

PARTNERSHIP



nanocem THE INDUSTRIAL-ACADEMIC RESEARCH NETWORK ON CEMENT AND CONCRETE

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30 . June . 2009

NANOCEM -
Fundamental understanding of
cementitious materials for improved
chemical, physical and aesthetic
performance



**MARIE CURIE
RESEARCH TRAINING
NETWORK**

FINAL CONFERENCE

First announcement

September 1-3, 2009
Villars, Switzerland

<http://www.nanocem.org/MC-RTN/villars2009>

Cements and concrete are essential components of the construction environment and, relative to other permanent materials, are environmentally appropriate for the future. Yet improvements can and must be made: the industry has lagged behind others in developing a materials-oriented approach.

The main aim of the Marie Curie Research Training Networks is to provide training and research experience for researchers at an early stage of their careers by giving them the opportunity to spend between three months to three years in another country as part of an international high-quality research project. The networks contribute to the transfer of knowledge through the promotion of multidisciplinary research.

The NANOCEM RTN was awarded as part of a call specifically to promote intersectorial exchange between academia and industry and the RTN integrates 6 University groups with 4 Institutional partners interacting with 1 SME, 1 Industrial Association and 5 large companies. The research programme was oriented around 3 themes addressing short, medium and long term needs of the field: (1-deterioration of cement matrices 2- Physical and mechanical verification of performance; 3- new and innovative cement based materials) to lay the basis for future technological and scientific breakthroughs. In each theme the aim was to demonstrate the value of a fundamental approach.

The nine PhD students and seven post doctoral fellows involved in the projects worked on a set of interrelated research projects aimed at improving the fundamental understanding of cementitious materials for improved chemical physical and aesthetic performance. The focus was particularly on underpinning the use of supplementary cementitious materials, which are a key component to improving the sustainability of cement manufacture. At this final conference, their latest results will be presented.

More info

<http://www.nanocem.org/MC-RTN>

Thematic Areas

1.

Hydrates and Porosity characterisation of cementitious materials

Inv. Speaker: Hamlin M. Jennings (Northwestern University)

MC-RTN students:

Magdalena Balonis, *Thermodynamics of Hydrate Phases.*

Victor Fernandez-Altable, Aude Errien, *Availability of Al₂O₃ in Blended Cements.*

Mariana Canut, *Pore Structure and State of Water of Mixes with Blended Cements.*

Andrea Valori, *State of Water in Cover Concrete.*

Marta Medala, *Investigation of the Cement Hydrates – Solution Interface at the Atomic Level.*

2.

Deterioration of cement matrices

Inv. Speaker: Kevin Folliard (Univ. of Texas at Austin)

MC-RTN students:

Hossam Elaqla, *Expansion and Microstructural Development in Over-Sulfated Systems.*

Renata Bujak, *Impact of Blended Cements on Reinforcement Corrosion.*

Aude Chabrelie, *Mechanisms of External Sulfate Attack under Laboratory and Field Conditions.*

Andres Idiart, *Computational Modelling of External Sulfate Attack.*

3.

Physical/Mechanical performance of cementitious materials

Inv. Speaker: Paulo Monteiro (Univ. of California at Berkeley)

MC-RTN students:

Ruzena Chamrova, *Mechanical Properties: Measurement and Modelling.*

Jan Skocek, *Fracture Mechanics: Measurement and Modelling.*

Denis Davydov, *Multiscale Modelling.*

4.

Verification Innovative Cementitious Materials

Inv. Speaker: Phil Purnell (Leeds University)

MC-RTN students:

Andrea Folli, *Photocatalysis in Cementitious Systems.*

Anca Itul, *Organo Mineral Composites.*

Marta Kargol, *Performance of Aesthetic Concrete Surfaces.*

REGISTRATION / INDICATION OF INTEREST

Please register/ indicate interest before June 7, 2009 on our web-page:

<http://www.nanocem.org/MC-RTN/villars2009>

by post,

e-mail (anne-sandra.hofer@epfl.ch),

or fax (+41 21 693 5800).

I will attend the Final conference on September 1-3, 2009

Unfortunately I cannot attend the meeting, but am interested to receive announcements of future events

Name:

Affiliation:

Address:

e-mail address:

Meeting organised by,
MC-RTN students

MC-RTN Nanocem project coordinator,
Prof. Karen Scrivener

Further information may be obtained from

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