Special Issue

Innovative Separation Techniques for Adsorption and Control of Soil and Water Contaminants

Message from the Guest Editor

This Special Issue explores the latest advancements in adsorption technologies and their applications in soil and water treatment. Researchers continuously develop innovative materials—such as functionalized biochar, nanomaterials, and modified clays—to improve adsorption efficiency and selectivity. Cutting-edge analytical techniques, including synchrotron-based spectroscopy and surface chemistry analysis, shed light on how these materials interact with contaminants, leading to more effective solutions. Additionally, hybrid approaches that combine adsorption with biological, electrochemical, or membrane-based methods are gaining traction, offering improved contaminant removal and long-term sustainability. This issue also highlights efforts to make adsorption technologies more practical and accessible by focusing on cost-effective and sustainable materials, including adsorbents derived from agricultural and industrial byproducts. By bringing together groundbreaking research and innovative solutions, this Special Issue aims to contribute to developing cleaner, healthier environments through advanced adsorption techniques.

Guest Editor

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Separations offers the scientific community a high-quality, open-access journal option with rapid time-to-publication without any sacrifice of a rigorous peer-review process. We invite contributions ranging from fundamental characterization and instrumentation development through application of techniques to shed light on a broad spectrum of separation science needs. Since inception, *Separations*, has become unique in its combination of rapid publication and thorough scientific content. We invite you to consider us for your next contribution.

Editor-in-Chief

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