

Special Issue on
Carbon Nanostructures for Energy and Sensing Applications

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The demand of energy storage and affordable and easy-to-handle healthcare and environmental monitoring is increasing with the increase in the population of the world. Thus, there is a huge need for more economic and efficient technologies for energy storage and sensors for healthcare and environmental monitoring application. The advancement of carbon nanostructured materials dimensions ranging from tens to several hundreds of nm, dating back to the past few years, has seen a tremendous scientific growth in the field of supercapacitor and battery, bio, chemical, and mechanical sensors and possible related applications. These nanostructured carbon materials own unique characteristics, such as superior electrical conductivity, outstanding mechanical strength, and remarkable thermal, optical, and chemical properties because of their nanosized and very high surface-area-to-volume ratio. These outstanding structural characteristics of carbon nanomaterials help them to interact with other materials for numerous innovative applications, such as in energy storage and conversion and sensing.

Here, in this issue we bring to the readers' attention the extent of applications and new insights of the carbon family and nanostructured carbon materials.

This special issue is envisioned to provide an insight into the role of nanoscopic features in improving the functional properties of carbon nanomaterials and its composites, such as amorphous and graphitic carbon, carbon nanofibers, nanotubes, and graphene and composites with metal and metal-oxides. The issue will attract the interests of diverse communities of chemists, physicists, materials scientists, biologists, and engineers.

Potential topics include but are not limited to the following:

- ▶ Synthesis of carbon and carbon-based nanocomposites
- ▶ Carbon quantum dots, nanofibers, nanotubes, graphene, and fluorenes
- ▶ Carbon and carbon nanocomposites for energy storage devices
- ▶ Carbon and carbon nanocomposites for biosensors
- ▶ Carbon-semiconductor nanocomposites for photocatalysis
- ▶ Carbon nanostructures and composites for optical, electrical, and thermal conductivity, strength, stiffness, and toughness

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

Lead Guest Editor

Kunal Mondal, North Carolina State University, Raleigh, USA
kmondal.iitk@gmail.com

Guest Editors

Bhuvaneshwari Balasubramaniam, Indian Institute of Technology Kanpur, Kanpur, India
bhuvib@iitk.ac.in

Ankur Gupta, Indian Institute of Technology Bhubaneswar, Bhubaneswar, India
ankurgupta@iitbbs.ac.in

Abdellatif Ait Lahcen, Hassan II University of Casablanca, Casablanca, Morocco
abdo.aitlahcen@gmail.com

Mirosław Kwiatkowski, AGH University of Science and Technology, Kraków, Poland
kwiatkow@agh.edu.pl

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