

Curriculum Vita: Neil Charles Mitchell BA, DPhil, FGS, SFHEA

Education

1986-1989 University of Oxford (postgraduate)
1983-1986 University of Cambridge (undergraduate)

Academic Qualifications and membership of bodies

D. Phil. in Marine Geophysics, University of Oxford.
BA in Geological Sciences, University of Cambridge.
Fellow of the Geological Society, London.
Senior Fellow of the Higher Education Academy (UK).

Employment History

January-July 2007 Senior Lecturer; August 2007- Reader in Marine Geophysics
Department of Earth and Environmental Sciences, University of Manchester.

October 2004 - December 2006 University Lecturer
School of Earth, Ocean and Planetary Sciences, Cardiff University.

September 1997 - 2004 Royal Society University Research Fellow
Department of Earth Sciences, Cardiff University, February 2000 - Sept 2004.
Department of Earth Sciences, Oxford University, 1997-January 2000
Research Fellow, Wolfson College, Oxford University, April 1998-October 2000.

December 1992 to August 1997 Research Fellow of the NERC
Department of Geological Sciences, University of Durham.

January to August 1993 International Fellow of the NSERC
Department of Surveying Engineering, University of New Brunswick (Canada).

February to November 1992 Senior Geophysicist, Wimpol Ltd
(Offshore geophysical surveying)

January 1990 to January 1992 Research Fellow of the Royal Commission for the Exhibition of 1851
Lamont-Doherty Geological Observatory of Columbia University, New York.

5 Months 1982-1983 Royal Greenwich Observatory (SERC) Assistant Scientific Officer
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- ¹³⁹Shi, W, Mitchell, NC, Kalnins, L, Stewart, ICF, Izzeldin, AY, Oceanic basement roughness in the central Red Sea, in: "Rifting and sediments in the Red Sea and Arabian Gulf regions", edited by NMA Rasul & I.C.F. Stewart, accepted.
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Conference Proceedings, Workshops and Other Publications (selected)

- Mitchell, NC**, Trends in marine geoscience publishing, *Ocean Challenge* 24(10), 2020.
- Workshop participants, InterRidge Workshop on Seamounts and Islands Associated With Mid-Ocean Ridges (19-21 September 2019), (https://www.interridge.org/WG_MOR_islands_and_seamounts).
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- Augustin, N, **NC Mitchell**, van der Zwan, FM, and shipboard scientific party, RV Pelagia Fahrtbericht / Cruise Report 64PE-445: SALTAX: Geomorphology and geophysics of submarine salt flows in the Red Sea Rift, Limassol (Cyprus) – Safaga (Egypt), 27.08. – 21.09.2018 . GEOMAR Report, N. Ser. 050 . GEOMAR Helmholtz-Zentrum für Ozeanforschung, Kiel, Germany, 46 pp. DOI 10.3289/GEOMAR_REP_NS_50_2019.
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- Mitchell, NC**, M Ligi, Compression folds and a strike-slip fault in flowing evaporites, Red Sea, in AA Misra and S Mukherjee (eds), *Atlas of Structural Geological Interpretation from Seismic Images*, p. 137-139, John Wiley (2018).
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- Schmitt, T., **NC Mitchell**, Multibeam survey of a tidal banner bank: morphology of dunes in eroding partially compacted sands? *Marine & River Dynamics MARID V*, 4 & 5 April 2016, Bangor, North Wales, UK.
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- Parson, LM, et al., RRS Charles Darwin cruise 23/87, 13 May - 11 June 1987, Geophysical investigation of the Indian Ocean triple junction, *Inst. Oceanogr. Sci. Deacon Lab. cruise rep.* 201, 24pp., 1987.

Supervision and advisory roles

*Present

Post-doctoral researchers

Nathalie Dubois. Paleoceanography of the central equatorial and south Pacific based on seismic and scientific drilling data.

