

Galway city to the most distant station off Fanore, Co Clare. The stations were chosen along a transect selected to ensure obvious gradients in water colour and clarity and both vertical and horizontal changes in salinity and temperature.

During the day, the pupils kept a log of the activities for their schools and were trained in the use of instruments for position fixing at sea, recording sampling station and weather data, and the use of various sampling devices including the Secchi disc, temperature/salinity meters and hydrometer. Pupils also learned to interpret tabulated results from the sampling stations. Interpretation was facilitated by the fact that, before the cruise itself, background material prepared by Dr Ian O'Connor of GMIT (and funded by the MI) had been sent to the schools on the internet.

The pupils also carried out whale-watches under the supervision of Joanne O'Brien who is doing research on porpoises and dolphins at GMIT. They observed other research activities carried out on the cruise, including the testing of large and small baited traps for the capture of marine organisms – a project being carried out by GMIT's Clare Murray – and beam trawling.

It was a long day, with the cruise work completed at 17:00, followed by dinner on board and return to the dockside at 19:00. The pupils worked at all times under the supervision of teachers and GMIT scientists, in teams of two. Each pupil carried out each of five activities on two occasions during the day, consulting a work roster routinely to determine



The Celtic Explorer.

their place in the programme. Pupils were obliged to wear appropriate personal protective equipment at all times on deck and in working areas and were permitted to observe but not deploy gear over the side.

"The cruise provided a unique and especially valuable opportunity for the pupils to carry out a realistic scientific programme of marine research at sea," said Mait Ó Brádaigh, principal of Gaelscoil de hÍde. Sean Holian, principal at Scoil Mhuire, Clarinbridge, said, "It was a wonderful hands-on experience for all of us, precisely how science in the classroom must be enhanced."

The schoolchildren were delighted with the trip. Scoil Mhuire pupil Clodagh Moran said it was "a brilliant day" and thinks all schools should do it. Ronan Higgins said: "Now I know what working on the sea is like and I see the need why the crew are very safety conscious."

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FEATURES

Marine institutes and associations

IMarEST and MarBEF... an opportunity for collaboration

By Olive Heffernan and Sarah Connolly

Marine science was once the domain of a rather specialised bunch of academics, from rocky shore ecologists to blue-water oceanographers, and much else in between. While those specialisations remain at the core of our understanding of the ocean, we have now entered an era in which marine science is part of a much larger global effort to understand the Earth as a system, with many tightly interconnected key components.

The benefit of taking a step outside of one's own 'pet topic' is evident in the fact that some of the most significant advances in marine science today are at the interface of disciplines. Disciplinary boundaries are being traversed by marine scientists who venture into new areas on their journey of scientific discovery. More than ever, 'interdisciplinarity'

and 'multidisciplinarity' are terms that are not only widespread but, indeed, fashionable.

Concurrent with an expanded vision of marine science has been the development and application of marine technologies to specific ocean problems. From harmful algal blooms to eutrophication and fisheries management, the

merger of marine science with engineering and technology has revolutionised our understanding of ocean issues, and promises to continue to do so.

In recognition of the need to address the challenge of living with a changing ocean environment, the Institute of Marine



Engineering, Science and Technology (IMarEST) formed in 2002, uniting marine professionals across the board of specialisations.

Formed from the Institute of Marine Engineers, IMarEST is a learned society and professional membership organisation with over 15,000 members in 47 branches and 100 countries worldwide. As well as being a host organisation to the breadth of disciplines in marine science, IMarEST provides a forum in which individuals in marine academia and industry can collaborate and exchange ideas. IMarEST takes an impartial, cooperative approach to marine resource use and management. The Institute, through its members, specifically addresses issues that are of common interest to science, society and industry, such as the threats and opportunities associated with climate change, the use of decommissioned oil rigs as artificial reefs, and the effects of underwater activity and noise on marine life.

