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Synthesis and Characterization of Advanced Adsorption Materials and Their Role in Environmental Applications

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Message from the Guest Editor

Potential topics of this Special Issue include, but are not limited to the following: development of new adsorption materials (porous micro-/nano-structured inorganic materials, organic/inorganic hybrid materials, polymeric materials, natural materials); new synthesis strategies and techniques; scale-up synthesis; characterization of structural, surface, and other physicochemical properties and ecotoxicity of adsorbents, and their adsorption applications in the removal of pollutants from air, soil and water (removal and purification of chemicals, drugs, pharmaceuticals and biological substances, pesticides, herbicides, fumigants, polycyclic aromatics hydrocarbons, organic micropollutants, microplastics, heavy metals, rare-earth elements, radionuclides, impurities from liquids and gases, air pollutants, removal of dyes in decolorization processes, separation and storage of gases); basic and practical aspects of adsorption and adsorption processes (adsorption mechanisms, desorption, regeneration, equilibrium data, adsorption isotherms, kinetic models, thermodynamics, batch methods, fixed-bed type processes, fluidized beds, pulsed beds, new measurement techniques).



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Message from the Editor-in-Chief

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