

GERALD R. PRENDERGAST, PHD

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EDUCATION

Ph.D. in Mechanical Engineering **2010**

Dissertation: Underwater Explosion Whipping Response of Monohull versus Trimaran Vessels

Naval Postgraduate School.

M.S. in Mechanical Engineering **2004**

Thesis: Whipping Analyses of the DDG-51 Class Full Ship Model

Naval Postgraduate School.

M.S. in Education **2000**

Old Dominion University

B.S. in General Engineering **1992**

Senior Project: Improvement of Anderlex EXP Deburring and Polishing Wheel

University of Illinois, Champaign-Urbana

Minor: Secondary Education

ACADEMIC EXPERIENCE

Associate Professor of Engineering **2024 - Present**

University of South Carolina (UofSC) Aiken

Courses taught: Introduction to Engineering I and II, Systems Engineering Statics, Dynamics, Mechanics of Solids, Circuits, Engineering Ethics

Assistant Professor of Engineering **2017 - 2024**

University of South Carolina (UofSC) Aiken

Adjunct Professor of Physics **2016 - 2017**

Northern Virginia Community College

Course taught: Physics 101

Tutoring Geometry, Algebra 2, Trigonometry, Calculus, and Physics **2013 - 2017**

Northern Virginia Education Consulting

Instructor of nuclear engineering principles/ propulsion plant operations **1994 - 2002**

Mechanical, Reactor Controls and Training Division Officer, USS NIMITZ (CVN 68).

Nuclear Mobile Training Team member, Commander Naval Air Forces Atlantic.

Reactor Training Assistant, USS ABRAHAM LINCOLN (CVN 72):

Directed education and training of Reactor Department (~ 300 personnel).

Lead instructor for Chemistry and Radiological fundamentals course **1999 - 2000**

Nuclear Propulsion Mobile Training Team, Commander Naval Air Forces Atlantic.

Developed syllabus, exams, and overall course structure.

PUBLICATIONS AND PAPERS

Prendergast, G. R., Shin, Y.S., "Whipping Analyses of the DDG-51 Class Full Ship Model," *Proceedings of the 78th Shock and Vibration Symposium*, Philadelphia, PA, November, 2007.

Prendergast, G. R., Kwon, Y.W., "Optimizing the Modeling and Simulation of Underwater Explosion Gas Bubble Dynamics in the DYSMAS Hydrocode," *Proceedings of the 81st Shock and Vibration Symposium*, Orlando, FL, October, 2010.

Prendergast, G. R., Kwon, Y.W., "Underwater Explosion Whipping Response of Monohull vs Trimaran Vessels," *Proceedings of the 81st Shock and Vibration Symposium*, Orlando, FL, October 2010.

Prendergast, G. R., "Project Based Learning in an Introductory Systems Engineering Course," *Proceedings of the Institute of Industrial and Systems Engineers (IISE) Annual Conference & Exposition*, Virtual, November, 2020.

Hawcroft, A. A., Paul, T. C., Prendergast, G. R., "Nanoparticle Size Effect on Stability of Ionic Liquids (ILs) Based Nanofluids," *Proceedings of the 7th Thermal and Fluids Engineering Conference (TFEC)*, May, 2022.

Prendergast, G. R., "Benefits of Video Tutorials for a Computer Aided Design Class," *Proceedings of the American Society of Engineering Education (ASEE) Annual Conference and Exposition*, June, 2022.

Mendes, H., Egbue, O., Prendergast, G. R., "Analysis of Coaxial Propulsion in Multirotor Unmanned Aerial Vehicles," *5th International Conference on Mechanical and Aerospace Systems (ICMAS)*, April, 2024.

MEMBERSHIPS

- American Society for Engineering Education (ASEE)
- American Society of Mechanical Engineers (ASME)
- American Society of Naval Engineers (ASNE)
- Institute of Industrial and Systems Engineers (IISE)

RECENT PROFESSIONAL DEVELOPMENT ACTIVITIES

Attended the following conferences:

- 5th International Conference on Mechanical & Aerospace Systems, April 20, 2024 [Presented].
- ASEE Annual Conference and Exposition, Minneapolis, MN, June 26 - 29, 2022 [Presented].
- 7th Thermal and Fluids Engineering Conference (TFEC), May 18, 2022.
- ASEE Southeastern section annual conference, Charleston, SC, March, 15 -17, 2022.
- ASEE Virtual Annual National Conference, June 22 - 26, 2020.
- IISE Virtual Annual Conference and Exposition, November 1 - 3, 2020 [Presented].
- IISE Annual Conference and Exposition, Orlando, FL, May 18 - 21, 2019.
- ASEE Southeastern section annual conference, Rayleigh, NC, March 10 -12, 2019.
- ASEE Southeastern section annual conference, Daytona Beach, FL, March 4 - 6, 2018.