

### OBJECTIVE

- To review state-of-the art research on the use of nanomaterials such as Nano Titanium dioxide, Nano Silica, M-Xenes, Nano Clays, Carbon nanotubes/carbon-based nanomaterials and graphene in pavement systems
- To evaluate their influence on the mechanical performance, durability, aging resistance and environmental impact
- To discuss the challenges of large-scale implementation, including cost, standardization and health-safety consideration
- To identify collaborative research opportunities and outline future directions for pilot scale demonstrations.

**2026**

**MARCH**

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Abstract  
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### KEY THEMES AND PRESENTATIONS

- Nanoparticle Modification of Binders and Aggregates.
- Photocatalytic and Self-Cleaning Pavements.
- Nano-coatings and Functional Surfaces.
- Durability and Field Performance of Nanoparticles in Pavements.
- Environmental and Safety Considerations of Nanoparticles in Pavements.

### PANEL DISCUSSION AND INTERACTIVE SESSION

- Optimal methods for nanoparticle dispersion in viscous bitumen.
- The balance between maximizing pollutant interaction (surface exposure) versus ensuring mechanical durability.
- Strategies for regenerating photocatalytic surfaces after contamination (through rainfall or mechanical abrasion as an example).
- The need for standardized testing protocols to evaluate photocatalytic efficiency and mechanical durability in realistic environments.

### VENUE

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