

Recent advances in

# Self-Healing Materials

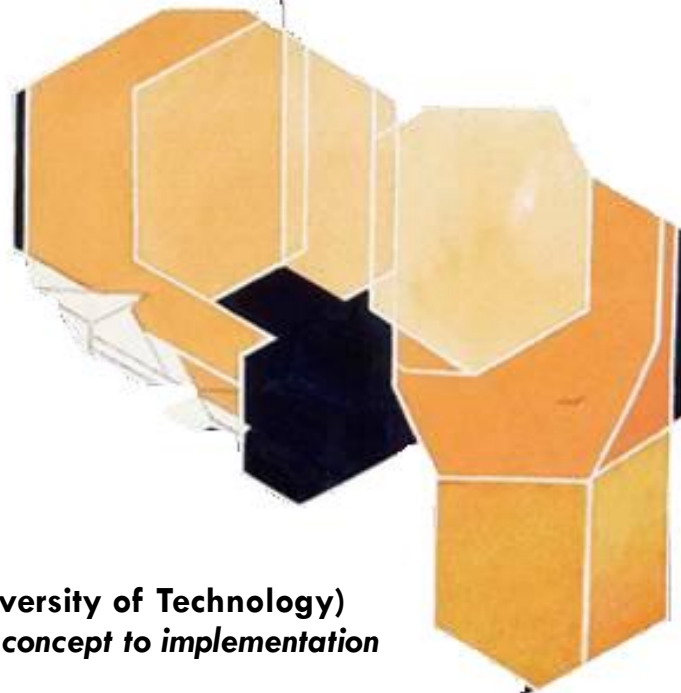
Instituto de Matemática Interdisciplinar  
Universidad Complutense de Madrid

Madrid, May 26, 2010

9 to 18 h.

Aula Miguel de Guzmán

Facultad de Ciencias Matemáticas, UCM



The design of materials for technological applications, traditionally based on damage prevention, is nowadays been improved with more reliable and less economically demanding maintenance alternatives leaning on principles of autonomous damage detection and repair. These capabilities (usually not present in man-made materials) introduce a great scientific and technological challenge as the basic mechanisms behind them are material and function dependent and remain unknown.

This one-day workshop, organized under the umbrella of an ongoing collaboration between the Delft University of Technology (The Netherlands) and the University of Zaragoza and hosted by University Complutense of Madrid, aims at gathering together scientists and industrial delegates with interest on the development of self healing materials with relevant applications for the Spanish and European industry. The meeting will develop as a sequence of seminars given by leading experts in the fields of experimental and computational self healing concrete, ceramics, composites, coatings and biological and biomimetic materials.

## Speakers

**K. van Breugel (Delft University of Technology)**  
*Self-healing concrete: from concept to implementation*

**M. Doblaré (Universidad de Zaragoza)**  
*Biological healing. Biomimetic concepts for self healing materials*

**J. Grávalos (Acciona, Madrid)**  
*Autonomous regeneration of materials for the Spanish industry*

**O. Herbs (German Aerospace Center, Köln)**  
*Simulation of self-healing materials*

**M. de Rooij (University of Twente)**  
*Self-healing ceramic (surfaces)*

**F.J. Vermolen (Delft University of Technology)**  
*Controlled release of self healing pigments from organic coatings: insights from mathematical modelling*

**S. van der Zwaag (Delft University of Technology)**  
*Self-healing engineering materials: an overview of the Concepts and some routes to create them*