Dina Vachtman continental slope geomorphology (with Rob Gawthorpe, Bergen).
Rui Quartau (Portugal, FCT-funded research fellowship project)
John Stevenson (Manchester, with P Rosin, Cardiff)
Xianfang Sun (Cardiff, co-advisor with P Rosin (funding: EPSRC))
Javier Escartin & Peter Sloomweg, Mid-Atlantic Ridge tectonics (Durham, co-advisor with RC Searle & PA Cowie (funding: NERC))

PhD students

Okwokwo Oke*, A geophysical study of structures in the Red Sea using potential fields, seismic and bathymetry data, Nigerian funding.
Yu-Chun Chang, Threats from submarine landslides around Atlantic volcanic islands and implications for sediment and carbon transfer, Taiwan-funded (supervised with Thor Hansteen & R Quartau). Now at JAMSTEC, Japan.
Zhongwei Zhao, Wave-influenced deposits on the narrow shelves of volcanic ocean islands (Azores; PLATMAR project), self- and China-funded. Now at South China Sea Institute of Oceanology, Guangzhou, PR China.
Rickbir Bahia, The evolution of surface topography on Mars from channel networks (co-supervisor with M Jones, Manchester), STFC-funded. Now at European Space Agency.

Wen Shi, Salt flowage in the Red Sea, self-funded. Now at Institute of Geophysics, Beijing, PR China
Karina Hernandez, Salt tectonics: North Sea and Gulf of Mexico (with M Huuse, Manchester), Funding: IMP (Mexico). Now with the IMP.
Jenny Gales, Morphology of the submarine slopes of Antarctica, completed (co-supervisor with R Larter & D Shoosmith, BAS, Cambridge (funding: NERC)). Now lecturer at Plymouth University.
Rajasmita Goswami, Links between onshore erosion and offshore marine geology of the Ionian Sea, completed (with S Brocklehurst (Manchester), A Argnani, CNR Bologna) (funding: ORS). Now with Shell.
Katrien van Landeghem, Active sediment movements and Quaternary Geology, Celtic Sea, completed (co-supervisor with A Wheeler, UC Cork, (funding: INTERREG/ERDF)). Now lecturer at Bangor University, Wales.
Thierry Schmitt, Sediment dynamics in the Bristol Channel and Severn Estuary, completed (with ATS Ramsay (funding: Cardiff University)). Now with the SHOM (France).
Rochelle Stretch, Growth of giant volcanic ridges, completed (co-supervisor with C Oppenheimer (funding: Cambridge/self))

Competitive research and teaching funding

(PDRA = postdoctoral research assistant, PhD = studentship)

Univ Manchester: Open Research Accelerator Fund: Improving Transparency, Accessibility, and Reusability of Scientific Ocean Drilling Data (D Liebrand, Mitchell; 2023; £20k inc PDRA)

NERC Discipline Hopping (Manchester): Rethinking Red Sea sea-level records using exchange flow models (D Liebrand, G Lane-Serff and Mitchell; 2022; £29k inc PDRA)

NERC NE/X002519/1 An alliance to address the Red Sea's record of past global climate and earthquakes (Mitchell with M Kaminski, S Jonsson, I Hall; 2022; £100k)

NERC NE/X006298/1 Mechanics of dyke intrusion in oblique-slip tectonic settings: Unravelling the causes of the March 2022 rare seismic swarm in São Jorge Island, Azores (Ferreira, Mitchell, Ramalho; 2022; £100k)

NERC NE/W009943/1 CARAPACE: Calcite-Aragonite transition Across Pacific Atolls from the Cretaceous to the Eocene (John et al.; 2022; £709k inc PDRA)

NERC NEIF2330.0920 Frequency of submarine landslides and eruptions in volcanic islands: the Azores (Chang, Mitchell, Hansteen; 2021; £9,385)

NERC NE/T014814/1 The seismic crisis unfolding in the Azores: earthquakes accompanying a rarely observed submarine eruption? (Mitchell; 2020; £65,000)

Scientific Committee on Ocean Research Support for early-career scientists from developing countries to join InterRidge workshop on seamounts and islands (Mitchell, Quartau, Beier; 2019; \$5,000)

