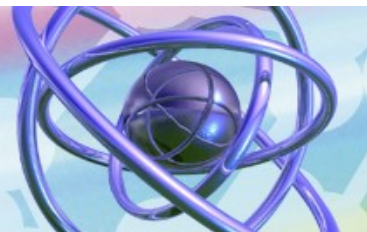




# ICGEE

International Centre for Graduate Education  
in Micro- & Nano- Engineering



## Postgraduate Courses in Micro & Nano Engineering - Spring 2012 Prospectus



To register for courses please do one of the following:

- \* click [here](#) to register online
- OR
- \* Return attached form to [info@icgee.ie](mailto:info@icgee.ie)

To avail of **more detailed information on the courses** go to the ICGEE website: [www.icgee.ie](http://www.icgee.ie)

### Eligibility:

All courses are open and **FREE** to PhD candidates studying in all Irish academic institutions that are members of the ICGEE & INSPIRE consortia, which is made up of UCC, CIT, UL, NUIG, AIT, UCD, TCD, DIT and DCU.

Consideration will also be given to applications from students of non-consortia members following consultation with their supervisors.

### ICGEE CENTRE

Tyndall National Institute  
University College Cork  
Distillery House  
North Mall  
Cork, Ireland

Telephone: + 353 21 4904637

Email: [info@icgee.ie](mailto:info@icgee.ie)



ICGEE is funded by:  
Irish Research Council for Science, Engineering and Technology

## ONLINE MODULES

<b><u>Reconfigurable System on Chip Design</u></b>	Fearghal Morgan	Jan 2012 - March 2012
--	-----------------	-----------------------

Online course on a weekly basis on design, documentation, capture simulation, implementation and proto-typing of digital integrated circuits and embedded processors.



<b><u>Radio Frequency IC Design</u></b>	Kevin McCarthy	Jan 2012 - March 2012
---	----------------	-----------------------

Online course that introduces the building blocks of radio frequency ICs for wireless communications and therefore provides a perspective on one of the largest uses for IC technology.



<b><u>Nanoelectronics</u></b>	Giorgos Fagas	Jan 2012 – May 2012
-------------------------------	---------------	---------------------

Online course on the nanoelectronics core subjects combined with remote tutorials.



<b><u>Photonic Devices</u></b>	Pascal Landais, Guillaume Huyet	Feb 2012 – April 2012
--------------------------------	---------------------------------	-----------------------

Online course on the physics, properties and performances of the most common photonic devices and their integration in optical communication networks.



<b><u>Statistical Mechanics</u></b>	Jim Greer	Jan 2012—March 2012
-------------------------------------	-----------	---------------------

Online module on applying statistical mechanics to the calculation of finite size effects for nanoscale systems.



## MIXED MODE: ONLINE + ONSITE WORKSHOP

<b><u>Photonics Materials and Devices</u></b>	Yuliya Semenova	Jan 2012 – May 2012
---	-----------------	---------------------

Online course on the advanced physics and technology of photonic materials, devices and applications combined with 2 day hands-on workshop at DIT



<b><u>Microsystems Engineering</u></b>	Martin Hill	Feb 2012—Apr 2012
--	-------------	-------------------

Online course on the examination of some current commercial microsystems application and future possibilities for the technology combined with 2 day hands-on workshop in Tyndall National Institute & CIT



<b><u>Polymer Materials</u></b>	Clement Higginbotham	Jan 2012—March 2012
---------------------------------	----------------------	---------------------

This module introduces students to polymer materials and focuses on structure/property relationships.



<b><u>Biomedical Materials</u></b>	Clement Higginbotham	Jan 2012—March 2012
------------------------------------	----------------------	---------------------

Online course on biomaterial surfaces, biomaterial-cell interaction, biocompatibility, biomaterial characterisation, biomaterials for biosensors and diagnostic devices, biomaterials for drug delivery and biomaterials for tissue engineering.



<b><u>Scientific Programming Concepts</u></b>	Simon Wong	Feb 2012—Apr 2012
---	------------	-------------------

Introduction to programming concepts aimed at scientists who have had minimal or no training in the subject. Weekly online lectures combined with face to face practical session every second week (delivered in Cork, Galway and Dublin).



<b><u>Principles of Optical Design &amp; Image Formation</u></b>	Alexander Goncharov	May 2012
--	---------------------	----------

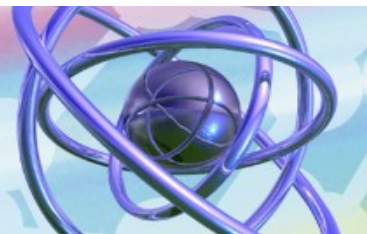
Module covers fundamentals of optic, design and image formation. Material available online combined with 2 workshop/tutorial sessions.



<b><u>Nanobiomaterials</u></b>	Dr. Yury Rochev	Feb 2012—Apr 2012
--------------------------------	-----------------	-------------------

This module covers the fundamentals of nanobiomaterials.





*Postgraduate Courses in Micro & Nano Engineering - Spring 2012 Prospectus*



To register for courses please do one of the following:

- \* click [here](#) to register online
- OR
- \* Return **attached form** to [info@icgee.ie](mailto:info@icgee.ie)

**Eligibility:**

All courses are open and **FREE** to PhD candidates studying in all Irish academic institutions that are members of the **ICGEE & INSPIRE** consortia, which is made up of UCC, CIT, UL, NUIG, AIT, UCD, TCD, DIT and DCU.

Consideration will also be given to applications from students of non-consortia members following consultation with their supervisors.

**ICGEE CENTRE**

Tyndall National Institute  
University College Cork  
Distillery House  
North Mall  
Cork, Ireland

**Telephone:** + 353 21 4904637

**Email:** [info@icgee.ie](mailto:info@icgee.ie)



**ICGEE is funded by:**  
Irish Research Council for  
Science, Engineering and  
Technology

**WORKSHOPS**

**Internationalisation and Sales** Carol Kelleher March 2012

3 day workshop at UCC on opportunities and challenges presented to technology companies operating in a global context .

**Optical Networking** Andrew Ellis Liam Barry January 2012

1 week workshop at Tyndall National Institute or DCU on the main building blocks required for high capacity data transmission over optical networks, how these systems operate within the transport and access layer of the overall telecommunications network.

**Microelectronics Technology** Tatiana Perova March 2012

3 day workshop at TCD to provide the student with an opportunity to fabricate a simple MOS integrated circuit and to learn about electrical and optical characterizations.

**Compound Semiconductor Device Fabrication** Brendan O'Neill March 2012

1 week workshop to provide the student with an opportunity to fabricate a simple light emitting device and understand the technology involved.



**REGISTRATION FORM:**

First Name .....

Surname .....

Email address .....

Telephone Number .....

Home Institution Student Number .....

Supervisors Title & Name .....

Supervisors Email address .....

Supervisors Telephone Number .....

Host Institution .....

Do you require any assistance arising from disability? Yes / No

Which course you wish to register for? .....

I have the permission of my supervisor to register Yes / No

Return this form to [info@icgee.ie](mailto:info@icgee.ie)