

Course Instructor Biographies

Course 1, EV3011: The Marine Environment and its Sustainable Use.
Cork, June 14th to June 27th 2012

IMSS University College Cork (UCC) Biographies

Dr Andy Wheeler

Andy Wheeler is a marine geologist and Head of Geology in the School of Biological, Earth and Environmental Sciences. He has taught ship-based marine science since 2002 and has offshore survey experience in shallow and deep-waters including seabed mapping, sampling and drilling, and use of remotely operated vehicles. An expert on deep-sea biogeological systems such as deep-water coral reefs, he recently discovered a mid-Atlantic hydrothermal vent system at 3000m. Dr. Wheeler will be chief scientist on the offshore surveys and will instruct in seabed and habitat mapping.

Prof John Benzie

John Benzie is Professor of Marine Molecular Biodiversity at UCC, and coordinator of the UCC marine summer school course. He has more than 20 years experience in marine science, researching the genetics and evolution of species in the Indo-Pacific, aquaculture genetics and biotechnology. He has worked in the government, university and private sectors, and with international agencies, in Australia, Asia, Europe and America on aquaculture and the sustainable use of aquatic resources.

Dr Emer Rogan

Emer Rogan is a senior lecturer in UCC. Her speciality is the conservation biology, ecology and management of marine mammals and, in particular, small cetaceans. She also works on fishery related issues, researching an ecosystem approach to fisheries management, and co-ordinated an MSc course in fisheries management, development and conservation at UCC. She is a member of the board of the Society for Marine Mammalogy, the IUCN cetacean specialist group, the scientific committee of the International Whaling Commission and is the national contact for the European Cetacean Society.

Dr Max Kozachenko

Max Kozachenko is a marine geologist lecturing in seabed mapping and geographical information systems (GIS) at UCC since 2000. He has taken part in mapping projects from the Mediterranean to the Arctic with a primary focus on Irish environments: e.g. Irish deep-water coral reefs, seabed habitats of the Irish and Celtic Seas. He is familiar with a wide range of survey equipment, specialized data processing software, survey planning, data acquisition, processing, interpretation, integration within GIS and production of final mapping products.

Cathal O'Mahony, BSc

Cathal O'Mahony is a research scientist at the Coastal and Marine Research Centre (CMRC) at UCC. He is a member of the coastal governance group within the CMRC and his research has primarily focused on the improved use of coastal environments through capacity building and developing mechanisms for implementation of integrated-based approaches to coastal management.

Prof Gavin Burnell

Gavin Burnell is an ecologist and a Professor in the School of Biological, Earth and Environmental Science at UCC, with specialist interest in aquaculture and fisheries and their interactions with each other and the environment. He is Editor in Chief of Aquaculture International and is a co-founder and current Board member of the knowledge management company, AQUATT.

Dr Anne Marie O'Hagan

Anne Marie O'Hagan is an environmental science graduate of the University of Ulster, Coleraine, where she also earned her masters and doctorate. She has been actively involved in research on the law and policy relating to the management of marine resources at NUI Galway and, more recently, UCC. Her current research covers the law, policy and environmental aspects of ocean energy (wave and tidal) development in Ireland and elsewhere.

Dr Rob McAllen

Rob McAllen is a marine biologist, a Lecturer within the School of Biological, Earth and Environmental Sciences and the research coordinator for the UCC laboratories at Lough Hyne Marine Nature Reserve in West Cork. He previously held positions at the University of Aberdeen and University of York, and has research interests including conservation, sustainability and animal adaptations to natural and anthropogenic disturbances. He is currently a scientific advisor for PISCO and ESF and a member of the Irish Scientific Advisory Committee.

Mike Fitzpatrick, BSc.

Mike Fitzpatrick is researching at the CMRC and has worked in the fisheries industry, and associated research and development, for 15 years. He is active in a number of European Union (FP7) projects on ecosystem based marine management and marine spatial planning (Knowseas & CoExist) and contributed the fisheries and aquaculture sections to the recent Strategic Environmental Assessment for Marine Renewable Energy in Irish waters.

John Boyd, MSc.

John Boyd is fisheries biologist and instructor with the Strategic Marine Alliance for Research and Training (SMART). He acts as chief scientist on SMART training surveys for Irish higher education institutes and has worked extensively in fisheries science on small pelagic species and Atlantic tunas where he has served as national fisheries sampling coordinator and national data correspondent to ICES and ICCAT working groups.

Dr Noel Barry

Noel Barry is head of the academic courses at the National Maritime College of Ireland (NMCI). His area of expertise is control in the marine and plant engineering field and electrical propulsion systems. Noel directs new course developments at the NMCI.