InterRidge Working group on seamounts and islands near mid-ocean ridges (Mitchell, Quartau, Beier and 29 others; 2018-; \$10,000 workshop support)

Royal Society IES/R3/170081 International Exchanges: Surface processes accompanying continental fragmentation – new geophysical and geological evidence from the Red Sea and the Azores (collaboration with GEOMAR, Germany; 2018-2020; £10,188)

Univ. Manchester: Eco-Innovation Voucher (collaboration with British Geological Survey and British Antarctic Survey; 2016-2017; £4,200)

Univ. Manchester: Cryosphere Research At Manchester (CRAM) (Marie Curie Innovative Training Networks bid; L Edwards lead PI; 2016; £14,783)

FCT (Portugal): Evolution of volcanic insular shelves (Santa Maria Is., Azores) (Quartau lead PI; 2016-; €200k)

Univ. Manchester: Eco-Innovation Voucher (collaboration with Marinespace and Teamsurv; 2016; £3,000)

Univ. Manchester: Hands-on experience with industry-standard geophysical survey equipment in undergraduate module EART20271 (Geophysical Techniques) (2015; £19,943)

Univ. Manchester: The Cryosphere Research At Manchester (CRAM) group development and interdisciplinary research bid initiative (workshop funding) (Edwards, Mitchell, Dorch, van Dongen, Huuse, Bardgett; 2015; £26,033)

Univ. Manchester: Geophysical and monitoring equipment for Environmental, Geoscience, Geography-Geology and Petroleum Geology Degrees (2012; £30,489.95)

Statoil: Quantitative Geomorphology of Submarine Channel Networks on Continental Margins (Gawthorpe, Mitchell; 2010-2013; £153,189 Manchester element)

NERC/UKIODP NE/J005282/1: Sediment accumulation below the unproductive South Pacific Gyre (IODP expedition 329) with the highly productive central equatorial Pacific (Mitchell with Dubois Recognised Researcher; 2011-12, £19,499)

NERC/UKIODP NE/I017895/1: Comparing sediment accumulation below the unproductive South Pacific Gyre (IODP expedition 329) with the highly productive central equatorial Pacific (Mitchell with Dubois Recognised Researcher; 2010-12; £11,403)

NERC NE/I52880X/1: Evaporite flowage in the early South Atlantic and salt deformation rates and mechanisms (Mitchell; 2010-11; £8466)

World University Network: Earth Surface Sedimentary Flow Processes (Keylock, Parsons, Mitchell, Best; 2007-8; facilities)

NERC NE/G523539/1: Geomorphologic modelling of submarine slopes Antarctica (Larter, Mitchell, Shoosmith; 2007-10; studentship)

NERC: Lava flowing into lake, Thingvallavatn, Iceland (Mitchell, Oppenheimer, Pinkerton & 2 others; 2007; NERC aircraft LiDAR flight IPY07-02)

IODP: Cenozoic Pacific Equatorial Age Transect – Following the Palaeo-equator (Pälike, Lyle, Moore, Mitchell, Rea; 2007-; drillship leg)

ACS/Petroleum Res Fund #43994-AC8: Morphologic modelling of continental slopes (Mitchell, Hovius, Huthnance; 2008; \$80,000)

NERC/UKIODP NE/C508985/2: The equatorial Pacific record of Earth's climate and palaeoceanography (Mitchell, Lear, Palike, Lyle; 2006-2008; £215,550)

EPSRC EP/C007972/1: Filtering and processing of irregular meshes with uncertainties (Rosin, Martin, Mitchell; 2005-2008; £260,742)

Royal Society: Conference travel funds (2004; £1400)

EU/INTERREG/WEFO: HABMAP- HABitat MAPping for conservation and management of the Southern Irish Sea (Ramsay, Wilson coordinators; 2004-2006; £412,384)

Cardiff University: Research Travel Scheme 2003/04 (2004; £2440)

