Special Issue

Advanced Sorbents for Separation of Metal Ions

Message from the Guest Editor

An essential step in the production of metals is their separation from aqueous solutions obtained from leaching ore or recycling waste. Adsorption is considered an effective technique for the recovery or removal of metals from aqueous media. It offers excellent workability in process operation and design, and sorbent can be reused after proper regeneration. Many traditional sorbents, including inorganic clays/zeolites, activated carbon, and polymeric resins, have been used for metal ion separation. Recently, advanced sorbents, such as modified natural inorganic/organic materials, modified carbons/biochar, agricultural waste (biosorbent), metal–organic frameworks, synthesized polymers, magnetic sorbents, hydrogels, and nanosorbents, were successfully applied in the separation of metals. In this Special Issue in Metals, we welcome reviews and articles in the areas of separation of metal ions, including new and modified sorbent preparation, characterization and applications, mechanism elucidation, and theoretical calculation. This open access issue aims to outline the current state of the art in the area of separation of metals by modern sorbents.

Guest Editor

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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