

ANNUAL REVIEW
2004-2005



*Knowledge is inexhaustible,
unlike natural resources it is never used up,
it is continuously expanding,
it has no borders ... and much of it is free.*

ROYAL IRISH ACADEMY
ACADAMH RÍOGA NA HÉIREANN

INTERNATIONAL REPORT 2



Dr Martin Collier and Dr Xiaojun Wang of DCU visiting Tsinghua University, January 2005

China-Ireland Research Collaboration Fund

The Royal Irish Academy manages the China-Ireland Research Collaboration Fund on behalf of Science Foundation Ireland (SFI) for the disciplines of Biotechnology, Information and Communications Technology (ICT) and New Material Technology.

The programme aims are:

- To encourage a network of researchers through the exchange of scientists between the two countries.
- To increase the extent and the quality of exchange between the two countries.
- To encourage the dissemination of research findings within the academic community and generally-promote Ireland's participation in the international research arena.

In the second round in 2005 a total of €241,000 was awarded by the Royal Irish Academy on behalf of Science Foundation Ireland to twelve research projects:

China Exchanges

Irish Project Leader	Title of Project	Chinese Project Leader
Dr Edmond Magner Materials and Surface Science Institute, University of Limerick	<i>Attachment of enzymes to mesoporous materials</i>	Dr Baohong Liu Dept. of Chemistry, Fudan University
Dr Gary W. Jones Dept. of Biology, NUI Maynooth	<i>Chaperone effects upon prion propagation</i>	Dr Sarah Perrett Institute of Biophysics, Chinese Academy of Sciences
Dr Justin D. Holmes Dept. of Chemistry, University College Cork	<i>Supercritical fluid preparation of novel functional microporous crystalline materials</i>	Prof. Jihong Yu State Key Lab of Inorganic Synthesis and Preparative Chemistry, Jilin University
Dr John G. McCaffrey Dept. of Chemistry, NUI Maynooth	<i>Controllable synthesis, characterisation and properties of low-dimensional semiconductor nanomaterials</i>	Prof. Changwen Hu Dept. of Chemistry, Beijing Institute of Technology
Prof. Silvia Sotomayor Torres Photonic Nanostructures Group, NMRC-UCC	<i>Supramolecular structures on patterned substrates: towards molecular addressing</i>	Prof. Lifeng Chi Laboratory of Supramolecular Structure and Materials, Jilin University
Prof. W. J. Blau Dept. of Physics, Trinity College Dublin	<i>Design, synthesis and optoelectronic properties of novel organic functional materials</i>	Prof. Yu Chen Dept. of Chemistry, East China University of Science and Technology
Prof. J. C. Dainty Dept. of Physics, NUI Galway	<i>Adaptive optics for communication and vision</i>	Prof. Wenhan Jiang Institute of Optics and Electronics, Chinese Academy of Science

INTERNATIONAL REPORT

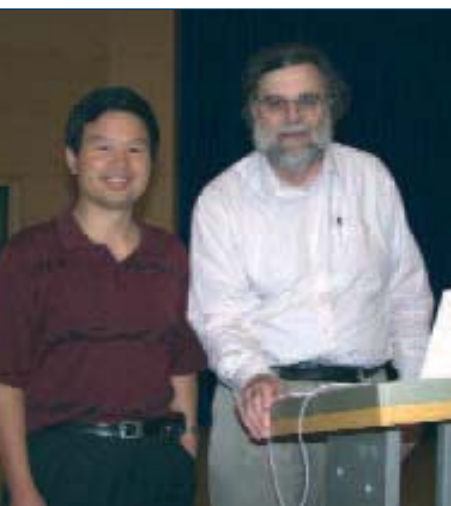
Irish Project Leader	Title of Project	Chinese Project Leader
Prof. Heather Ruskin School of Computing, Dublin City University	<i>Models and mechanisms for urban road intersection control: intelligent traffic mapping</i>	Prof. Lei Yan Inst. Remote Sensing & GIS, Peking University
Dr Gareth Jones School of Computing, Dublin City University	<i>English-Chinese cross-language question answering in the 13.5 nm region</i>	Dr Bin Wang Institute of Computing Technology, Chinese Academy of Sciences
Dr Síle Nic Chormaic Dept. Applied Physics & Instrumentation, Cork Institute of Technology	<i>Coherent control and its application in quantum information</i>	Shiqi Jin and Shangqing Gong Shanghai Institute of Optics and Fine Mechanics, CAS
Prof. Stewart Fotheringham National Centre for Geocomputation, NUI Maynooth	<i>Graphical object recognition using shape and structural descriptors</i>	Dr Su Yang Dept. of Computer Science & Engineering, Fudan University
Prof. Gerry O'Sullivan Dept. of Experimental Physics, UCD	<i>Identification of tin ions and high resolution analysis of their spectra in the 13.5 nm region</i>	Prof. Dong Chengzhong Dept. of Physics, Northwest Normal University

The aim is to encourage international scholarly collaboration and add value to research through this networking.

News from 2004 grant recipients:

- Research by Dr Wang's team at DCU has led to a large number of technical achievements in network processor units and the team have had 4 scientific papers published and 2 papers accepted for joint presentation at the IEEE workshop in Hong Kong in May 2005.
- Professor Brazil is to organise a focused session on "European Research in 4G" at the 2005 Asia-Pacific Microwave Conference – one of the leading international conferences in the world in this area.
- Professor Burnell is already seeking opportunities to extend her Chinese collaboration by seeking FP7 funding.
- Up to 20 researchers have travelled under the scheme in the first year – presenting papers and learning a variety of new techniques and skills and exchanging valuable information.

For further information see: <http://www.ria.ie/international/funding/index.html>



Prof. Coey with Professor X. F. Han before his lecture at the Institute of Physics in Peking



Dr Xiaojun Wang of DCU discussing NPU design issues with Professor Liu and Postgraduates in Tsinghua University