British Council: Landslides, coastal erosion, shallow marine eruptions and biohabitats around the Azores volcanic islands (Mitchell, Nunes, Isidro, Borges, Franca; 2004-2005; £1000)

EuroMARGINS LEC-EMA21F: Transition from a continental to an oceanic rift: geology and biogeochemistry of the Northern Red Sea (Bonatti, Doglioni, Ligi, Mitchell, Seyler, Sichler, Stoffers; 2003-2005; €424900)

Direcção Regional da Ciência e Tecnologia, Governo Regional dos Açores & Observatório Vulcanológico e Geotérmico dos Açores: Support for multibeam sonar surveys, Azores (Nunes, Mitchell, et al; 2003; €10,050)

NERC: Submarine growth and erosion of volcanic islands (Mitchell; 2003/04; equipment pool loan of Leica DGPS)

The Gower Society: Sand movements around the dredge site on Helwick Bank (Mitchell, Ramsay, Schmitt, Vincent; 2002; £6,442)

Countryside Council for Wales: Sand movements around Helwick Sands (Mitchell; 2003; £1,000)

Hanson plc, United Marine Dredging Ltd & RMC UK: The intersection of the East Nash bank with the South Glamorgan coastline (Mitchell, Ramsay, Schmitt, Vincent; 2002,2003; £8,690)

Royal Society: Growth of Volcanic Islands (Mitchell; 2002-; £9,910)

NERC NER/E/S/2001/00408: Feasibility of 'time-lapse' seabed surveying to study movements of sand bodies in the Bristol Channel (Mitchell; 2001-2002; £5,000)

United Utilities Green Energy Ltd: Sediment dynamics in the lee of Scarweather Sands, Swansea Bay (Mitchell; 2001; £5,000)

British Council/Anglo-German ARC: Landslides and shallow marine eruptions around the Azores volcanic islands (Mitchell, Devey; 2002-2004; £4,830)

NERC/ Autosub Under Ice NER/T/S/2000/00986: Marine geological processes and sediments beneath floating ice shelves in Greenland and Antarctica using the Autosub AUV (Dowdeswell, Nienow, Mitchell, Jenkins; 2001-2005; £384,667)

HEFCW/HEFCE Joint Research Equipment Initiative NER/F/S/20/00/00146: Seabed imaging sonars for earth, environment, geohazards, coastal engineering and archaeological research (Mitchell, Collier, Henstock & 4 others; 2001-2003; £524,317)

Joint Infrastructure Fund GR3/JIF/02: Procurement, installation and support for a multibeam echo sounder on RRS James Clark Ross, the UK ice-strengthened scientific research vessel (Dowdeswell, Larter, Watts, Livermore, Sparks, Mitchell; 1999-; £1,987,927)

EU/EASSS: Tectonic and pressure controls on the growth of volcanic ridges in the Azores (Bonatti, Ligi, Mirani, Mitchell; 1999; Access to TOBI sonar system equiv. ECU 260,000)

Royal Society: Mid-ocean ridge tectonics (1996-2004; University Research Fellowship)

EU/Training and mobility of researchers - access to large scale facilities: Nautilic dives on the Mid-Atlantic Ridge (grant to IFREMER)

Royal Society: Neotectonics in Icelandic lakes (Bull, Minshull, Mitchell; £10,000)

NERC/BRIDGE GST/02/1016: Measuring Tectonic Strain at Slow Spreading Ridges (Searle, Cowie, Mitchell; 1995-1998; £212,522 & £325,120 seetime)

NERC GR3/8900: The Tectonic Evolution of the Bouvet Triple Junction (Mitchell, Livermore; 1993-1996; £149,764)

NERC GT5/92/GS/5: Quantitative Studies With Swath Mapping Sonar (1992-1997; Research Fellowship)

NSERC of Canada: Quantitative Inferences on the Materials of the Seafloor From Mapping Sonar Data (1993 (7 months); International Research Fellowship)

Royal Commission for the Exhibition of 1851: Tectonics of Mid-Ocean Ridges (1990-1991; Research Fellowship)

Scientific sessions convened

InterRidge Working Group on Seamounts and Islands Associated with Mid-Ocean Ridges, Lisbon September 2019.

