Special Issue

Green Materials in Superhydrophobic Coatings

Message from the Guest Editors

Superhydrophobic coatings, characterized by extreme water repellency, have emerged as a transformative technology with applications in self-cleaning surfaces, anti-corrosion, energy efficiency, and biomedical devices. However, traditional superhydrophobic materials often rely on synthetic chemicals, fluorinated compounds, or nonbiodegradable polymers, raising concerns regarding environmental pollution, toxicity, and long-term sustainability. In recent years, the global push toward green chemistry and circular economy principles has driven a shift toward developing superhydrophobic coatings from renewable, biodegradable, or nontoxic raw materials. This research area bridges materials science, surface engineering, and sustainability, aiming to balance functional performance with ecological responsibility. This Special Issue aims to highlight advancements in the design, synthesis, and application of sustainable materials for superhydrophobic coatings. It will focus on materials derived from natural resources (e.g., biomass, biopolymers), recyclable or biodegradable polymers, non-fluorinated formulations, and eco-friendly fabrication processes.

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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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