



Bill Peirson – Co-Convenor, ACCARNSI Node 4

BE (Hons), BSc, MEngSc, PhD

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Bill is an international expert in Civil and Environmental Engineering fluid mechanics and undertakes specialist research in the fields of coastal engineering, air-sea interaction, fluvial hydraulics, estuarine processes and the behaviour of turbomachines. Prior to being appointed to an academic position, he practiced as a specialist water engineering consultant for 17 years and led major multidisciplinary coastal and estuarine engineering investigations in Australia and internationally. He now teaches undergraduate and postgraduate Professional Engineers across the entire discipline of water engineering. He continues to provide specialist, strategic engineering advice to government and industry on a broad range of water engineering issues. In addition to familiarity with conventional water engineering design approaches, his practical and research experience includes computational fluid dynamics modelling (including the application of higher order turbulence closure

schemes), the development of wave, hydraulic and water quality shallow-water equation models, turbulence and constituent flux measurements, and the development of automated measurement and control systems. Bill has been Director of the Water Research Laboratory (WRL) since 2006 and Co-Director of the UNSW Water Research Centre since 2008.

Qualifications

BE Hons, BSc, MEngSc, UNSW
PhD, UNSW

Affiliations

MIEAust (Member of the Institution of Engineers Australia)
Member - Environmental Engineering Society (Australia)

Professional History

1983-1988 : Project Engineer - WRL, UNSW

1988-1994 : Senior Engineer - WRL, UNSW

1984-1996 : Senior Advisor - WRL, UNSW

: Senior Research Assistant - UNSW

1996-1998 : Post-Doctoral Research Fellow - Dept of Meteorology,
University of Reading, UK

1998 : Senior Engineering Consultant - Manly Hydraulics
Laboratory

1998-2000 : Manager – WRL, UNSW

2001- : Senior Lecturer - School of Civil and Environmental
Engineering, UNSW

Selected Refereed Publication

Patents

W.L. Peirson "Solids separator". United States Patent 7,241,387 July 10, 2007

W.L. Peirson "A solids concentrator". International Application No. PCT/AU01/01303

Books

Peirson, W.L., Bishop, K., Van Senden, D., Horton, P.R. and Adamantidis, C. (2002) *Environmental Water Requirements to Maintain Estuarine Processes*. Environmental Flows Initiative Tech. Rpt. No. 3. Commonwealth of Australia, Canberra, ISBN: 0642548277

Book Chapters

Peirson, W.L., Walker, J.W., Welch, C. and Banner, M.L. (2007) Defining the enhancement of air-water interfacial oxygen exchange rate due to wind-forced microscale waves. In *Transport at the Air Sea Interface - Measurements, Models and Parameterizations*, p.119-131 (eds. Garbe, C.S., Handler, R.A., Jähne, B.), Springer Verlag. ISBN 978-3-540-36904-2

Journal Articles

Peirson, W.L. and Banner, M.L. (2002) On the Surface Kinematics of Microscale Breaking Wind Waves. *Gas Transfer at Water Surfaces*. Geophysical Monograph 127. AGU

Peirson, W.L. and Banner, M.L. (2003) Aqueous surface flows induced by microscale breaking wind waves. *J. Fluid Mech.* 479, 1-38

Peirson, W.L., Garcia, A.W. and Pells, S.E. (2003) Water-Wave Attenuation Due To Opposing Wind. *J. Fluid Mech.* 487, 345-365

Peirson, W.L. and Cameron, S. (2006) Design of Rock Protection Against Erosion by Water Flows Down Inclined Slopes. *J. Hyd. Eng. ASCE*. 132, No. 10, 1110-1114

Shand, T.D., **Peirson, W.L.** and Cox, R.J. (2007) Wave group effects on breaker height on a uniform slope. *J. Coastal Res.*, Special Issue 50, 767-772

Banner, M.L. and **Peirson, W.L.** (2007) Wave Breaking Onset and Strength for Two-Dimensional Deep Water Wave Groups. *J. Fluid Mech.*, 585, 93-115

Makin, V.K., Branger, H., **Peirson, W.L.** and Giovanangeli, J-P. (2007) Modelling of laboratory measurements of stress in the air flow over wind-generated and paddle waves. *J. Phys. Oceanog.* (to appear)

Walker, J.W. and **Peirson, W.L.** (2007) Measurement of gas transfer across wind-forced wavy air-water interfaces using laser-induced fluorescence. *Exp. Fluids*. DOI 10.1007/s00348-007-0398-8

Peirson, W.L., Figlis, J., Pells, S.E. and Cox, R.J. (2008) Placed rock as protection against erosion by flow down steep slopes. *J. Hyd. Eng. ASCE*. Vol. 134, No. 9, September 2008, pp. 1370-1375

Peirson, W.L. and Garcia, A.W. (2008) On the wind-induced growth of slow water waves of finite steepness. *J. Fluid Mech.* 608, 243-274.