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Photocatalysis for a Green Future: Breaking Barriers in Energy, Environment, and Healthcare

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Message from the Guest Editor

Photocatalysis is a revolutionary process leveraging light energy to expedite chemical reactions; it presents a multitude of advantages and its applications range widely. This versatile technology not only addresses contemporary challenges but also contributes significantly to sustainable solutions across diverse domains.

The primary drawback of this method lies in the selection of semiconductor materials. Numerous semiconductors exhibit limitations. In this context, this Special Issue will compile recent developments in the field of new semiconductor materials for several photocatalytic applications.

The articles presented in this Special Issue will cover various topics, such as the following:

- The synthesis and characterization of novel photocatalysts;
- The photocatalytic synthesis of organic and inorganic compounds;
- Photocatalytic materials to address specific sustainability challenges;
- Applications of photocatalysts in different areas:
    - Wastewater and air treatment;
    - Energy conversion;
    - Drug delivery;
    - others;
- Critical reviews and perspectives on photocatalyst applications.

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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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