EGU 2007 Submarine morphology.

EGU 2005, 2006 Submarine Erosion.

EUG 2001 Growth of volcanic structures in the oceans, from ridge crests to the plate interiors.

Fall AGU meeting:
Southern ocean ridges, 1995.
Near bottom measurements of oceanic crust, 1996.

BRIDGE workshop on sonar image interpretation, 1994.

Recent invited talks (2010-)

2023 University College, London
2022 Azores Summer School

2022 Rifts and Rifted Margins Seminars
2022 InterRidge
2021 IPGP, Paris, France
2020 Khalifa University, United Arab Emirates
2020 Instituto Dom Luiz, Lisboa, Portugal
2020 Universidade Federal do Rio Grande do Norte, Brazil
2020 Shropshire Geological Society
2019 King Abdullah University of Science and Technology
2019 GEOMAR, Kiel, Germany
2016 KIOSt International Science Seminar (Korea)
2013 Saudi Geological Survey workshop on the Red Sea, Jeddah
2011 King Abdullah University of Science and Technology
2010 INETI (Portuguese Geological Survey)

Procurement of research and teaching equipment

- 2012, Allied Assoc. Tigre 62-electrode resistivity array and software, University of Manchester (£18k)
- 2001, Reson 8160 & 8111 portable multibeam sonars and associated equipment (£324k).

Marine Fieldwork (PS: principal Scientist)

- 1987 RRS *Charles Darwin* cruise to the Indian Ocean Triple Junction. GLORIA side-scan sonar, bathymetry, gravity, magnetics and reflection seismics.
- 1988 RV *Thomas Washington* cruise to study the onlap and offlap sequences in the sediments of the flexural moat of Hawaii, using single channel reflection and refraction seismics, piston coring, rock dredging, and multibeam.
- 1990 RV *Point Sur* cruise investigating the sedimentary system of the Monterey Canyon with deeply-towed dual-frequency side-scan sonar.
- 1992 RV *Ocean Surveyor* commercial telecom cable route survey on the shelf and slope offshore Argentina, Uruguay and Brazil. High resolution sidescan sonars, sediment profilers, sampling and Simrad multibeam.
- 1993 CSS *Frederick G. Creed* survey in the approaches to Halifax harbour, Nova Scotia, for seafloor classification and hydrographic research. High resolution multibeam, gravity coring and photography.
- 1995 RRS *James Clark Ross* 7-week survey of the Bouvet triple junction, Scotia back-arc spreading centre, South Sandwich trench and South America-Antarctica Ridge. Hawaii-MR1 sidescan sonar, seismics.
- 1996 RRS *Charles Darwin* deep-tow survey of faulting on the Mid-Atlantic Ridge using TOBI - sidescan sonar, swath bathymetry, 3-component magnetics and gravity.
- 1996 RV *Nadir* deep submersible (Nautile) survey of the Mid-Atlantic Ridge (visual observations, sampling, three-component magnetics and seafloor gravity).
- 1996 Small boat survey of Thingvallavatn, a lake crossing the Mid-Atlantic Ridge rift valley in western Iceland, using a Chirp sediment profiler and side-scan sonar.
- 1997 RRS *Charles Darwin* deep-tow survey of landslides and subsidence of the Canary Islands using TOBI sidescan sonar, swath bathymetry, seismics and dredges.

Professional service

- Ridge Symposium 2021 online seminar series (<https://ridgeseminarseries.wordpress.com>).
- Geological Society London Research Grants Committee 2015-2017
- NERC Peer Review Committee for Earth Sciences October 2001-03 and Peer Review College 2003-4.
- NERC Science Advisory Panel for UKIODP, 2008-2011.
- ECORD representative on IODP Site Survey Panel 2008-2011 and Science Evaluation Panel June 2014.
- NERC Pool of Technologies Reviewers, 2011-2012.
- Schmidt Ocean Institute 4500 m ROV Science Advisory Group.
- NERC Rock Store working group 2023.

