

## The GRICU PhD National School

In 2007, GRICU (Chemical Engineering University Group) decided to set up a nationwide educational program in Chemical Engineering at doctorate level. To accomplish that mission, each year a one-week National School is organized in a different location in Italy. The aim of the School is to enable PhD students to enrich their knowledge in topics of general interest in the area of chemical engineering, as well as in more specific, technologically-oriented application fields. The School also represents the ideal meeting place where PhD students in Chemical Engineering and related areas from different Universities can discuss their experience, ideas, research interests and points of view.

The GRICU National School is open to all PhD students in Chemical Engineering and related areas (such as Materials, Food, Environmental and Safety Engineering). Students from related scientific areas, such as Physical, Natural and Life Sciences, are also welcome.

The School program includes a two-day module dedicated to a Chemical Engineering "core" topic, i.e.: Transport Phenomena, Reactors, Thermodynamics, Mathematical Methods for Chemical Engineering. Another two-day module is devoted to a specific topic with a more practical emphasis. The topic is chosen from among the leading-edge, innovative research areas in chemical engineering. The first day of the school hosts a special "Forum" event, where all School attendees are expected to be present and to share their research activities.

Previous GRICU PhD National school programs have been successfully hosted in Le Castella (Calabria, 2008), Muravera (Sardegna, 2009) and Rimini (Emilia Romagna, 2010) with an average of 80 attendees.

## The 2011 PhD National School

The "core" topic of the 2011 School is *Mathematical Methods for Chemical Engineering*, whereas the advanced application module will be devoted to *Nanotechnologies*. Each topic will be covered in a two-day module, according to the provisional program outlined below. The first day of the School will be dedicated, as usual, to the *PhD Forum* special event, where all students should be present and share their research activities. The 2011 School will run from Monday, September 26<sup>th</sup> to Friday, September 30<sup>th</sup>. Attendees are expected to arrive at the School location on Sunday, September 25<sup>th</sup>, and leave on Saturday, October 1<sup>st</sup>. GRICU has agreed with all Italian PhD Committees that 4 Credits (CFU) be granted to School attendees.

### Provisional program

*(The final program will be available in the near future)*

#### Monday, September 26

*PhD Forum Event*

#### Tuesday, September 27 and Wednesday, September 28

*Mathematical Methods for Chemical Engineering*

**Prof. Alfredo Soldati** - Physics and Numerical Simulations of Turbulent Dispersed Flows

**Prof. Daniele Marchisio** - The method of moments: from statistical mechanics to population balances and back to statistical mechanics

**Prof. Guido Raos** – Molecular simulation in Chemical Engineering

**Prof. Pier Luca Maffettone** – Introduction to parametric continuation methods

#### Thursday, September 29 and Friday, September 30

*Nanotechnologies*

**Prof. Maurizio Fermeglia** - Nanotechnology and Chemical Engineering: opportunities and challenges

**Prof. Lucia Pasquato** - Nano fabrication: from nano lithography to self-assembly

**Prof. Maurizio Fermeglia** - Multiscale Molecular modeling for the design of Nano systems

**Prof. Alberto Morgante** - Spectroscopy for the characterization of nano materials

**Prof. Luigi Nicolais** - Nanotechnology and Industry

*Round table*

## Registration

**The registration fee is € 550,00.**

The fee includes lectures, lecture material, coffee break, access to the private beach, full board, double-room Hotel accommodation for six nights (check-in Sunday, September 25<sup>th</sup> pm, check-out Saturday, October 1<sup>st</sup> am).

**Registration must be completed by July 31<sup>st</sup>, 2011** by sending an email to the School Secretary (e-mail address...). The email must include the student's name, postal address, electronic mail address, office and mobile telephone number, name and location of the University attended by the PhD student, year of attendance (first, second, third year). If an attendee wishes to share a room with a particular person, this information must be included in the email.

**Payment of the registration fee must be completed by Friday, September 9<sup>th</sup> 2011**

The registration fee must be paid by direct bank transfer to the following account:

IBAN: IT82E0200802452000100953390

c/o UniCredit Banca, Agenzia Bologna San Mamolo  
Piazza di Porta San Mamolo 6, 40136 Bologna  
intestato a: GRICU

**The bank transfer must include the following information: "Registration fee 2011 GRICU PhD School, Name of the attendee"**

A copy of the bank transfer must be sent by email to the School Secretary.

**Registrations received after the deadline of July 31<sup>st</sup> will not be accepted.**

**Payment of the registration fee after September 9<sup>th</sup> will not be accepted and the registration will be cancelled.**

## Scientific Chairmen

Prof. Maurizio Fermeglia (Trieste University;  
*Nanotechnologies*)

Prof. Pierluca Maffettone (Napoli FedericoII  
University; *Mathematical Methods for Chemical  
Engineering*)

## Invited Lecturers

Prof. Maurizio Fermeglia (University of Trieste)

Prof. Massimiliano Grosso (University of Cagliari)

Prof. Pier Luca Maffettone (Federico II University of Naples)

Prof. Daniele Marchisio (Polytechnic Institute of Turin)

Prof. Alberto Morgante (CNR IOM and UNITS)

Prof. Luigi Nicolais (Federico II University of Naples)

Prof. Lucia Pasquato (University of Trieste)

Prof. Guido Raos (Polytechnic Institute of Milan)

Prof. Alfredo Soldati (University of Udine)

## GRICU PhD National School Coordinator

Prof. Patrizia Perego (University of Genoa)



LIFE FROM INSIDE



FEDERCHIMICA  
CONFINDUSTRIA



International Year of  
**CHEMISTRY**  
2011

## Venue

The GRICU PhD National School will be held at Hotel Flamingo Resort Congress Centre. The Hotel is located on the coast with a spectacular private beach for the use of hotel guests.

For detailed information:

<http://www.hotelflamingo.it/>

Flamingo Resort in Santa Margherita di Pula is only 38 km from Cagliari airport. Transfer airport-hotel-airport is included in the registration fee and will be available on Sunday 25<sup>th</sup> September and Saturday 1<sup>st</sup> October.

## Organizing Secretariat

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## GRICU PhD NATIONAL SCHOOL 2011

### *Mathematical Methods for Chemical Engineering / Nanotechnologies*



Santa Margherita di Pula (CA)  
September 26<sup>th</sup> – October 1<sup>st</sup> 2011