Special Issue

Experimental Testing and Constitutive Modelling of Pavement Materials

Message from the Guest Editors

Pavement materials such as asphalt mixtures, granular aggregates, and soils exhibit complex material properties and engineering performance under external loading and environmental conditions. For instance, the asphalt mixture shows highly nonlinear viscoelastic and viscoplastic properties at high temperatures, and it presents fatigue cracking damage and fracture properties at intermediate or low temperatures. Constitutive models based on mechanics theories have been the kernel of performance prediction of pavement infrastructures and materials. They lay down a solid foundation for material selection, design and pavement structural evaluation, and maintenance decisions. Advances in mechanics modeling and the associated experimental testing for pavement infrastructures and construction materials are emerging constantly, such as nonlinear viscoelasticity, viscoplasticity, fracture, and damage mechanics models.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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