- 2001, project board for swath system and sediment profiler for Autosub, the NERC Autonomous Underwater Vehicle (£200k).
- 2000, project board for a deep-water multibeam echo-sounder and sediment profiler on RRS James Clark Ross (£2M).

- 1998 RV *Meteor* rock sampling the Mid-Atlantic Ridge for evidence of the Ascension plume.
- 1999 RV *Urania* TOBI sidescan sonar surveying of volcanic ridges in the Azores.
- 2000 RV *Meteor* OBH/OBS, multibeam sonar over detachment faults on the Mid-Atlantic Ridge.
- 2000 RRS *James Clark Ross* transit multibeam over the Mid-Atlantic Ridge and margins of Africa and S America.
- 2001 Commercial tugboat *New Ross 1* trials and survey with Reson portable multibeam sonar, Bristol Channel (PS).
- 2002 Commercial tugboat *Strathdoon* study with Reson portable multibeam sonar of headland-connected tidal sand banks within the Bristol Channel (PS).
- 2003 RV *Arquipelago* surveying the coasts and slopes of the central Azores islands with Reson multibeam sonar (PS).
- 2005 RV *Urania* multibeam, seismic, sampling, Red Sea.
- 2005 RV *Celtic Voyager*, multibeam, sampling, Celtic Sea (PS).
- 2006 RV *Roger Revelle*, geophysics, coring, Central Pacific (co-PS).
- 2006 RV *Urania* multibeam, seismic, chirp, Ionian Sea incl. Etna, Straights of Messina.
- 2013 RV *El Puma* multibeam, chirp, Pacific coast of Mexico.
- 2018 RV *Noctiluca* multibeam, Swansea Bay & Gower.
- 2018 RV *Pelagia* multibeam, sparker seismics, magnetics, coring Sudanese Red Sea.
- 2021 RV *Mary Anning* Chirp seismics, Swansea Bay & Gower.

SERVICE

Referee of research grant and infrastructure applications for NSF (US), NERC (UK), Royal Society (UK), Leverhulme Trust (UK), DAAD & DFG (Germany), GNV (Italy), Science Foundation Ireland, Israel Science Foundation, Netherlands Organisation for Scientific Research, Royal Society of New Zealand, Schmidt Ocean Institute, Singapore National Research Foundation, InterRidge, United Arab Emirates University and Southampton Oceanography Centre (European Access to Seafloor Survey Systems).

Reviewer of articles for:

Science, Nature, Geology, J. Geophysical Research, G3, Geophys. J. Int., Geosphere, Bull. Volcanol., Earth Planet. Sci. Lett. J. Sed. Res., Geophys. Res.

Lett., Sed. Geol., Marine Geophys. Res., Appl. Acoust., Marine Geol., Earth Sci. Rev., Current Science, The IEEE J. Ocean. Eng., Basin Res., IEEE Trans. Geosci. Remote Sensing, Geological Society, London, Society for Underwater Technology, Remote Sensing, J. Marine Syst., Comp. Geosci., J. Afr. Earth Sci., J. Paleolimnol., Atm. Sci. Letts., Oceanography, PLOS-ONE, Deep Sea Res., Paleoceanography, Pure & Applied Geophys., Marine Geod., Quat. Sci. Rev., Terra Nova, Tectonophys., Geomorph., Progr. Ocean., Frontiers Earth Sci., Geosciences, Ital. J. Geosciences., Aust J Earth Sci., Volcanica, Progr. Earth Plan. Sci.

Editorial Board member for Marine Geology (to 2023) and Proceedings of the Geologists' Association, UK.

AGU Editor's Citation for Excellence in Refereeing for J Geophys Res -Solid Earth, 2000.

