

conference



Call for Papers

3rd International Conference on

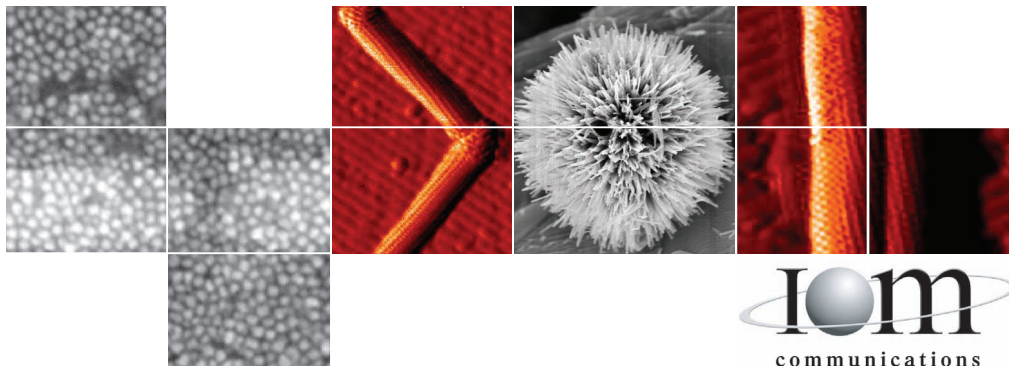
Nanomaterials and Nanomanufacturing

17-18 December 2007
Centre for Research on Adaptive
Nanostructures & Devices (CRANN)

Trinity College, Dublin

Organised by
on behalf of

IOM Communications Ltd
The Nanomaterials and
Nanotechnology Committee of The
Institute of Materials, Minerals &
Mining



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Scope

The control of matter at the nanoscale (dimensions sub-100nm) is the foundation of a wide range of modern technologies which underpin many aspects of modern life, and key current and future wealth generators in the Irish economy. It is especially relevant to electronics, photonics and "bio-pharma" industries. Critical dimensions in chip manufacture are reducing by a factor of two every 3 years, so that in 12 years the critical dimensions must reduce to 8 nm and conventional manufacturing technologies will "run out of steam". In photonics, the exploitation of quantum effects in very small dots will be critical to the manufacture and exploitation of lasers for telecoms applications. In the biopharma industries, the ability to characterize and control materials on the nanoscale will be critical to rapid DNA sequencing and the development of new drugs. Work at the interface between electronic and photonic hardware and biological materials (the "Life Science Interface") is becoming increasingly important for the production of practical "lab-on-a-chip" devices and the delivery of affordable bio-analytical capabilities to the medical and environmental fields. Possible health, safety, environmental and societal issues associated with the exploitation of nanotechnology have received significant attention since the publication of the report on this subject published by the Royal Society and Royal Academy of Engineering in the UK in 2004.

This conference is the third in an international series sponsored by the Nanomaterials and Nanotechnology Committee of the UK's Institute of Materials, Minerals and Mining. It will focus on the related themes of nanomaterials, nanotechnology and manufacturing at the nanometre scale.

This will be the first time that the conference has travelled outside the UK and the selection of Ireland as a venue is both appropriate and very timely. There is a new mood of North/South cooperation (which has led to a new initiative driving an all-Ireland/US cooperation in nanotechnology research) and hence the link from a UK Institute as

the "mother" of the conference and an Irish venue is highly appropriate.

The meeting will be held on the 17-18th December 2007 at CRANN (Centre for Research on Adaptive Nanostructures and Nanodevices) Trinity College Dublin. This is a brand new venue which will offer excellent facilities both through the provision of a lecture theatre, two good-sized meeting foyer spaces for an exhibition and the poster sessions. Facilities in the adjacent O'Reilly Building will also be used.

