TRAINING SCHOOL PROGRAM

Self Healing concrete: the path to sustainable construction

TUESDAY 23rd 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 24th JANUARY

9:15 – 10:15  INVITED LECTURE: High resistance low-calcium cements; is it possible to reduce process CO2 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 Schroeffl (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 25th 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