



Multiscale–Multiphysics Modelling and Characterisation of Multiphase Polymer-Based Bituminous Materials

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Deadline for manuscript
submissions:
closed (31 December 2024)

Message from the Guest Editors

Dear Colleagues,

Polymer materials (e.g., graphene, carbon nanotubes (CNTs), antioxidants, rubber, lignin, epoxy, rejuvenators, biomass, waste plastics, etc.) are increasingly being applied to the bituminous materials to improve the durability and the recycling of materials.

This Special Issue welcomes submissions with respect to multiscale–multiphysics modelling and characterisation for the polymer-based bituminous materials. The topics of interest include but are not limited to:

- Quantum mechanics/chemistry, density functional theory (DFT) calculation, and molecular dynamics (MD) simulations for understanding the modification mechanisms of polymer-based bitumen;
- Chemo-mechanical modelling and microscopic characterisation for polymer-based asphalt recycling;
- Constitutive modelling for viscoelasticity, viscoplasticity, damage, and fracture for predicting the fundamental mechanical performance of polymer-based asphalt;
- Multiscale and multiphysics modelling for the durability, resilience and sustainability of polymer-based bituminous materials.





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Message from the Editor-in-Chief

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I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

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