Special Issue

Biochar and Waste-Derived Innovations for Soil Remediation, Carbon Sequestration, and Climate Resilience

Message from the Guest Editor

Properly managed waste materials offer great potential as sustainable soil amendments. Biochar, in particular, is gaining attention for its multifunctional benefits in soil remediation and climate change mitigation. This Special Issue welcomes original research and reviews on waste-based strategies, especially using engineered or modified biochars via co-pyrolysis, chemical functionalization, or composite formulation. Focus is given to their roles in immobilizing heavy metals, organic pollutants, and improving soil quality. Though biochar is considered stable, it can undergo changes in soil due to environmental and biological interactions. We especially welcome studies on biochars from complex waste (e.g., sewage sludge) and their effectiveness against PFAS, pharmaceuticals, and microplastics. Topics include biochar aging, field performance, biochar–microbe–plant interactions, GHG reduction, and carbon sequestration. We invite high-quality submissions that connect innovation with environmental sustainability.

Guest Editor

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Deadline for manuscript submissions

28 July 2026

Sustainability

an Open Access Journal by MDPI

Impact Factor 3.3
CiteScore 7.7

mdpi.com/si/247283

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I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

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