Instruction Content and Academic Personnel for UCC IMSS Course 1

Aquaculture (J. Benzie and G. Burnell)

The principles of marine farming and the range of species cultivated in Ireland, and the global context for marine food production, will be covered in introductory lectures. A subsequent field trip to Bantry and Castletownbere (West Cork) will allow participants to visit selected enterprises that illustrate the depth and diversity of Irish aquaculture. The emphasis will be on visiting shore based facilities with tours and demonstrations

provided by local site managers. The trip will include both production and processing facilities and cover both shellfish and finfish cultivation. Supplementary commentaries will be provided by accompanying aquaculture experts.

Fisheries (E. Rogan, M. Fitzpatrick, J. Boyd)

Onshore fisheries management instruction will cover an introduction to fisheries operations and fisheries management, interactions between fisheries and the marine environment, the theoretical background to the ecosystem approach to fisheries management and emerging examples of its application. Lectures will also cover the emerging emphasis within the ecosystem approach to fisheries management on stakeholder participation, policy analysis and impact assessment of management measures. Practical instruction will be given on-board on trawling with catches used for fish stock assessment exercises.

Marine governance, spatial planning and renewable energies (A. O'Hagan, C. O'Mahony)

Topics covered will include implementation of integrated coastal zone management, partnership models for coastal management, coastal and marine spatial planning, and methods for measuring sustainability within coastal environments.

Seabed mapping and geological sampling (A. Wheeler & M. Kozachenko)

Topics covered will include hydrographic surveying techniques, habitat mapping and seabed environmental assessment. Practical instruction will be given on seabed and sub-seabed geophysical imaging techniques and data processing, seabed sediment sampling and work-up. In the laboratory, collected data will be compiled and analysed within a GIS environment to produce interpretative seabed and habitat mapping products.

Marine Benthic Ecology (R. McAllen, J. Boyd)

Topics covered will include benthic sampling techniques, biological sample data processing and benthic ecological assessments. Considerations of environmental controls on organism distribution, life-modes and ecological interactions will be considered. Data collected will be sorted and worked-up in combination with seabed mapping and sedimentary datasets.

Maritime history, shipping and society (A. Wheeler)

Informative tours in the Cork Harbour area will provide an insight into the history of Cork Harbour region as a departure point for emigration and penal servitude, as a centre of fortification against conquest and a historic trading port.

Course 2 SU416, EV3011: Galway Bay's Atlantic Margin: Marine, Earth Science and Cultural Perspectives.
Galway, June 29th to July 12th

IMSS National University of Ireland, Galway, Biographies

Prof Nicholas Allen

Nicholas Allen is Moore Institute Professor at NUI Galway. He is writing a cultural history of 1916 and its impact on modernism for Cambridge University Press, and editing Ernie O'Malley's later letters and papers with Cormac O'Malley. His other books are *Modernism, Ireland and Civil War* (Cambridge University Press, 2009) and *George Russell and the New Ireland (Four Courts, 2003)*. Allen is editor of *That Other Island* (2007), with Eve Patten, Gerald Dawe's *The Proper Word* (2007) and *The Cities of Belfast* (2003), with Aaron Kelly. He leads the Galway strand of Texts, Contexts, Cultures, a graduate programme run in association with Trinity College Dublin and University College Cork, and has supervisory interests in the broad range of twentieth century Irish literature, history and art.

Prof Colin Brown

Colin Brown is a geophysicist at NUI Galway. His research uses underwater acoustic methods to support the development of offshore renewable energy and marine ecological modelling. He manages a €3m research project investigating seabed geological and biological processes in Galway Bay and coastal groundwater-seawater interactions on the Burren coastline. He is currently Director of the Ryan Institute for Environmental, Marine and Energy Research at NUI Galway, an inter-disciplinary research institute with over 300 researchers from science, engineering, social science and business.

Dr Rachel Cave

Rachel Cave is a lecturer in Chemical Oceanography at NUI Galway. Rachel's research interests are in marine biogeochemistry, with current research projects on cycling of nutrients and trace metals in estuarine, coastal and open ocean waters, ocean acidification, and groundwater inputs to coastal waters. She supervises 5 PhD students at present, with funding from the Geological Survey of Ireland, the Marine Institute, Science Foundation Ireland and IRCSET. Rachel teaches and examines across all 4 years of the B.Sc. in Marine Science and the B.Sc. in Earth and Ocean Sciences at NUI Galway, contributing lectures, practical classes and field courses including taking students to sea, on Oceanography, Marine Geoscience and Climate Change & Natural Resources modules, as well as supervising final year honours projects. She completed a Post-graduate Certificate in teaching and learning in Higher Education in 2010.

