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# Cathode Nanomaterials for Batteries

Guest Editor:

**Dr. Christopher S. Johnson**
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Deadline for manuscript submissions:
**closed (5 February 2020)**

## Message from the Guest Editor

Dear Colleagues,

The application of nanoscience and nanotechnology to the design of new and improved lithium-ion and sodium-ion battery cathodes is a strong combination that is poised for advancements. Nanomaterials feature short cation diffusion lengths (a high-power battery and fast charging), surface vacancy and under-coordinated atom formation (stabilized surface structures), and unique morphological design features that all add up to special properties for batteries. We invite authors to contribute papers covering the latest developments and advancements in battery cathode nanomaterials starting from novel synthesis, characterization, mechanisms, and electrochemical performance testing. Examples of specific potential topics are as follows:

- Lithium-ion nanomaterial cathodes;
- Sodium-ion nanomaterial cathodes;
- Alternative charge-transporting ions cathodes with novel nanoscience features or applications;
- The characterization of cathode nanomaterials and nanostructures;
- The modeling and mechanistic treatment of cathode nanomaterials;
- Fundamental electrochemistry and electroanalytical methods applied to nanomaterial cathodes.

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## Editor-in-Chief


**Prof. Dr. Shirley Chiang**
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## Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call "nanomaterials". These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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