Referee for various tenure and promotion committees, including the University of Hawai'i, the 2002 Shanti Swarup Bhatnagar Prize, Council of Scientific and Industrial Research (India), AQU Catalonia, Spain, Petroleum Institute, Abu Dhabi, Leibniz Institute for Baltic Sea Research in Warnemünde, Germany, Seoul National University, Korea.

University administration (Manchester)

Chair, staff board for the School of Earth,

Atmospheric and Environmental Sciences 2010-14.

Member, executive committee, SEAES 2010-14.

Ethics Panel, SEAES 2010-14.

Periodic and Institutional Review of Central European University, Budapest, Hungary 2014 (panel member).

Manchester Faculty of Engineering and Physical Sciences, teaching Peer Review College, 2014-

Manchester DEES, year 3 coordinator for Geoscience BSc degrees.

Manchester DEES, lead for "Geology-Geography" degree 2020 and "Geology and Physical

Geography" pathway of new degree 2018-.

Interview panels for Earth Sciences, Chemical Engineering and Physical Geography.

University administration (external)

Periodic review of BSc in Earth Sciences, Sultan Qaboos University, 2019.

External examiner for MSc in Applied Marine Geoscience, Bangor University, 2014-2017.

External examiner for BSc in Geophys. with Geology, University of Durham, 2013-2016.

Teaching, outreach and recruitment preparation

Senior Fellow of the Higher Education Academy (UK) awarded November 2019. Year 1 of Postgraduate Certificate in University Teaching and Learning (Cardiff Univ 2003), GEES Workshop for Starting Lecturers (Birmingham Univ 2003), Flipping the Classroom (Manchester Univ 2014), Teaching with mobile devices (Man Univ 2014), Public Engagement in the GEES Disciplines (Man Met Univ 2012), First Aid (Man Univ 2007, 2014,

2016), Interviewing Techniques (Cardiff Univ 2001), Diversity Awareness and Prevent, Academic Advising, Data Protection (Man Univ).

PhD examinations (external or internal)

Chisomaga A Opara-Nestor (ext, Birmingham, 2022)

Natasha Chappelow (ext, Durham, 2022)

Song Jing (ext, Cardiff, 2021)

Arne Fuhrmann (int, Manchester, 2020)

Sally Watson (ext, U Tasmania, 2018)

Elisabeth Muller (ext, Oxford, 2017)

Joshua Allin (ext, Southampton, 2016)

Rachel Lamb (int, Manchester, 2016)

Ayca Dogrul Selver (int., Manchester, 2014)

Abigail Hackston (int., Manchester, 2013)

Phai Duy Do (int., Manchester, 2012)

Chris Cooper (ext., Liverpool, 2011)

Xavier van Lanen (int., Manchester, 2011)

Samer Ghadeer (int., Manchester, 2011)

David Foster (int., Manchester, 2009)

Aaron Micallef (ext., Southampton, 2007)

Membership of scientific societies

Geological Society (Fellow; Marine Studies Group web and Geoscientist correspondent until 2006; research grants committee 2015-)

The Shropshire Geological Society (honorary member).

Wider engagement of science with society

One of the first 6 Research Fellows to take part in Royal Society scheme linking scientists with Members of Parliament (2001). Prompted parliamentary question raised by Julie Morgan MP in December 2003 concerning NERC funding criteria affecting Wales.

BBC Newsround interview explaining pressure associated with Mariana Trench dives (20/03/2012).

Posting on the educational science website Ask a Scientist (www.askascientist.co.uk) concerning the Malasia Airlines MH370 search, 2014.

Posting on the British Council website concerning joint UK-German research on the Red Sea, 2017.

Science in the National Park participant, 2012 (ESRC sponsored event at Longshaw, Peak District).

Royal Society meetings on Impact of Science in Government and National Forum For Science (public-science dialogue meeting) (2002).

Public Science Presentations: Wolfson College, Oxford, 1999, Oxford school, 1999. Oxford Geology Group, 2000, Connell 6th Fm College, Manchester 2014, St Bede's (prep school), Manchester 2014.

