Advancing Construction Material Performance: Integrating Machine Learning Innovations

Guest Editors:

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Deadline for manuscript submissions:
closed (10 September 2024)

Message from the Guest Editors

Dear Colleagues,

The construction industry is experiencing a remarkable revolution through the integration of machine learning (ML). This Special Issue highlights the critical role of ML in the field of construction materials science, particularly for concrete and timber. ML has significantly transformed the design, property prediction, optimization, and characterization of building materials.

We invite submissions addressing ML applications in materials science for construction. We're interested in articles about:

- Innovative ML techniques for predictive modelling in materials science for construction;
- Case studies on the real-world application of ML in optimizing construction materials;
- The role of ML in enhancing the sustainability and eco-friendliness of constriction materials;
- ML-driven material characterization techniques and their impact on materials science in construction;
- Overcoming challenges in data quality and representativeness in ML-based studies.

We eagerly await your contributions.

Guest Editors

Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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