Prof Martin Feely

Martin Feely is a geologist and a staff member of Earth and Ocean Sciences, School of Natural Sciences, NUI Galway. He is adjunct professor of geological and environmental sciences at James Madison University, Virginia, USA, and external examiner to the University of Kingston, London. His teaching and research specialities are mineralogy, petrology and fluid inclusion studies. Ongoing research projects include chronometry,

fluid inclusion and isotope studies of granite-related Mo-mineralisation along the Caledonian-Appalachian Orogen, linkages between Ireland, Newfoundland and New England. Mineralogical controls on groundwater chemistry. Fluid inclusion studies include Brazilian emeralds, several fluid inclusion contract research projects for the UK, African and Chinese oil exploration and research sectors, and the study of microbial communities in fluid inclusions from Death Valley and Searles lake, California. He also offers a two-year evening course in gemmology at the NUIG. He has published widely in international scientific journals on the geology and mineralogy of the Irish onshore and offshore massifs with particular emphasis on the west of Ireland. He is involved in several international geology summer schools based in the west of Ireland.

Dr Richard Fitzgerald

Richard Fitzgerald is a zoologist by training, he was awarded his PhD for work on ecological interactions of fish-parasite communities but also holds qualifications in Business (MBA) and in Finance. He has been involved in Research and Development in Aquaculture for almost 30 years. He worked as Technical Director with a salmon farming company owned by the State Venture Capital agency and thereafter, for a decade through the 1990s, he managed and led research efforts at the Aquaculture Development Centre in UCC. In 2000, he established and managed a specialist seafood company until 2006. He joined NUI Galway in 2006/7 as a Senior Research Fellow, and, currently, he manages the Carna Research Station of the Ryan Institute. Research interests include the growth performance of finfish in response to critical rearing conditions and husbandry practices; the development of novel dietary formulations for farmed fish. Presently, he is Project Co-ordinator for the EIRCOD project which is the cod breeding and broodstock programme for the Irish Aquaculture industry funded under the Sea Change Strategy.

Dr Michael Gibbons

Michael Gibbons is a member of the Institute of Archaeologists of Ireland. He has served as a member of the Archaeology Committee of the Irish Heritage Council. He has worked with the Department of Antiquities in Jerusalem and the Museum of London City Excavation Programme. He was a co-director of the National Sites and Monuments Record (Irish Office of Public Works). He has directed surveys and excavations on Croagh Patrick and has mapped the uplands and islands of the Connacht Coast. Most recently he has been researching the late Maritime Pilgrimage Tradition on Skellig Michael (World Heritage Site). He is currently carrying out a preliminary survey of the intertidal zone archaeology of Connemara. His recent publications include; "Hunter Gatherer Strategies in the Mesolithic: The Evidence from Western Connacht" *Cathair na Mart* (2006) "Rock Art in County Clare", *Archaeology Ireland*, (Spring 2007), "Soapstone as a Cultural Indicator on the Atlantic Seaboard: Scandinavian No More" *Cathair Na Mart* No 25, 25-32, (2007), "Ambergris: A Lost Link between Connemara and Andalusia" (*Lost and Found II Rediscovering Ireland's Past*, Bray, 2009)

Dr Ronan Hennessy

Ronan Hennessy is the Senior Technical Officer in GIS at NUI Galway's Ryan Institute for Environmental, Marine and Energy research. An earth science graduate of NUI Galway, Ronan's research has focused on geological and archaeological landscapes in the West of Ireland, such as in Connemara and the Burren. Ronan was the Geopark Geologist on the project that successfully won UNESCO Global Geopark status for the Burren and Cliffs of Moher Geopark. He has published books on the geology of the Burren, and the esker landscapes of County Galway, and he maintains a keen interest in the shared heritage of geology and the railways.

Dr Liam Morrison

Liam Morrison is a research scientist at the Ryan Institute (Environment, Marine and Energy Research) NUIG with expertise in the bioavailability, mobility, biomonitoring, and toxicity of metal contaminants in the environment. He holds an undergraduate degree in Marine Science and PhD degree on metals in the Irish marine environment from NUIG. He has extensive expertise in many spectroscopic and microscopic analytical techniques. He is experienced in teaching and research supervision (currently supervising three 4th year undergraduate students and five PhD students) and the management of collaborative research projects with colleagues at NUIG. Dr. Morrison has a proven track record of publishing in international journals and has been previously awarded a Postdoctoral Fellowship in Science Engineering and Technology (EMBARK Initiative) and a Marie Curie Host Fellowship at Queen's University Belfast.

Dr Martin White

Martin White is a physical oceanographer who has spent 18 years at NUI, Galway. He came initially as a postdoctoral researcher in the then Oceanography department, but since 2003, has been a lecturer within the Earth and Ocean Sciences discipline. Martin has an interest in a range of ocean dynamic processes, especially those relating to Irish and nearby waters. In particular, he has an interest in those dynamics that directly influence biological ecosystems through the cycling of food and nutrients to the biology. He has worked on cold-water corals for the last 10 years and has interests in seamounts and harmful algal blooms. He recently led a chapter on environmental sampling techniques for a book on deep sea biological sampling.