “On the Characterization of a Drop-in Miniplate Experiment – Hydraulic Analysis”, *2015 American Nuclear Society Annual Meeting*, In Print.

Howard, T.K., Marcum, W.R., Jones W.F., “A Novel Approach on Modeling Fluid Structure Interactions”, *2014 American Nuclear Society Winter Meeting*, Vol. 111, pp. 1495-1498, 2014.

Britsch, K., Marcum, W.R., **Howard, T.K.**, Harmon, P.L., “On the Natural Frequency of Fueled Experimental Plates in Air and Water – Numerical Study,” *2014 American Nuclear Society Winter Meeting*, Vol. 111, pp. 1656-1657, 2014.

Howard, T.K., Marcum, W.R., Jones, W.F., “Characterizing Virtual Mass Effects of a Submersed Body Using Pseudo-Fluid Elements”, *Advances in Thermal Hydraulics, 2014 American Nuclear Society Annual Conference*, Reno, Nevada, United States, June 15-19, pp. 593-605, 2014.

Holschuh, T.V., **Howard, T.K.**, Marcum, W.R., “Deflection of a Heterogeneous Wide-Beam Under Uniform Pressure Load”, *Advances in Thermal Hydraulics, 2014 American Nuclear Society Annual Conference*, Reno, Nevada, United States, pp. 545-554, June 15-19, 2014.

Howard, T.K., Marcum, W.R., “Characterization of the OSU HMFTF Piping System”, *Trans. American Nuclear Society Winter Meeting*, Vol. 109, pp. 1805-1807, 2013.

Howard, T.K., Marcum, W.R., “Computational Fluid Dynamics Simulation of Vortex Shedding Between Inline Plates”, *Trans. American Nuclear Society Annual Meeting*, Vol. 108, pp. 998-1000, 2013.

Jones, W.F., Snow, S.D., **Howard, T.**, Marcum, W.R., “Simulation of Flow-Induced Vibration on a Multi-Plate Experiment in Water”, *Trans. American Nuclear Society Annual Meeting*, Vol. 108, pp. 1046-1049, 2013.

Jackson, R.B., **Howard, T.**, Mullin, E., Marcum, W.R., “Preliminary Investigation on Vortical Structure Influence of Trailing Plate in Axial Flow”, *Trans. American Nuclear Society Winter Meeting*, Vol. 107, pp. 1333-1335, 2012.