

Special Issue

Nanocatalysts for Current and Emerging Applications

Message from the Guest Editor

Modern synthetic chemistry has undergone a tremendous expansion, due in great part to the introduction of nano-sized catalysts in both homogeneous and heterogeneous catalysis. While heterogeneous catalysts dominated the first half of the previous century, covering applications from ammonia synthesis and oxidation to olefin polymerization, it was only after pioneering work by the adepts in surface science and, computational chemistry that we eventually gained a better understanding of the catalytic reactions' characteristics, active species and implications. The anticipation of proper catalytic center design, characterization, and use in specific reactions has met the high expectations of tackling the currently high demand for renewable and clean energy, making research in the catalysis field an intriguing area of research with effective impact on theoretical chemistry and industrial applications alike. The design and development of active catalysts, proper identification of active sites, and their 3-D environment during the catalytic cycle, complemented by rigorous surface characterization of the catalytic species will push the field to even greater heights.

Guest Editor

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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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