

**Applied Marine Biological Sampling and Data Collection
Continuous Professional Development Course (CPD)
for Graduates, Researchers, Marine Industry Professionals and Observers
12th to 15th of April**

Galway-Mayo Institute of Technology (GMIT), the Irish Whale and Dolphin Group (IWDG) , and the Strategic Marine Alliance for Research and Training (SMART)

Course Descriptor

Number of Places: 20

Themes and Topics

This course provides the learner with the detailed practical knowledge and skills necessary to design and implement biological sampling and data collection campaigns on marine commercial platforms. Core topics include:

- Applications of, and requirement for applied marine biological sampling and data collection skills
- Sampling and data collection campaign design and planning
- Fisheries catch, bycatch and discard identification, sampling and recording
- Visual methodologies for identifying, recording and surveying Marine Mammals
- Acoustic methodologies for detection, identification and surveying Marine Mammals
- Seabird identification, data collection and surveying methodologies
- Environmental and Ecological Impacts of Marine Industries

Learning Outcomes

On completion of the course participants will have the ability to:

1. Develop and expound rationale for observer programmes and marine biological sampling and data collection.
2. Separate, identify and record retained and discarded marine species from commercial fishing net hauls.
3. Demonstrate knowledge and applications of acoustic technologies for cetacean detection and monitoring.
4. Demonstrate knowledge of visual identification and surveying methods for marine mammals.
5. Demonstrate knowledge of seabird identification, surveying and data collection methodologies.

6. Evaluate commercial vessels as observation and sampling platforms for seabirds cetaceans and other megafauna.
7. Design and implement quantitative biological sampling and data collection campaigns.
8. Demonstrate ability to extract, preserve and present aging and maturity tissues from fisheries catch and bycatch species.
9. Collate and present marine biological data to required governmental and non-governmental organization (NGO) data collection standards.

Requirements

Applicants should have a primary or postgraduate degree in a marine related science or have significant professional or research interest in marine data collection.

Course Fees

Course fees are €500. The closing date for applications is the 11th of March and places will be filled on a first come first serve basis.

Application Forms

Application forms are available online at:

<https://smartseaschool.wufoo.eu/forms/ambs-2016/>

Queries

Queries about Applied Marine Biological Sampling should be addressed to smart@gmit.ie

Instructor Biographies

Dr Simon Berrow is a full time lecturer at GMIT and is currently acting CEO and chief science officer for the Irish Whale and Dolphin Group which he helped to found in 1990. In 1995 he took up a position with the British Antarctic Survey to research albatrosses, seal and penguin populations on South Georgia as well as participating in cetacean surveys.

He is principal investigator on the Observe-Acoustic Project which aims to "*provide robust scientific knowledge with respect to protected species occurrence and ecology along the Irish Atlantic Margin*". He shares this responsibility with Dr Joanne O'Brien in which GMIT is the lead partner in collaboration with the Marine Institute, JASCO Applied Sciences, Sea Mammal Research Unit Ltd. and the Irish Whale and Dolphin Group.

From 2001 to 2005 he was a full member of the Heritage Council which prepares policy advice and encourages respect and research on all aspects of Ireland's natural and built heritage. He has recently completed a term as a board member of the National Biodiversity Data Centre and helped found the Irish Basking Shark Study Group in 2009. He is an Editor of the journal "Tourism in Marine Environments" and sits on the Council of the European Cetacean Society.

Dr Berrow's vast experience and expertise is reflected in the wide range of consultancy he undertakes for government agencies and NGOs, examples of these being inshore surveys for harbor porpoises for the National Parks and Wildlife Services (NPWS) and his membership of the Celtic Sea Herring Management Advisory Committee.

Simon has authored and co-authored over 100 publications, details of which can be accessed at https://www.researchgate.net/profile/Simon_Berrow .

Dr Joanne O'Brien

Dr. Joanne O'Brien is a full time lecturer at the Galway Mayo Institute of Technology. She lectures on the Applied Freshwater and Marine Biology Degree, delivering modules in Animal Behaviour (specifically underwater acoustics and cetaceans) as well as on Environmental Legislation. Her doctoral dissertation addressed the inshore distribution and abundance of small cetaceans on the West Coast of Ireland as part of site assessments for special area of conservation status.

