



*Editorial*

## Special issue on Nanomaterials for energy and environmental applications

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Due to a high surface to volume ratio, significant transport properties, and confinement effects resulting from the nanoscale dimensions, nanostructured materials are extensively studied for energy-related applications such as solar cells, catalysts, thermoelectrics, lithium ion batteries, supercapacitors, and hydrogen storage systems. Therefore extensive studies in this field are necessary to accomplish this challenge for the next decades. The editors of the Special Issue on Nanomaterials for energy and environmental applications in AIMS Materials Science tried to bring together experts in this field to describe the current state of the art of the study and to formulate new research directions. The Special issue contains eleven manuscripts from research groups in different countries presenting relevant results on energy related materials such as transparent conducting nanostructures (TiO<sub>2</sub>, SnO<sub>2</sub>, ZnO, Ga<sub>2</sub>O<sub>3</sub>, CuO, In<sub>2</sub>O<sub>3</sub>, GeO<sub>2</sub>, In<sub>2</sub>Ge<sub>2</sub>O<sub>7</sub>, ZnGa<sub>2</sub>O<sub>4</sub>, Zn<sub>2</sub>GeO<sub>4</sub>, Sb<sub>2</sub>O<sub>3</sub>), semiconductors (Si, Ge, CdSe, Ge<sub>3</sub>N<sub>4</sub>, InN) and organics. The contributors are at the forefront of the discipline, and their insightful scientific presentations will surely affect the next generations of materials scientists. The publications reflect the strong international interactions among physicists, chemists, engineers, materials scientists and technologists working in this field as well as the advantages, limitations and challenges of applications of nanomaterials. We hope that readers will find the papers interesting and stimulating further discussions in the field.

As guest editors of the special issue, we want to thank Dr. Shengjiao Pang, Editor and the technical staff who supported our initiative and made this special issue possible. Also, we thank all contributors of selected papers presented herein.

