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Durability and Improvement Measures of Alkali-Activated Materials under Multi-Factor Coupling Action

Guest Editors:

Dr. Yibing Zuo
School of Civil and Hydraulic Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

Dr. Jiuwen Bao
Department of Civil Engineering, Qingdao University of Technology, Qingdao 266033, China

Dr. Hailong Ye
Department of Civil Engineering, The University of Hong Kong, Pokfulam, Hong Kong 999077, China

Deadline for manuscript submissions:
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Message from the Guest Editors

Alkali activated materials (AAMs) are a family of existing alternative construction materials that could reduce the current environmental impact of Portland cement (PC) production and utilization. While there is a general consensus about the strength and CO_2 footprint advantages of AAMs over PC, a widespread debate still exists pertaining to the durability of AAMs, which thereby hinders their bulk application and commercialization. Currently, the existing research usually focuses on the durability of AAMs under the action of a single factor such as sulfate attack, chloride ingress, drying–wetting cycles, etc. Thus, the researched outcomes and proposed models cannot be used to guide the durability design of AAMs under multi-factor coupling action (MFCA). Therefore, the main aim of this Special Issue is to seek high quality works focusing on the latest advances and research trends regarding durability and improvement measures of AAMs under MFCA. Topics include, but are not limited to:

- Damage deterioration of AAMs under MFCA;
- Interaction mechanism among multi-factors;
- Transport mechanism of aggressive medium in AAMs under MFCA and so on.

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Editor-in-Chief

Prof. Dr. David Arditi
Construction Engineering and Management Program, Department of Civil, Architectural, and Environmental Engineering, Illinois Institute of Technology, 3201 South Dearborn Street, Chicago, IL 60616, USA

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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Contact Us

Buildings Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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