



LiDAR-Based Building Information Modeling: Recent Progress and Applications

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Deadline for manuscript
submissions:

15 November 2024

Message from the Guest Editors

Building Information Modelling (BIM) has been widely recognized as a key element for digitalization in architecture, engineering, and construction, as it offers innovative and efficient approaches at different stages of a building and infrastructure development project.

With the rapid advancement of remote sensing and reality-capturing technologies, LiDAR has emerged as one of the most rapid, precise, and versatile 3D measurement technologies. This technology enables the capture of 3D representations of surrounding environments and objects as a 3D point cloud map or a 3D mesh model with high accuracy and completeness. In BIM, LiDAR facilitates the efficient generation of detailed 3D models of buildings, facilities, infrastructure, and other structures.

This Special Issue aims to collate papers on the state of the art of LiDAR-based BIM research including, but not limited to, LiDAR data analysis and data fusion in building detection and 3D building reconstruction, rooftop modeling and building boundary extraction, and change detection for BIM-based applications (e.g., urban growth monitoring, land use/land cover (LULC) mappings, navigation, emergency response, etc.).





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