Special Issue

Heavy Metal Immobilization: Research into Alternative Low-Carbon Composites

Message from the Guest Editor

Legislation to reduce landfill waste is leading to increased waste incineration. This, along with biomass incineration for energy, generates large amounts of various waste ashes. Due to toxic pollutants, especially heavy metals, landfilling ash is both temporary and hazardous. However, these ashes have properties suitable for use in construction composites, providing a safe, eco-friendly, and cost-effective treatment solution. They can be used to partially replace binders or fillers, or in forming geopolymers, with heavy metals being trapped within the composite structure. This Special Issue focuses on research into high-performance low-carbon composites utilizing ash from municipal solid waste, sewage sludge, and biomass incineration, while ensuring heavy metal sorption and immobilization. Such composites will include multiphase binder systems or geopolymer matrices, mineral admixtures, and nano-additives with high heavy metal sorption capacity. We welcome articles and reviews that advance techniques for immobilizing heavy metals in low-carbon composites for the construction industry.

Guest Editor

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Deadline for manuscript submissions

closed (20 August 2025)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/208024

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Message from the Editor-in-Chief

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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