

ROBERT A. DALRYMPLE

Willard & Lillian Hackerman Professor of Civil Engineering

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Professional Preparation:

Dartmouth College A.B. Engineering Sciences, 1963-1967

University of Hawaii M.S. Ocean Engineering, 1968

University of Florida, Ph.D. Civil & Coastal Engineering, 1968-1973

Professional Appointments:

Willard & Lillian Hackerman Professor Emeritus, Johns Hopkins University, 2016-present

Willard & Lillian Hackerman Professor, Johns Hopkins University, 2002-2016

E.C. Davis Professor, University of Delaware, 1996-2002

Professor, University of Delaware, 1984-1996

Associate Professor, University of Delaware, 1977-1984

Assistant Professor, University of Delaware, 1973-1977

Assistant in Engineering, University of Florida, 1966-1971

Professional Organizations:

National Academy of Engineering, 2006-

Distinguished Member, American Society of Civil Engineers

Coastal Engineering Research Council, ASCE since 1992-2014; chair for 10 years.

COPRI (Institute of ASCE). President, 2003-2004

American Geophysical Union

Editorial Board, *Coastal Engineering*

Marine Board, TRB, NAS, 2004-2010

Delaware Association of Professional Engineers, Registered P.E. since 1970.

Five Most Relevant Publications:

M. Gomez-Gesteira, R.A. Dalrymple, Using a 3D SPH method for wave impact on a tall structure, *J. Waterways, Port, Coastal, Ocean Engineering*, 130, 2, 63-69, 2004.

R.A. Dalrymple and B. D. Rogers, Numerical Modeling of Water Waves with the SPH Method, *Coastal Engineering*, 53/2-3, 141-147, 2006.

Crespo, A.J.C, M. Gómez-Gesteira, R.A. Dalrymple. "3D SPH Simulation of Large Waves Mitigation with a Dike," *Journal of Hydraulic Research*. 45, 5, 2007.

B.D. Rogers and R.A. Dalrymple, SPH Modeling of Tsunamis, in **Advanced Numerical Models for Simulating Tsunami Waves and Runup**, P.L.-F. Liu, H. Yeh, and Costas Synolakis, eds., World Scientific, 2008.

R.A. Dalrymple, M. Gomez-Gesteira, B.D. Rogers, A. Panizzo, S. Zou, A.J.C. Crespo, G. Cuomo, and M. Narayanaswamy. "Smoothed Particle Hydrodynamics for Nonlinear Water Waves," in **Advances in Numerical Simulation of Nonlinear Waves**, Q.Ma, ed., book chapter, World Scientific Press, in press, 2009.

Other Publications:

De Padova, D., R.A. Dalrymple, and M. Mossa, "Analysis of the artificial viscosity in the Smoothed Particle Hydrodynamics modelling of regular waves," *Journal of Hydraulic Research*, DOI: 10.1080/00221686.2014.932853, 2014

R.G. Dean, and R.A. Dalrymple, *Coastal Processes with Engineering Applications*, book, Cambridge University Press, 2002.

M. Gomez-Gesteira, D. Cerquero, A.J.C. Crespo and R.A. Dalrymple, Green Water Overtopping Analyzed with an SPH Model, *Ocean Engineering*, 32, 2, 223-238, 2005.

R.A. Dalrymple, and D.L. Kriebel, Lessons in Engineering from the Tsunami in Thailand, *The Bridge*, National Academy of Engineering, 35, 2, 2005.

Crespo, A.J.C., M. Gómez-Gesteira, R.A. Dalrymple. "Modeling Dam Break Behavior over a Wet Bed by a SPH Technique." *Journal of Waterway, Port, Coastal, and Ocean Engineering*, 134, 6, 2008.

Synergistic Activities

Founder and moderator (1995-2002) of *coastal_list*, an ongoing world-wide email newsgroup for the coastal engineering profession.

Founder of the Coastal Engineering Page, which is a repository of links and information for coastal engineers and others.

Founding developer of the Java Applets for Coastal Engineering, which is an online collection of Java applets designed to illustrate coastal engineering concepts. These applets are used in education worldwide.

Founding developer for *SPHysics*, an open-source smoothed particle hydrodynamics model for free surface flows: <http://wiki.manchester.ac.uk/sphysics>.

Co-developer for *GPU-SPHysics*, a GPU-based smoothed particle hydrodynamics model for free surface flows: <http://www.ce.jhu.edu/dalrymple/GPU>.

Collaborators & Other Affiliations (past 4 years)

A.J.C. Crespo (U. Vigo); M. Gomez-Gesteira (U. Vigo, Spain); Yuming Liu (M.I.T.); Patrick Lynett (Texas A&M University); Q. Ma (City University, London); C. Mei (M.I.T.); C. Pancake (Oregon State University); Benedict Rogers (U. Manchester, U.K.); L. Shen (Johns Hopkins); Peter Traykovski (Woods Hole Oceanographic Institution); J. Trowbridge (Woods Hole Oceanographic Institution); Harry Yeh (Oregon State University); D. Yue (M.I.T.)

Graduate Advisor: Robert G. Dean, University of Florida

Thesis Advisor (3) and Postgraduate-Scholar Sponsor/Co-Sponsor (1): Shan Zou, Everest International; Muthukumar Narayanaswamy, Halcrow; Janice Rice, U.S. Navy; Tucker Ballard, Moffatt-Nicholl.

Graduate Postdoctoral Students (past 5 years): Zhangping Wei, Morteza Derakhti (2)