

John R. Taylor

University Lecturer
Department of Applied Mathematics and Theoretical Physics
University of Cambridge

Centre for Mathematical Sciences,
Wilberforce Road, Cambridge, CB3 0WA

Voice: +44 (0) 1223 337 030
Fax: +44 (0) 1223 765 900
Email: J.R.Taylor@damtp.cam.ac.uk

EDUCATION

- **Ph.D.** Mechanical and Aerospace Engineering, University of California, San Diego, 2008
- **M.S.** Mechanical and Aerospace Engineering, University of California, San Diego, 2004
- **B.S.** Engineering Physics, Santa Clara University, 2001
Computational Physics Emphasis, University Honors Program

PROFESSIONAL EXPERIENCE

University Lecturer, 2011-

Department of Applied Mathematics and Theoretical Physics, University of Cambridge

Postdoctoral Research Associate, 2010-2011

Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology

NSF Mathematical Sciences Postdoctoral Research Fellow, 2008-2010

Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology

Graduate Student, 2002-2008

Department of Mechanical and Aerospace Engineering, University of California, San Diego

Visiting Scientist, 2000-2002

University Corporation for Atmospheric Research, Fleet Numerical Meteorology and Oceanography Center, U.S. Navy, Monterey, CA

Research Assistant, 1998-2000

Chemical Oceanography, Oregon State University

Research Assistant, 1995-1997

Atmospheric Science, Oregon State University

JOURNAL ARTICLES

- Taylor J.R., and R. Ferrari, **2011**, Ocean fronts trigger high latitude phytoplankton blooms, *Geophysical Research Letters* doi:10.1029/2011GL049312.
- Taylor J.R., and R. Ferrari, **2011**, Turbulent convection and the onset of the spring phytoplankton bloom. *Limnology and Oceanography*. 56, 6, 2293–2307
- Thomas L.N., J.R. Taylor, R. Ferrari, and T.M. Joyce, **2011**, Symmetric instability in the Gulf Stream. *under review, Deep Sea Res.*
- Thomas L.N., and J.R. Taylor, **2010**, Reduction of the usable wind-work on the general circulation by forced symmetric instability. *Geophys. Res. Lett.*, 37, L18606, doi:10.1029/2010GL044680

- Taylor J.R., and R. Ferrari, **2010**, Buoyancy and wind-driven convection at mixed layer density fronts. *J. Phys. Ocean.*, 40, 1222-1242.
- Gayen B., J.R. Taylor, and S. Sarkar, **2010**, Large eddy simulation of a stratified boundary layer under an oscillatory current. *J. Fluid Mech.*, 643, 233-266.
- Taylor J.R., and R. Ferrari, **2009**, On the equilibration of a symmetrically unstable front via a secondary shear instability. *J. Fluid. Mech.*, 622, 103-113.
- Taylor J.R., and S. Sarkar, **2008**, Stratification effects in a bottom Ekman layer *J. Phys. Ocean.*, 38, 2535-2555.
- Taylor J.R., and S. Sarkar, **2007**, Direct and large eddy simulations of a bottom Ekman layer under and external stratification *Int. J. Heat and Fluid Flow*, 29, 3, 721-732.
- Taylor J.R., and S. Sarkar, **2007**, Internal gravity waves generated by a turbulent bottom Ekman layer. *J. Fluid Mech.*, 590, 1, 331-354.
- Taylor J.R., S. Sarkar, and V. Armenio, **2005**, Large eddy simulation of stably stratified open channel flow. *Phys. Fluids* 17, 116602
- Bennett A.F., J.R. Taylor, and B.S. Chua, **2005**, Lattice Boltzmann open boundaries for hydrodynamic models. *J. Comp. Phys.*, 203, 89-111.
- Taylor J.R., K.K. Falkner, U. Schauer, and M. Meredith, **2003**, Quantitative considerations of dissolved Barium as a tracer in the Arctic Ocean. *J. Geophys. Res.*, 108 (C12), 3374.

PUBLISHED CONFERENCE PROCEEDINGS

- Taylor J.R., and S. Sarkar, **2007**, Internal wave generation by a turbulent bottom boundary layer. *Proceedings of the Fifth International Symposium on Environmental Hydraulics*.
- Taylor J.R., and S. Sarkar, **2007**, (Invited) Near-wall modeling for LES of an oceanic bottom boundary layer. *Proceedings of the Fifth International Symposium on Environmental Hydraulics*.
- Taylor J.R., and S. Sarkar, **2007**, Large eddy simulation of a stratified benthic boundary layer. *Turbulence and Shear Flow Phenomena-5 Proceedings*.
- Taylor J.R., S. Sarkar, and V. Armenio, **2005**, Open channel flow stratified by a surface heat flux. *Turbulence and Shear Flow Phenomena-4 Proceedings*.

AWARDS AND HONORS

- Andreas Acrivos Dissertation Award in Fluid Dynamics, American Physical Society
- Mathematical Sciences Postdoctoral Research Fellow, National Science Foundation
- National Defense Science and Engineering Graduate Fellow
- Outstanding Graduate Student of the Year, Mechanical and Aerospace Engineering, University of California San Diego
- Sigma Pi Sigma, National Physics Honor Society

REFERENCES

Available upon request