Increasingly, the Institute is gaining members from the marine science community who want to make a commitment to their profession and become part of a global effort to further ocean understanding. Individuals can apply to become members of the Institute and concurrently apply for Chartered Status as scientists and marine scientists in collaboration with the UK Science Council. Alternatively, entire institutes and organisations can join us as part of our 'Marine Partners' programme, which includes Plymouth Marine Laboratory, the Scottish Association of Marine Science and, most recently, the National Oceanography Centre, Southampton, UK.

'The Institute accomplishes the goals of its members through hosting and facilitating events, informing policy, and through the benefits of services and publications.'

IMarEST both hosts and facilitates events from the level of local meetings through the international conferences. At the branch level, IMarEST held a Stanley Gray Lecture on 'The history, science and politics of the Indian Ocean Chagos Archipelago' by Dr Ralph Rayner, chairman of the Marine Information Alliance, at its London HQ in November. On a larger scale, IMarEST hosted the World Maritime Technology Conference in London in March 2006 and co-sponsored the Pacem in Maribus XXXI 2005 conference in Australia on 'Building Bridges towards Integrated Oceans Governance: Linking Ocean Science, Engineering, Technology and Policy.' By hosting and sponsoring such events, IMarEST



A glimpse at the biodiversity of a coral reef.

aims to bring current scientific issues to the forefront.

IMarEST is fully supportive of its members and helps in advising and contributing to the organisation of sessions at international conferences, organising lectures and workshops through its technical and events team, and assisting with advertising and press. In collaboration with a marine scientist member, IMarEST organised an oceans acoustic session at the Ocean Sciences '06 'Return to Paradise' conference, held in Hawaii in 2005. In light of the increasing need to lessen our carbon footprints, IMarEST now provides a web-based 'I-seminar' service which means you can participate in events from the comfort of your desk, either at home or at work!

A new initiative, the 'Marine Voices' programme of IMarEST seeks experts in various fields who can be called upon by the press to speak on their area of expertise. Through our database of media-friendly marine experts, IMarEST is becoming the first port of call for high-quality marine-related speakers. The Institute currently welcomes marine experts from all areas to become involved with the programme.

As a platform for dialogue between members, the Institute's Interest Groups are a global virtual network, defined by sector interest, where members can meet online or in person to discuss issues of interest. The groups – which include Living Resources, Coast and Ocean Mapping, Shelf and Coastal Seas and EEZ Management, Oceanography, Climatology, and Marine Meteorology, among other topics – can organise meetings, lectures and conferences, with the support of the Institute.

IMarEST members can seek to inform important national and global policy issues by contributing to the Institute's official responses to consultations such as the proposed European Marine Policy. As a consultative body with the International Maritime Organization (IMO), and as an observer with the Intergovernmental Oceanographic Commission (IOC), IMarEST links up with other international marine organisations to influence outcomes in scientific arenas and inform policy. As an impartial organisation, the responses of IMarEST to public consultations and policy documents are a reflection of the opinions and expertise of its members. As such, IMarEST currently seeks to increase its representation across a broad spectrum of marine science disciplines.

As a benefit to members, IMarEST has an in-house publishing department in its London headquarters that produces peer-reviewed journals (including *Journal of Marine Science and the Environment*), a wide range of books and magazines. The magazines are offered free to members and as stand-alone subscription-based publications. To mark the expansion into the marine sciences, IMarEST launched *The Marine Scientist* in 2002. This bimonthly magazine is widely read among professional and student marine scientists and engineers, as well as many with a more casual interest. With award-winning editorial, the title promises to be a 'one-stop shop' for global marine science news, views, features and interviews with leading experts in the field. Regulars include oceanography, biodiversity and ecosystems, geology and technology. If you are interested in publicising your research to a wider audience in a popular science format,

The Marine Scientist is a publication with credible science at its core, in an easy-to-read format for the well-informed non-specialist. Pick up a copy from your institute library or contact IMarEST for a free sample copy of the latest issue.

