Scanning

Special Issue on
Advanced Biobased Carbon Materials Explored by Scanning Techniques

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CALL FOR PAPERS

Global concerns on green chemistry and sustainable development have oriented research and technological developments towards more eco-friendly materials and processes. With the increasing demand for energy and excessive depletion of nonrenewable fossil fuels, biomass wastes have attracted a lot of attention during the past decade, especially on synthesis of the sustainable biofuel production, electricity, chemicals, and eco-friendly materials. Among the eco-friendly materials, biomass wastes are reported as important precursors for the preparation of carbon materials which are used in a wide range of applications, such as adsorbents for water and wastewater treatment, catalysts support, and electrode materials for supercapacitors and batteries.

Scanning microscopy techniques are one of the main techniques for carbon material characterization, due to their ability to provide morphological and structural details of materials even in nanometer resolution. Characterization techniques utilizing scanning tools, such as scanning microscopy techniques, e.g., scanning electron microscopy (SEM), scanning electrochemical microscopy (SECM), transmission electron microscopy (TEM), confocal Raman microscopy (CRM), scanning tunneling microscopy (STM), atomic force microscopy (AFM), and confocal scanning optical microscopy (CSOM), are particularly encouraged to be explored in this special issue.

In this special issue, we invite researchers to submit original research papers, as well as review articles, on any of the topics below, which will stimulate the continuing efforts in the preparation and application biomass carbon materials as well as their characterizations by utilizing scanning microscopy techniques aimed at the understanding of morphological and structural details at nanoscales.

Potential topics include but are not limited to the following:

- Atomic force microscopy in carbon catalyst synthesis and characterization
- Scanning tunneling microscopy for carbon materials in gas purification
- Scanning tools for carbon materials and their applications in water and wastewater treatment processes
- Carbon electrode fabrication and characterization by utilizing scanning microscopy techniques
- Biomass transformation into functional materials
- Use of scanning microscopy techniques for the characterization of structural details of carbon materials

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/scanning/acmfb/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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