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People

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Barbara Smith
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Education:

Ph.D. in Marine Hydrodynamics, Massachusetts Institute of Technology, 1981
S.M. in Naval Architecture, Marine & Mechanical Engineering, National Technical University of Athens, 1977

MIT Service:

2004-present Professor of Mechanical Engineering and Naval Architecture, MIT
1993-2004 Professor of Naval Architecture, MIT
1985-1993 Associate Professor of Naval Architecture, MIT
1981-1985 Assistant Professor of Naval Architecture, MIT

Other Related Experience:

1985-present Director Laboratory for Ship and Platform Flows
1983 Visiting Professor; Ecole Nationale Supérieure de Techniques Avancées (ENSTA) Paris, France
1985-1986 Visiting Professor; Department of Applied Mathematics. University of Adelaide Australia
1987-1988 Visiting Professor; Department of Engineering Science. California Institute of Technology
1989 Visiting Professor; Department of Mathematics. University of Oslo, Norway
1992 Visiting Professor; Department of Mechanics. University of Paris. January

Honors and Awards

Georg Weinblum Memorial Lecturer 2010-2011
Keynote Lecturer OMAE 2013 Conference

Consulting, patents, etc.:

Has consulted widely for the Maritime, Offshore and Energy Industries

Principal Publications in last five years: (Selected from last two years.)

Sclavounos, P. D. (2012). Karhunen-Loeve Representation of Stochastic Ocean Waves. Proceedings of the Royal Society A, Vol. 468, pp. 2574-2594.

Sclavounos, P. D. and Lee, S. (2012). A Fluid Impulse Nonlinear Theory of Ship Motions and Sea Loads. 29th Symposium on Naval Hydrodynamics, Gothenburg, Sweden, August 26-31. Published in International Shipbuilding Progress (2013), Vol. 60, pp. 555-577.

Sclavounos, P. D. (2012). Nonlinear Impulse of Ocean Waves on Floating Bodies. Journal of Fluid Mechanics, Vol. 697, pp. 316-335.

Tsouroukdissian, A. R., Fisas, A., Pratts, P. (ALSTOM) and Sclavounos, P. D. (MIT) (2011). Floating Offshore Wind Turbines: Concept Analysis. American Wind Energy Association WINDPOWER 2011 Conference and Exhibition, Anaheim CA, May 22-25.

Sclavounos, P. D. (2010). Modeling, Pricing and Risk Management of Assets and Derivatives in Energy and Shipping. Chapter in Encyclopedia of Financial Models. Edited by Frank Fabozzi. Wiley & Sons Inc.

Sclavounos, P. D. (2010). A Fluid Impulse Theory for the Nonlinear Loads, Responses and Stability of Ships and Floating Structures in Steep Random Waves. Technical Report. Laboratory for Ship and Platform Flows. Massachusetts Institute of Technology.

Sclavounos, P. D., Lee, S., DiPietro, J. (MIT), Potenza, G., Caramuscio, P. and De Michele G. (ENEL) (2010). Floating Offshore Wind Turbines: Tension Leg Platform and Taught Leg Buoy Concepts Supporting 3-5 MW Wind Turbines. European Wind Energy Conference EWEC 2010, Warsaw, Poland, April 20-23.

Sclavounos, P. D. and Ellefsen, P. E. (2009). Multi-Factor Model of Correlated Commodity-Forward Curves for Crude Oil and Shipping Markets. Massachusetts Institute of Technology. Working paper. Center for Energy and Environmental Policy Research (CEEPR).

Sclavounos, P. D., Tracy, C. and Lee, S. (2008). Floating Offshore Wind Turbines: Responses in a Seastate, Pareto Optimal Designs and Economic Assessment. Massachusetts Institute of Technology. Offshore Mechanics and Arctic Engineering Conference OMAE 2008, Lisbon, Portugal.

Sclavounos, P. D., Thomas, B. S. and Ulusoy, T. (2006). Optimal Ship Maneuvering and Seakeeping by Linear Quadratic Gaussian (LQG) Controllers. 26th Naval Hydrodynamics Conference, Rome, Italy, September 17 - 22.

Thomas, B. S. and Sclavounos, P. D. (2006). Optimal Control Theory Applied to Ship Maneuvering in Restricted Waters. To appear in Readings in Marine Hydrodynamics, Volume to be Published in Honor of Professor J. Nicholas Newman. Paul D. Sclavounos, Editor.

Sclavounos, P. D. (2006). Intersections between Marine Hydrodynamics and Optimal Control Theory. 21st International Workshop on Water Waves and Floating Bodies, Loughborough, England, April 2006.

Chatzakis, I. and Sclavounos, P. D. (2006). Active Motion Control of High-Speed Hydrofoil Vessels by State-Space Methods. Journal of Ship Research, March 2006.

Wayman, E. N. and Sclavounos, P. D. (MIT), Butterfield, S., Jonkman, J. and Musial, W. (NREL) (2006). Coupled Dynamic Modeling of Floating Wind Turbine Systems. Offshore Technology Conference (OTC), Houston, Texas, May 1-4, 2006.

Sclavounos, P. D. and Wayman, E. N. (MIT), Butterfield, S., Jonkman, J. and Musial, W. (NREL) (2006). Floating Wind Turbine Concepts. European Wind Energy Association Conference (EWAC), Athens, Greece, 27 February - 2 March, 2006.

Jonkman, J. and Sclavounos, P. D. (2006). Development of Fully Coupled Aeroelastic and Hydrodynamic Models for Offshore Wind Turbines. AIAA Conference, Reno, Nevada, January 2006.

Sclavounos, P. D. (2005). Nonlinear Particle Kinematics of Ocean Waves. Journal of Fluid Mechanics, Vol. 540, pp. 133-142.

Lee, K., Sclavounos, P. D. and Wayman, E. N. (2005). Floating Wind Turbines. 20th Workshop on Water Waves and Floating Bodies - Spitsbergen , Norway - May 29 to June 1, 2005.

Withee, J. E. and Sclavounos, P. D. (2004). Fully Coupled Dynamic Analysis of a Floating Wind Turbine System. 8th World Renewable Energy Congress, DenverColorado .

Scientific & Professional Societies:

Member, Society of Naval Architects and Marine Engineers (SNAME)
Associate Editor of Applied Ocean Research
Associate Editor of Journal of Ship Research
Associate Editor of Journal of Engineering Mathematics

Institutional and Professional Service in the last five years:

Member of the Board of North American Committee of Det Norske Veritas (DNV) (1997- Present)
US Navy DDX Theory Advisory Panel (2006-present)
Member of Scientific Advisory Committee of Norwegian Research Centre for Offshore Wind Technology (NOWITECH) (2009-present)

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