Knowledge transfer

The author's work has been primarily academic research not aimed at providing commercial applications. He has, however, worked for a year within a company concerned with offshore surveying, where he helped develop software solutions for visualising seabed sonar data. In Cardiff University, he has developed a project for a PhD student to study sand movements around tidal sand banks off the South Wales coast being dredged for commercial

aggregates, in part to address public concerns about their possible impact on local beach sands. The project involved a NERC Connect A grant and attracted funding from the aggregates industry, a power company, the Countryside Council for Wales

and the Gower Society. A continuation of this type of work in coastal geology was later funded by INTERREG, providing a stipend and fees for a second PhD student as well as seetime.

TEACHING

Presently (University of Manchester) contributions towards:

Year 3 Tectonics in Earth's Oceans and Continents (EART32301).

Year 2 Environmental Fieldweek (EART20042) - practical experience and field experiment using geophysical methods.

Year 2 Tutorials for geology, physical geography or environmental undergraduates.

Sabbatical replacement teaching:

MSc Measuring & Predicting 1 (EART60061)

Year 3 Surface Processes (EART30322) 2014.

Year 2 Geostatistics (EART20922) 2011, for Petroleum Engineers.

Year 3 Field trip to Tenerife (EART30012), for Environmental Scientists.

Year 2 Geophysical Techniques, 2007 (EART20271).

Year 3 Seismic Hazards (EART30242).

Year 2 Geospatial Techniques (EART29102)

Previously:

Year 3 Marine Geology and Geophysics (EART30302) - volcanic, tectonic, sedimentary, oceanographic processes occurring in the oceans everywhere from spreading ridges to the coasts.

MSc in Pollution and Environmental Control (two weeks of core Measuring and Predicting (EART60101))

Year 2 Integrated Subsurface Systems (EART20020) for Petroleum Engineers — submarine channels - their geometries using online geophysical data on modern examples and scientific drilling data.

Year 2 Geophysical Techniques (EART20271) - practical geophysical methods for geologists, environmental scientists and physical geographers (module leader).

Year 3 Seismic and volcanic hazards (EART30242) - seismic hazards component to geologists and physical geographers.

Yr 3 course in Cardiff on quantitative geomorphology for EA3011 Earth Surface Processes comprising 12

lectures for 60 students. Topics include: diffusive lowland landscapes, stream-bed erosion laws and climate-tectonics feedbacks.

Yr 2 course in Cardiff on coastal processes for EA2022 Environmental Science comprising 10 lectures and a guided study for 80-90 students. Topics include: waves, sediment transport, cliff erosion, estuaries, deltas and beach processes, including modern topics such as self organisation and morphologic-process feedback.

Yr 2 & 3 course on acoustic surveying methods in Cardiff. EA0274 Coastal Hydrography & MS3231 Coastal Geology, 8 lectures, 3 practicals and exams for 58 students covering: introductory underwater acoustics, sidescan sonars, multibeam echosounders, sediment profiling sonars & seismics.

Covered for a year 2 Plate Tectonics course for a colleague during 2005 (EA2013), including, besides the original evidence for continental drift and plate tectonics, various aspects of mid-ocean ridges, convergent margins, continental rifting.

Two-week course on deep marine sedimentary geology for the 1998 Oxford University 3rd year - 4 lectures and 2 practicals covering various aspects of gravity and current transport, carbonate sedimentation and modelling of sedimentary systems.

Two lectures for the 1999 Cambridge University M.Phil. in remote-sensing (acoustic remote-sensing and applications in marine earth sciences).

Tutorials, UCAS interviews Cardiff University, 2000-Residential Workshop for Recently Appointed Lecturers, May 2002 (Learning and Teaching Support Network, Geography, Earth and Environ. Science). Cardiff University Netskills Blackboard tutorial (web based class management) Dec 2002.

University meetings or training courses concerning Diversity Awareness, SENDA regulations, PhD student supervision, interview skills, learning outcomes, computer-aided assessment.

PCUTL (Cardiff lecturer training) workshops.