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Education

Ph.D. Mechanical Engineering, University of Washington, expected May 2012.

“Numerical Simulation of Admiralty Inlet, WA, with Tidal Hydrokinetic Turbine Siting Application”

Committee: James J. Riley (chair), Alberto Aliseda, Mitsuhiro Kawase, Brian Polagye, and Dale Durran.

M.Sc. Applied Mathematics, University of Washington, 2007.

B.A. Physics, Whitman College, 2005.

Minor: Mathematics, *Honors:* Walter Brattain Scholarship, *Study Abroad:* Semester at Sea, Fall 2001.

Research Experience

University of Washington, Department of Mechanical Engineering

Research Assistant, James J. Riley, Spring 2007–Present.

Prometheus Energy Co.

Jr. Scientist, Dr. John A. Barclay, Summer 2006.

Whitman College, Physics Department

Fairbank Physics Research Assistant, Kurt Hoffman, Summer 2004.

First-Year Physics Lab Assistant, Fall 2003–Spring 2004.

First-Year Physics Lab Reorganization, Mark Beck, Summer 2003.

Research

Publications

Roc, T., K. Thyng and D. Conley, "Applying a numerical decision-making tool for tidal current turbine (TCT) planning projects to the Puget Sound estuary: Early Results", Proc. EWTEC, 2011.

Thyng, Kristen M. and James J. Riley (2010). Idealized Headland Simulation for Tidal Hydrokinetic Turbine Siting Metrics. *OCEANS 2010 MTS/IEEE Conference*, Seattle, WA, USA.

Kawase, M, and K.M Thyng. "Three-dimensional Hydrodynamic Modelling of Inland Marine Waters of Washington State, United States, for Tidal Resource and Environmental Impact Assessment." *IET Renewable Power Generation*. 4.6 (2010): 568-578.

Conference and Seminar Presentations

Turbulence Modeling in a Numerical Model for Tidal Hydrokinetic Energy Siting, Texas A&M University, October 13, 2011.

Site Modeling for Tidal Turbines, 2nd Annual OSU-UW Northwest National Marine Renewable Energy Center Conference, University of Washington, May 5, 2011.

Understanding New Admiralty Inlet Simulation, MoSSea Users Group, School of Oceanography, University of Washington, May 4, 2011.

Modeling for Tidal Energy Analysis, MoSSea Users Group, School of Oceanography, University of Washington, January 19, 2011.

Tidal Energy and Turbine Siting Metrics, Mechanical Engineering Student Seminar, University of Washington, October 11, 2010.

Idealized Headland Simulation for Tidal Hydrokinetic Turbine Siting Metrics, OCEANS 2010 MTS/IEEE Seattle, September 21, 2010.

Working Toward Numerical Simulations of Admiralty Inlet for Tidal Hydrokinetic Energy. 4th Annual INORE Symposium, Dartmouth, UK, May 12, 2010.

Tidal Energy in the Puget Sound, SIAM UW, April 21, 2009.

Tidal Energy in the Puget Sound, SIAM UW, May 29, 2008.

Poster Presentations

Nested ROMS Model of a Complex Estuarine Channel, Puget Sound, WA. Gordon Research Conference: Coastal Ocean Modeling, Mt. Holyoke College, South Hadley, MA, June 26–July 1, 2011.

Site Modeling for Tidal Turbines. Graduate and Professional Student Senate Science and Policy Summit, University of Washington, May 13, 2011.

Numerical Modeling for Tidal Hydrokinetic Turbine Siting. 4th Annual INORE Symposium, Dartmouth, UK, May 9, 2010.

Estuary Modeling for Tidal Energy in Puget Sound, WA. 3rd Annual INORE Symposium, Gent, Belgium, May 26, 2009.

Professional Activities

Member, Society for Industrial and Applied Mathematics, 2008–Present.

Member, American Geophysical Union, 2010–Present.

Member, Institute of Electrical and Electronics Engineers, 2010–Present.

Conferences and Workshops Attended

Gordon Research Conference: Coastal Ocean Modeling, Mt. Holyoke College, South Hadley, MA, June 26–July 1, 2011.

OCEANS 2010 MTS/IEEE, Seattle, September 20–23, 2010.

4th Annual INORE Symposium, Dartmouth, UK, May 9–14, 2010.

2010 Ocean Sciences Meeting, Oregon Convention Center, February 22–26, 2010.

Eleventh International Conference on Estuarine and Coastal Modeling, Grand Hyatt Hotel, November 4–6, 2009.

3rd Annual INORE Symposium, Gent, Belgium, May 24–28, 2009.

UKERC Energy Summer School 2008, Roehampton, London, UK, June 23–27, 2008.

Teaching Experience

University of Washington, Department of Mechanical Engineering

Teaching Assistant, Thermodynamics, ME 323, Phil Malte, Fall 2007.

Tutoring

Trigonometry and physics, November - December 2007.

Algebra, geometry and trigonometry, January - March 2007.

AP Calculus BC exam, March - May 2007.

Calculus, June - July 2007.

Honors & Awards

Outstanding Female Award, Mechanical Engineering. Society of Women Engineers, University of Washington. January 25, 2012.

International Collaboration Incentive Scheme (ICIS) grant, a collaborative research grant through INORE, 2011.

Best Symposium Poster, INORE Symposium, 2010.

Walter Brattain Scholarship, 2001-2005.

Holy Mother Marie Rose Scholarship, 1997-2001.

Valedictorian, 2001

Service

External referee, National Oceanic and Atmospheric Administration

Referee, European Wave and Tidal Energy Conference

Math and Science Fair, Lockwood Elementary School, March 15, 2011.

Math and Science Fair, Lockwood Elementary School, December 15, 2010.

Math and Science Fair, Emerson Elementary School, June 8, 2010.

An Introduction to Tidal Energy Research in the Puget Sound. UW Robinson School Summer Challenge, July 19, 2010.

Volunteer at 3rd Annual Global Marine Renewable Energy Conference, Bell Harbor International Convention Center, April 14–15, 2010.

Skills

Extensively utilized SUNTANS and ROMS ocean modeling codes.

Proficiency in FORTRAN, C, MatLab, and LaTeX.

Linux system administration.

Experience using a cluster and parallel computing.

Experience with HTML.

Other Interests

Hiking

Mountaineering

Road and trail running

Last updated: April 24, 2012