Special Issue

Bio-Promotive Materials for Environmental Restoration and Carbon Sequestration in Marine Environments

Message from the Guest Editors

In the face of escalating marine ecosystem degradation and the urgent need for effective carbon sequestration strategies, the development of materials specifically designed to enhance biological growth and proliferation has emerged as a promising frontier in materials science. These "Bio-Promotive Materials" are an innovative approach that comes from the intersection of materials engineering, marine ecology, and climate science, with significant potential for application in environmental restoration and carbon capture. This Special Issue aims to consolidate cutting-edge research on materials that actively facilitate biological growth, colonization, and carbon sequestration in marine and coastal environments. We seek contributions that explore how material composition, structural design, surface properties, and deployment strategies can be optimized to enhance biological responses and ecological functions. The ultimate goal is to foster the development of next-generation materials that not only support biological attachment but actively promote biological proliferation and ecosystem services.

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Message from the Editor-in-Chief

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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