As a European Network of Excellence that increases the professional profile of marine scientists and that unites marine experts from a wide variety of disciplines, MarBEF has much in common with IMarEST. We would welcome the opportunity to collaborate to unite, advance and promote the marine community in whichever ways possible.

- If you would like further information on membership of the Institute, please contact membership@imarest.org.



- For information on informing policy, interest groups and technical events (lectures, workshops, conferences), please contact technical@imarest.org.

- To join the Marine Voices programme, please contact suki.kalsi@imarest.org.

- To receive a free sample copy of *The Marine Scientist* magazine, contact Sarah Connolly at sarah.connolly@imarest.org.

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New research facilities on Baltic Sea coast

By Maciej Wolowicz

At the end of June 2006, the Institute of Oceanography, University of Gdansk (IO UG), Poland, received keys to a new landmark research building located in Gdynia, about ten minutes' walk from the boulevard along the coast of the Gulf of Gdansk, southern Baltic Sea. The total investment is estimated to be about €6million and was fully funded by the National Committee for Scientific Research.

The new building is ca.6,000m² with a glass front (seen here in the picture). There are eight levels, including a two-level underground car parking facility and a satellite image-receiving station on the roof. The spacious reception area opens into a large wooden-floored exposition hall (ca.300m²) and a lecture theatre with 200 seats, equipped with modern audio-visual units.

The ground floor houses storage rooms for field sampling equipment, preserved samples, chemicals as well as a wet laboratory and four temperature-controlled experimental rooms (0 to 30°C). Specialist geo-chemical laboratories, including atomic absorption spectrometry (AAS), chromatography (HPLC), elemental analytics (CHN), chemical digestion, sea water analytics, sedimentology and diatomology, are located on the second floor and are available for use by all departments.

The IO UG Directors Office, Department of Marine Geology and an Oceanographic Laboratory are situated on the third floor. The next floor hosts two departments: the Department of Marine Chemistry and Environmental Protection, and the Department of Marine Plankton Research, which has two laboratories, namely a plankton analysis lab and an image analysis lab.

On the fourth floor you will find the offices and laboratories of both the Department of Experimental Ecology of Marine Organisms, and the Department of Marine Ecosystem Functioning. Two of the three research teams in

the Department of Marine Ecosystem Functioning are also located here: the Laboratory of Marine Environment Bioindication and the Laboratory of Estuarine Ecology. Facilities available within these laboratories include those for the application of diatoms to water quality indication, population dynamics, ecophysiology and (cyto-)genetics of marine invertebrates and biochemistry. The Department of Physical Oceanography, consisting of Laboratory of Marine Dynamics, Laboratory of Remote Sensing and Spatial Analysis and GIS Science Laboratory, is located on the fifth floor. The laboratory of Marine Plants Ecophysiology (Department of Marine Ecosystem Functioning), which holds a unique collection of Baltic algae, is situated on the top (sixth) floor. Seminary rooms are also available for use by MSc and PhD students and there is a small but charming cafeteria on the uppermost level with wonderful panoramic views of the city and the sea.

The current staff of the Institute consists of nine full professors, five associate professors, 30 assistant professors, four assistants, 24 technicians and 59 PhD students, who are involved in 11 EU projects, including MarBEF, eight international multi- and bilateral projects and 24 national projects.

We hope that this research building, together with our well-known Marine Station in Hel and our research vessel, will extend the range of Polish scientific investigations currently being undertaken within the marine domain. It is anticipated that these new facilities will not



The new Institute of Oceanography in Gdansk, Poland.

only be beneficial to our current research staff but will also facilitate the creation of new collaborative projects. These facilities will certainly ease the promotion of new international research and educational activities being carried out and help to develop large-scale strategies both within the Baltic Sea basin and at a European level. The wide-ranging facilities available within the research centre will also help to encourage the exchange of young researchers, undergraduate and PhD students. For more information, see our website: www.ocean.univ.gda.pl.

Hope to meet you soon at IO UG!

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