Programme

The programme will be structured around a number of key subject areas, including:

- Characterisation at the Nanoscale
- Commercial Exploitation of Nanotechnology
- Inorganic Nanomaterials
- Modelling of Nanoscale Phenomena
- Nanomaterials and their Applications
- Nanoparticles and EHS
- Nanopatterning
- Nanophotonics, Optics and Plasmonics
- Nanoscale Manufacture & Fabrication
- NEMS
- Silicon Based Nanotechnology, including: More Moore Beyond CMOS and More than Moore
- Bionanotechnology, including Applications in Pharmacology and Medicine
- Societal Issues associated with Nanotechnology, including Health, Safety and Environmental Issues
- Spintronics and Nanomagnetism

Invited Speakers

An exciting programme of invited speakers has been confirmed:

Nanobiotechnology – Daniel Morse (UCSB)

Nanoengineering – Rodney Ruoff (Northwestern University)

Atomistic Simulations – Uzi Landsmann (Georgia Tech)

Nanomanufacturing – Terry Wilkins (University of Leeds)

Nanocrystals – Horst Weller (Universitat Hamburg)

Nanoelectronics – Jean-Pierre Colinge (Tyndall National Institute)

NEMS – Martin Hegner (CRANN, Trinity College Dublin)

CNTs/Nanowires – Lars Samuelson (Lund University)

Nanoscale Photonics & Plasmonics – Vahid Sandoghar (Swiss Federal Institute, ETH Zurich)

Nanopatterning – Mark Hillmyer (University of Minnesota)

Nanomaterials for Quantum Computing – Andrew Briggs (Oxford University)

Call for Papers

Papers are invited which address topics within the key subject areas. Prospective authors are asked to submit abstracts of 150 words for consideration in the programme **by 14 September 2007** to IOM Communications Ltd via the online system:

<http://www.iom3.org/events/nano2007.htm>

Please do not send your abstract by post or email.

Decisions of the Organising Committee will be sent to all authors by early **October 2007**. Presentation and all written material will be in English.

A condition of acceptance will be that at least one author from each paper will attend the conference to present the work. The standard conference registration fee will be payable by all attending authors.

Please note that the abstract submitted, if accepted for the programme, will be reproduced in the booklet provided to delegates on arrival at the conference.

Registration Fees

20% Discount for Early Registration

Pre-register for the conference by **1 October 2007** to benefit from a saving of 20% on the full fee. On-line registration will be available via the conference website. www.iom3.org/events

Register by **1 October 2007** and pay:

Members*	Euros	415
Non members	Euros	470
Students (<i>limited places</i>)	Euros	215

**Members of [sponsoring bodies]*

Venue

The Conference will be held at Trinity College, Dublin, Ireland. Trinity College lies at the heart of the City, its magnificent buildings and beautiful campus spanning 35 acres. For the past 400 years, Trinity College has occupied this location and whilst none of the original building remain, the College boasts fine squares and gardens and a collection of magnificent buildings dating from the 17th to 20th centuries. In contrast to the serene surrounding of the College, the modern city of Dublin is just outside the main gate of the campus, with shops, theatres, cinemas and museums within walking distance. www.visitdublin.com www.tcd.ie

Organising Committee

The Organising Committee contains members from North and South Ireland as well as the mainland UK. The committee also contains representatives from both academia and industry, reflecting the nature of the conference. It also reflects the UK/Ireland North/South linkages the creation of which is one of the objectives of holding the meeting in Dublin. The Organising Committee members are:

Prof Roger Whatmore	Tyndall
<i>Co-Chairman</i>	
Prof John Boland	CRANN
<i>Co-Chairman</i>	
Dr Dairmuid O'Brien	CRANN
Dr Jenny Melia	Forfas
Dr Jenny Patterson	Intel
Dr Gareth Redmond	Tyndall
Dr Brendan Lafferty	Seagate
Dr Rob Bowman	QUB
Dr Mike Pitkethly	CEO CENAMPS
Dr Martin Castell	Oxford
Dr Steven Kenny	Loughborough

Organiser

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