

MESTECH Quarterly Newsletter

December 2012

Welcome from Director

In 2012 MESTECH researchers were engaged in a wide range of activities from international conference presentations, grant writing, workshop organising and research activities that have led to new industry collaborations and exciting new collaborative projects.

In line with our mission we are working closely with industry and agencies to develop decision support technologies and we have been able to establish some key deployment scenarios in Ireland and abroad to demonstrate our technologies and capabilities.

Congratulations to the Beaufort Marine Research award students who graduated in November this year. We wish you every success in your careers.

We look forward to

opportunities in furthering collaborations with colleagues in the US, Brazil, and across Europe and new collaborations developed in 2012 will see fruition in 2013.

I would like to thank all our academic staff and researchers for their excellent work in 2012 and in particular their role in building the profile of MESTECH.

I hope to see you all at our next event "**Our Environmental Economy**" February 12th 2013 where we will recognise our researcher's achievements and we will host our first industry advisory board.

A very happy and peaceful Christmas to all!

Fiona

ISGEI Kick - Off Meeting

The International SmartOcean Graduate Enterprise Initiative had its kick-off meeting in the University of Limerick on November 9th. There are 9 funded projects in areas of marine ICT with researchers based in UCC, NUIG and research-sented work and strated ally string student with enthusiasm for marine technologies are involved. A website and more details on the projects will be available shortly.



Conferences Attended

IEEE Oceans 12

Dr. Edel O'Connor presented a paper at the IEEE Oceans 12 conference held in Virginia Beach, Virginia. The paper was entitled **Multi-Modal Sensor Networks for More Effective Sensing in Irish Coastal and Freshwater Environments**.



Dr Edel O'Connor

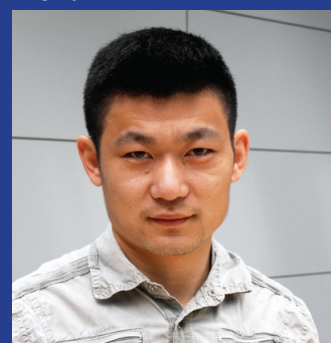
ACM Multimedia 2012

Prof. Alan Smeaton and Mr. Dian Zhang both represented MESTECH at the 20th Association for Computing Machinery (ACM) Multimedia 2012 conference which was held in Japan from the 29th October to 2nd November.

Prof. Smeaton presented a keynote talk, while Dian Zhang presented a poster at the Multimedia Analysis for Ecological Data workshop.

MESTECH have sub-

sequently been invited to submit an extended version of the poster for the journal Multimedia in Ecology and Environment.



Mr. Dian Zhang

Intel ERIC Conference

Dr. Stephen Daniels, and Prof Fioan Regan presented talks at the Intel European Research and Innovation Conference (ERIC). The conference was held on the 3rd October in Croke Park. was a great opportunity to flag some of the data generated from MESTECH deployments and how this work can inform decisions and sup-



Dr. Stephen Daniels

port stakeholders.

MESTECH/Beaufort Graduations - November 2012

Congratulations to Aine Moyna, Edwina Stack and Tim Sullivan who were all conferred with their PhD's during Dublin City University's graduation ceremonies on 5th and 6th November. Aine, Edwina and Tim were funded by the Beaufort Marine Research Awards.

The Beaufort Awards

were granted in 2007 and the National Centre for Sensor Research (NCSR) at DCU was awarded €2.4 million. This funding was awarded to facilitate the funding of 5 PhD Students, 1 post doctoral researcher and 14 summer interns over the 7 year duration of the project.

The DCU consortium

concentrated their expertise on areas such as biosensors, analytical science, remote sensing, high speed separations, optical sensors, biochip platforms, video imaging, image processing and information extraction.

In 2011 students funded under the Beaufort Marine Research Award-

ed at DCU were integrated into the MESTECH grouping.

Aine Moyna was supervised by Prof. Brett Paull. Edwina was supervised by Prof. Richard O'Kennedy and Tim Sullivan was supervised by Prof. Fiona Regan.

Congratulations to students and supervisors.



(L-R) Edwina Stack, Tim Sullivan and Aine Moyna at the DCU Graduations in November

ICOE Conference

The 4th International Conference on Ocean Energy 2012 (ICOE) took place at the Convention Centre Dublin, 17th -19th October 2012. Over 750 international experts and world-leading companies in ocean energy took part in this globally significant event. Global industry and academic experts in marine renewable energy presented over a hundred papers on themes important to growing this new marine industry. The conference provided opportunities for a trade exhibition where many of the top industrial players demonstrated the latest

technologies in harnessing renewable energy from the sea. MESTECH was represented as Dr Barbara Fogarty, National Coordinator in Advanced Marine Technology and other SmartBay Ireland representatives presented a poster.



Dr. Barbara Fogarty

EPA Strive Programme Success

Recently MESTECH researchers were awarded two Environmental Protection Agency (EPA) medium-scale projects under the STRIVE programme. Fiona Regan will collaborate with the Marine Institute, UK Environmental Agency, TeLaboratory and Inland Fisheries Ireland to develop a screening method for priority and hazardous substances using passive sampling of Irish waters. This project will kick-off in February and run for three years.

The second success is a collaborative project between MESTECH PIs

Dr. Lorna Fitzsimons, Dr. Brian Corcoran and Dr. Yann Delaure (School of Mechanical and Manufacturing Engineering, DCU) and Dr. Eoghan Clifford of NUIG. The aim of this project, entitled "Increasing Resource Efficiency in Waste Water Treatment Plants", is to benchmark and optimise the resource efficiency of existing waste water treatment plants and to demonstrate efficiency improvements using innovative technologies. The project is a medium term, two year project, and is due to commence in March 2013.

Dr Kieran Nolan - MESTECH Researcher Profile

Dr Kieran Nolan is a Senior Lecturer in the School of Chemical Sciences at Dublin City University (DCU). The Nolan group has been intensively involved in the area of environmental sciences since its inception in 2001. In the past the Nolan group has specialised in the development of new chemoreceptors for application in environmental sensing and extraction of heavy metals from waste streams.

More recently, the Nolan group has turned its attention to the development of new 'Green' synthetic technologies, with particular emphasis on the development of new energy efficient microflow photochemical reactors. This Environmental Protection Agency (EPA) funded programme led to the creation of the international μ -Photochemistry cluster (established 2009 www.dcu.ie/chemistry/m-PCC/index.shtml) centred at DCU which has



Dr Kieran Nolan

now received new European Union (EU) funding with partners in Germany, the United Kingdom and the Netherlands.

The Nolan group was also a founding member of EnviroTech, a University Designated Research Initiative, that was established in February 2011 (www4.dcu.ie/biotechnology/environtech/index.shtml). EnviroTech

is dedicated to the development of new technologies for the detection and removal of persistent organic and metal pollutants from drinking water and wastewater using new novel technologies.

EnviroTech has been recently awarded an EPA STRIVE grant for the next three years to develop new filtration technologies for the treatment of

drinking water for small- and middle-scale group water schemes.

In 2011 Dr Nolan joined MESTECH as a Principal Investigator. The key interest of the Nolan group is to combine new biocidal carbonaceous composite materials with photocatalysis to the problem of biofouling in marine sensing systems.

SmartBay Ireland

On November 8th Dublin City University (DCU) and the National University of Ireland, Maynooth (NUIM) engaged in a strategy development meeting of SmartBay Ireland in Athlone.

The SmartBay Ireland technical team and the

manager, John Breslin were facilitated in this process of developing a strategy and business plan for the company.

This was followed by a number of engagements in December with other members of the research community.

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