Special Issue

Advances in Alternative Asphalt and Pavement Materials: Design, Structure and Properties

Message from the Guest Editors

Nowadays, the need to improve the environmental sustainability of asphalt pavement has promoted a more inclusive concept of alternative paving materials and technologies for road applications. This family of solutions includes paving components such as binders (bio-binders, biomaterials, bio-oils, etc.), aggregates (construction and demolition wastes, reclaimed asphalt pavement, steel slags, artificial aggregates, plastics, etc.) and additives (asphalt recycling agent, rubber, plastic, fibers, recycled polymers, waxes, anti-stripping agents, etc.). Combining alternative paving materials with technologies such as warm, cold and foam mixing can enhance their sustainability benefits by reducing energy demand and emissions. Alternative paving materials demand a novel approach to natively incorporate these materials into the design of paving composites to ensure their high performance and durability. For these new materials, the evaluation of the structure and microstructure of the mixture to understand its properties and behavior is crucial. At the same time, defining how the mix design can be integrated into the pavement design is essential.

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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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