

## TRAINING SCHOOL PROGRAM

### *Self Healing concrete: the path to sustainable construction*

#### TUESDAY 23<sup>rd</sup> JANUARY

- 09:15 – 10:15**      **COST action CA 15202 SARCOS: Self-healing as preventive repair of concrete structures; and lessons learnt from the FP7 project HEALCON**  
*Prof. Nele De Belie (UGent).*
- 10:15 – 10:30**      *COFFEE BREAK*
- 10:30 – 12:30**      **TRAINING LECTURES I: Self-healing strategies**
- Prof. Elke Gruyaert (KULeuven):*  
The use of superabsorbent polymers and encapsulated precursors of polymeric healing agents in self-healing concrete
- Dr. Chrysoula Litina (University of Cambridge):*  
Self-healing strategies; Microcapsule-based systems
- Prof. Henk Jonkers (TU Delft):*  
Bacteria-based self-healing concrete
- 12:30 – 13:30**      *LUNCH*
- 13:30 – 15:30**      **TRAINING LECTURES II: External repair methods**
- Prof. Arkadiusz Kwiecien (Cracow University of Technology):*  
Stress concentration - cause of damage in brittle building materials. How to avoid it in external repair?
- Prof. Paulina Faria (NOVA University of Lisbon):*  
The assessment of innovative eco-efficient biotreatments on concrete and other building materials
- Dr. Mercedes Sánchez (IETcc – CSIC):*  
External Surface methods with healing ability for the preventive repair of existing concrete structures
- 15:30 – 15:45**      *COFFEE BREAK*
- 15:45 – 17:45**      **TRAINEES LECTURES I**

## WEDNESDAY 24<sup>th</sup> JANUARY

**9:15 – 10:15**      **INVITED LECTURE: High resistance low-calcium cements; is it possible to reduce process CO<sub>2</sub> emissions while increasing paste resistance?**

*Prof. Rogério Colaço (Instituto Superior Técnico)*

**10:15 – 10:30**      **COFFEE BREAK**

**10:30 – 12:30**      **TRAINING LECTURES III: Characterization Techniques**

*Prof. Liberato Ferrara (Politecnico di Milano):*

Methods for precracking and measurements of self-healing through mechanical tests

*Prof. Paola Antonaci (Politecnico di Torino):*

Characterization of the self-healing effect through ultrasonic methods and durability tests

*Dr. Christof Schroefl (TU Dresden):*

Electron microscopy and other instrumented analysis techniques to characterise self-healing products

**12:30 – 13:30**      **LUNCH**

**13:30 – 15:30**      **TRAINING LECTURES IV: Controlled Cracking Processes in Fibre Reinforced Cementitious Composites**

*Dr. Vitor Fernandes Cunha (University of Minho):*

Fibre Reinforced Cementitious Composites

*Dr. Eduardo Pereira (University of Minho):*

Strain-Hardening or Ultra-High Performance Fibre Reinforced Cementitious Composites

*Prof. Alva Peled (Hebrew University):*

Textile Reinforced Cementitious Composites

**15:30 – 15:45**      **COFFEE BREAK**

**15:45 – 17:15**      **TRAINEES LECTURES I**

## THURSDAY 25<sup>th</sup> JANUARY

- 09:15 – 10:15**      **INVITED LECTURE: The importance of self-healing concrete to create durable structures**  
*Margarida Mateus (SECIL)*
- 10:15 – 10:30*      *COFFEE BREAK*
- 10:30 – 12:30**      **TRAINING LECTURES V: Self-healing modelling**
- Prof. Anthony Jefferson (University of Cardiff):*  
The simulation of mechanical self-healing processes
- Prof. Etelvina Javierre (Centro Universitario de la Defensa):*  
Modelling mobilization and reaction of healing compounds
- Prof. Jorge Alfaiate (Technical University of Lisbon)*  
Simulating fracture in quasi-brittle materials
- 12:30 – 13:30*      *LUNCH*
- 13:30 – 14:30**      **Impact of preventive repair methods on corrosion aspects**  
*(Prof. Fátima Montemor, ITS).*
- 14:30 – 14:45*      *COFFEE BREAK*
- 14:45 – 16:45**      **TRAINEES LECTURES I**