

## Further Information and Registration

Applicants should register by April 30, 2012.

Further information will be posted at:

<http://www.nanochem.org/index.php?id=370>

or you may contact:

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## Scientific Support by NANOCEM

More information about NANOCEM can be obtained from:

[nanochem@nanochem.org](mailto:nanochem@nanochem.org)

[www.nanochem.org](http://www.nanochem.org)

## Sponsored by RILEM

More information about RILEM can be obtained from:

[www.rilem.net](http://www.rilem.net)

## Course Fee

The course fee of € 400 will apply for the entire course for industrial participants. A reduced tariff of € 300 will apply for students. The participants will be responsible for travel, meals and accommodation.

## Accommodation

Torre Girona Residence Hall

Passeig dels Til·lers, 19

08034 Barcelona

Telephone: 0034 93 390 43 00

Fax: 0034 93 205 69 10

E-mail: [torregirona@resa.es](mailto:torregirona@resa.es)

Website:

<http://www.resa.es/eng/Residencias/Torre-Girona>

Registration including payment of 30% up front should be made by 29<sup>th</sup> February 2012.

A list of nearby and city center hotels and rates is available in the registration web page:

[http://www.upc.edu/sri/congress/service-we-offer/accomodation-upc-barcelonatech/hotels\\_in\\_barcelona](http://www.upc.edu/sri/congress/service-we-offer/accomodation-upc-barcelonatech/hotels_in_barcelona)

TRANSCEND



**TRANSCEND – Understanding  
Transport for Concrete which is eco  
friendly, iNnovative and Durable**

**Marie Curie Training Course 5  
From microstructure to  
performance testing**

**Barcelona, Spain  
June 25 – 27, 2012**

## Lecturers

**Ignasi Casanova**, UPC, Spain

**Jacques Marchand**, Simco, Canada

**Joost Gulikers**, RWS, NL

**Karen Scrivener**, EPFL, Switzerland

**Kefei Li**, Tsinghua University, China

**Mette Geiker**, DTU, Denmark/NTNU, Norway

**Michael Thomas**, University of New Brunswick

**Michel Boutz**, Intron, The Netherland

**Roberto Torrent**, Switzerland

## Organised by

**Ignasi Casanova**, UPC, Spain

**Karen Scrivener**, EPFL, Switzerland

**Mette Geiker**, DTU, Denmark/NTNU, Norway

**Sponsored by  
RILEM**



## **Marie Curie ITN**

The TRANSCEND Initial Training Network is a programme funded by the European Community with an emphasis on mobility.

The TRANSCEND MC-ITN supports 15 Early Stage Researchers (ESR) over a period of four years. The ITN provides a series of six semi-annual courses for the ESRs.

These courses are also open to other students. Preference will be given to students who can attend the whole series.

## **MC-ITN TRANSCEND Series of Doctoral Courses**

This course is the fifth of six intensive doctoral courses in “understanding transport for concrete which is eco friendly, innovative and durable” organized by the TRANSCEND ITN network.

## **Scope of Course**

The present course is the fifth of six short courses given as part of the TRANSCEND MC-ITN. The objective of the course is to introduce the participants to performance testing of concrete and to discuss their application in practice in relation to current knowledge on the microstructure and properties of cementitious materials.

In this course we will present the latest thinking on the way the microstructure of concrete forms and how it determines the transport of species into the concrete. This section will include new results emerging from the TRANSCEND project and the wider work of Nanocem.

This will be linked to current approaches to performance based design and evaluation with lectures from leading practitioners in the field from North America (Jacques Marchand of Simco) and Europe (Intron)

With this combination of lectures we aim to bridge the gap between the latest advances in understanding cementitious materials and practical application.

The course is aimed at PhD students and practicing engineers dealing with cementitious materials and with a basic knowledge of cement chemistry.

## **Course Contents**

The following subjects are covered in the course:

- Microstructure and porosity of cementitious systems
- Structure of C-S-H
- Performance testing
- Applications to engineering problems

The course consists of connected lectures in English.

Social activities during the course are planned to promote a stimulating study atmosphere.

## **Work Load**

The estimated work load corresponds to 1 ECTS points, including approximately 18 hours of contact and an individual report after the course.

## **Study Materials**

Notes will be provided before the course.

## **Evaluation**

In order to get the credits, the participants will present a short paper (5 pages) on how you expect your work will contribute to the design for durability of concrete structures.