TRANSCEND - NanoCem

Marie Curie Training Course 5

From microstructure to performance testing

Course description

Title	From microstructure to performance testing
Language of instruction	English
Course type	PhD The present course is the fifth of six intensive courses given as part of the TRANSCEND Initial Training Network, which 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.
ECTS points	Work load: approximately 18 hours of contact plus a report
Schedule	June 25 – 27, 2012
Location	Barcelona, Spain
Scope and form	The course consists of connected lectures
Duration	Three days plus preparation of report
Date of examination	To be handed in by 31st July 2012
Type of examination	Short paper (5 pages) on how you expect your work will contribute to the design for durability of concrete structures.
Aid	With aid
Evaluation	Accepted / not accepted
Prerequisites	The course is aimed at PhD students and practicing engineers dealing with cementitious materials and with a basic knowledge of cement chemistry.
Participants restrictions	Maximum 50
Aim/objective	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 practioners 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.
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

Overall responsible	Mette Geiker, Department of Structural Engineering, Norwegian University of Science and Technology, mette.geiker@ntnu.no
Co-organiser	Ignasi Casanova, UPC, Spain Karen Scrivener, EPFL, Switzerland
Lecturers	- Ignasi Casanova, UPC, Spain - Jacques Marchand, Simco, Canada - Joost Gulikers, Ministry of Transport, Public Works and Water Management, The Netherlands - Karen Scrivener, EPFL, Switzerland - Kefei Li, Tsinghua University, China - Mette Geiker, DTU, Denmark/NTNU, Norway - Michael Thomas, University of New Brunswick, Canada - Michel Boutz, Intron, The Netherland - Roberto Torrent, Switzerland
Further information	Further information will be posted at: http://www.nanocem.org/index.php?id=370 or you may contact: Marie-Alix Dalang-Secrétan EPFL-STI-IMX-LMC Bâtiment MX G Station 12 CH - 1015 Lausanne tel: +41 21 693 58 45 fax:+41 21 693 58 00 nanocem@epfl.ch
Costs	Participants are to pay: • 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, accommodation and non-covered meals. • Provisional reservations for participants have been made at 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 Website: http://www.resa.es/eng/Residencias/Torre-Girona • Participants are requested to make their reservation directly to the Hotel. Registration including payment of 30% up front should be made by 29th 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 • Cancellations fees: According to the Hotel. • Dinner in town: Location to be announced.

Course 5 - From microstructure to performance testing, Barcelona, Spain
June 25 – 27, 2012
Organised by Ignasi Casanova, UPC, Spain, Karen Scrivener, EPFL, Switzerland, and Mette Geiker, DTU, Denmark/NTNU, Norway
3rd Feb 2012

	Monday 25 June 2012	Tuesday 26 June 2012	Wednesday 27 June 2012
	Microstructure	Specifications and performance testing	Applications to engineering problems
9:00-10:30	L01 Microstructure of concrete **K. Scrivener**	L05 Science and Engineering of Accelerated Testing **I. Casanova**	L09 Applications to engineering problems – 1 **J. Marchand**
10:30-11:00	coffee break	coffee break	coffee break
11:00-12:30	L02 Structure of C-S-H **K. Scrivener**	L06 Performance testing, in-situ testing **R. Torrent**	L10 Applications to engineering problems – 2 **J. Marchand**
12:30-14:00	LUNCH	LUNCH	LUNCH
14:00-15:30	L03 Interaction of concrete with environment **M. Thomas**	L07 Durability design in China: approaches and methods **KeFei Li**	L11 Applications to engineering problems – 3 **M. Boutz**
15:30-16:00	coffee break	coffee break	coffee break
16:00-17:30	L04 Performance testing, lab testing **M. Thomas**	L08 Standards, guidelines and specifications **J. Gulikers**	L12 Service life prediction for sustainability assessment **M. Geiker**
17:50-18:50			**Closure**
?		Dinner in Town	