Together with Dr Simon Berrow she is principal investigator on the Observe-Acoustic Project and is Chief Scientist on the Cetaceans on the Frontier series of research surveys on the margins of the continental shelf off the west coast of Ireland. The most recent addition to Joanne's research brief is her collaboration with Marshall Day Acoustics Ltd on a project whose aim is to sharpen resolution of cetacean and biological acoustic signals from background and anthropogenic ocean noise.

Joanne was work-package leader on the PReCAST project, responsible for developing acoustic monitoring techniques for cetaceans in Irish Atlantic waters and has carried out both passive and static acoustic monitoring of cetaceans around the Irish coast since 2004. She manages a number of projects such as harbour porpoise SAC monitoring and ocean noise monitoring. She is one of the most experienced researchers in Ireland regarding marine bio-acoustics.

Mr Niall Keogh

Niall is a Joint Nature Conservation Committee (JNCC) accredited seabird surveyor and has been heavily involved in offshore surveys since 2012 both as a researcher and consultant. He has led seabird observer teams and taken part in surveys all around the Irish EEZ aboard the state research vessels as well as on commercial charters in areas which include the Irish Sea, the Celtic Sea, the Porcupine Bank, the Whittard Canyon, the Rockall Trough as far north as the Faroe-Shetland Channel and has also undertaken transatlantic crossings from Galway to Newfoundland. Offshore seabirds are the subject matter of Niall's current PhD research at GMIT.

Niall began working with BirdWatch Ireland as a Seabird Fieldworker in 2010 after receiving a BSc in Environmental Biology through University College Dublin. In this role he has acted as project coordinator for Seatrack, the national land-based sea-watching survey and undertook surveys of coastal waterbirds as part of the Low Tide Ecology and Dublin Bay Birds project. A particular interest of Niall's are the tern colonies of the Wicklow Coast which in 2015 have enjoyed spectacular success in terms of numbers of breeding pairs and chicks fledged.

His commitment to public engagement on seabird conservation issues is demonstrated through frequent seabird identification and natural history lectures and outdoor walks led through BirdWatch Ireland's network of local chapters. Niall is an impassioned and expert advocate of the importance of social, print and broadcast media to promote awareness of seabirds and believes that media skills should form part of the skill set of any modern conservationist.

Examples of Niall's public engagement in digital, print and broadcast media include:

- Kilcoole Little Tern Conservation Project: <http://littleternconservation.blogspot.ie/>
- A View from the Headland: <http://seabirdwatchireland.blogspot.ie/>
- Cetaceans on the Frontier: <http://cetaceansonthefrontier.blogspot.ie/>
- Patch Birding Ireland: <http://patchbirdingireland.blogspot.ie/>
- Twitter: <https://twitter.com/nialltkeogh>
- Irish Times: <http://www.irishtimes.com/life-and-style/people/behind-the-news-niall-keogh-seabird-monitor-1.2272714>

- Broadcast:
<http://www.rte.ie/radio/utills/radioplayer/rteradioweb.html#!rii=9%3A20842820%3A82%3A16-08-2015%3A>

John Boyd

John Boyd is a fisheries biologist and marine scientist with the Strategic Marine Alliance for Research and Training. He has been involved in ship based training since October 2008 and has been instrumental in the organization, design and delivery of the highly successful Science@Sea shipboard training courses since their inception. He collaborates with a range of Irish Higher Education Institutes in the provision of technical support and leadership for shipboard training programmes for undergraduate and postgraduate students and is chief scientist on a number of training surveys. John also collaborates with partners at the Socio Economic Research Unit at NUI Galway on the EPA project “Valuating the significant ecosystem services provided by Irish coastal, marine, and estuarine habitats”.

John’s background is in fisheries data collection, coordinating fisheries observer campaigns and experimental fishery trials. He has acted as national sampling coordinator for pelagic fisheries and in this capacity has liaised extensively with NGO’s and government agencies. John has served as data correspondent to a number of ICES and ICCAT on herring, albacore tuna and other small pelagic species and as rapporteur to the Joint European Tuna Tagging Programme.

As a fisheries scientist and observer John has direct and in-depth experience of fishing and fleet métiers extending Japanese tuna longliners to virtually all segments of the Irish Fishing Industry.

Galway-Mayo Institute of Technology is a core partner of the Strategic Marine Alliance for Research and Training

