

DR. ROBERT MICHAEL DORRELL

CONTACT DETAILS

University Address: School of Earth and Environment, University of Leeds, Leeds, LS2 9JT
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EMPLOYMENT

- 08/2013-present Post-Doctoral Research Fellow, Earth and Environment, University of Leeds
Theoretical and experimental study of density driven flow dynamics and their deposits, funded by industrial sponsors to the Turbidites Research Group. Developing models of surging density-driven flows the evolution and stability of seafloor channel systems.
- 01/2011-08/2013 Post-Doctoral Research Fellow, Geography, University of Southampton
Numerical and analytical modelling of submarine flow hydro- and morphodynamics for the Natural Environmental Research Council project "Flow Dynamics and Sedimentation in an Active subaqueous Channel: A Process-Product Approach" (NE/F020120/1).
- 05/2010-09/2010 Scientific Advisor, British Parliamentary Office of Science and Technology.
NERC funded position, reporting on the state-of-the-art science, and the impact on governmental policy, of sea level rise.
- 06/2003-08/2005 Avon Longitudinal Study of Parents and Children, University of Bristol.
Team manager (part-time), data processing & data entry.

EDUCATION & QUALIFICATIONS

- 09/2006-09/2010 Ph.D. Mathematics, University of Bristol (certification date 08/09/2010).
"Particulate Suspensions: the mechanics of suspension and deposition", a theoretical investigation of sediment transport processes, funded by the Natural Environmental Research Council (NER/S/A/2006/14067), supervised by Dr A.J. Hogg and Dr. P.J. Talling (National Oceanography Centre, Southampton).
- 09/2002-06/2006 M.Sci. I class (Hons), Mathematics, University of Bristol.
Statistical and applied mathematics, with two I class undergraduate dissertations on trapped waves and dry granular flow.

INDUSTRY FUNDING, GRANTS & AWARDS

- Nexen funded Joint Industry Project (September, 2014)
Co-investigator on "Modelling of tidal bedforms" (value, £190k)
- Worldwide University Network Mobility Grant (December, 2011)
Research visit to Prof. R. Slingerland, Pennsylvania State University (value £1.2k).
- Erasmus grant (October, 2011)
Exchange partner site visit to Utrecht University (value £500).
- Natural Environmental Research Council (May-September 2010)
Secondment to Parliamentary Office of Science and Technology (value £6k).

TEACHING & ADMINISTRATIVE EXPERIENCE

- 08/2013-present Earth and Environment, University of Leeds
Co-organizer of postgraduate research group training and seminars.
- 01/2011-08/2013 Geography, University of Southampton

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Undergraduate fieldwork teaching for School of Geography, University of Southampton, Picos de Europa, Spain. Representative for Erasmus exchange program. Organizer of Earth Surface Dynamics research group meetings.

08/2010-08/2010 British Parliamentary Office of Science and Technology.

EU Science and Technology Options Assessment Workshop on Volcanic Ash Clouds.

09/2006-09/2010 Mathematics, University of Bristol

Tutor in applied mathematics, postgraduate representative, research group seminar series organizer, participant of Natural Environmental Research Council Young Entrepreneurs Scheme (2008), participant of International summer school, Hydro- and morphodynamics of coastal seas and estuaries, Motril (2007).

STUDENT SUPERVISION

Ph.D. Students:

- Luan Ho, researching the effect of pulsing density driven flow behaviour on sediment transport and runout length. Co-supervised with W.D. McCaffrey and G.M. Keevil (Earth and Environment, Leeds). 09/2014-present.
- Thomas Fletcher, researching the hydrodynamics of fossil fishes. Co-supervised with J. Peakall, P. Wignall, G.M. Keevil (Earth and Environment, Leeds) and J. Altringham (Biology, Leeds). 04/2014-present.
- Armin Arfaie, researching the effect of lower boundary roughness on density current dynamics. Co-supervised with A.D. Burns and D.B. Ingham (Engineering, Leeds), W.D. McCaffrey (Earth and Environment, Leeds), and J.T. Eggenhuisen (Earth Sciences, Utrecht). 01/2013-present.

CONSULTANCY

- Review of the Laverda Canyons Geohazard and Geotechnical Study and CFD Modelling Report for Woodside Petroleum Ltd. Consultancy of turbidity current hazards in collaboration with A.D. Burns and W.D. McCaffrey (University of Leeds).

INVITED TALKS & SEMINARS

- Stratification: a key control on channelized density driven flows? Institute of Applied Geosciences, University of Leeds, 2014.
- Modelling particulate suspensions: a personal review, University of Hull, 2011.
- Sedimentation of particulate suspensions from a quiescent fluid, Netherlands Centre for Coastal Research, University of Utrecht, 2011.
- Sedimentation of particulate suspensions from a quiescent fluid, Centre of Environmental and Geophysical Flows, University of Bristol, 2010.

SKILLS

- Analytical: Advanced methods for solving ordinary and partial differential equations
- Numerical: Matlab, Maple, Fortran, ArcGIS for original code and large data set analysis
- Experimental: Design of density driven flow experiments and grain size analysis

SERVICE & PROFESSIONAL MEMBERSHIPS

- American Geophysical Union (2014-2016)
- Reviewer for Sedimentology, Journal of Engineering Mathematics, Journal Geophysical Research Oceans, Journal Geophysical Research Earth Surface and Ocean Dynamics.