## Nano-enhanced micro-encapsulated phase change materials in high-performance concrete for thermal energy storage

Roberto PETRUCCI - University of Perugia

Solar Salt (SS), 60/40 %wt. NaNO<sub>3</sub>/KNO<sub>3</sub>, is a widely used molten salt mixtures in Concentrated Solar Power plants for Thermal Energy Storage. The thermal performance of SS can be improved with the use of nano-sized fillers obtaining nano-enhanced phase change materials (NEPCM). The stabilization of NEPCMs with an eco-sustainable micro-encapsulation (mE) allows mE-NEPCMs to be mixed in concretes for the accumulation of thermal energy, improving their performance.