Special Issue

Heterogeneous Catalysis and Photocatalysis in Materials

Message from the Guest Editors

By selectively tuning the activation barrier of a specific reaction pathway, via preferentially enriching kinetically relevant species under working conditions, a catalyst alters the kinetics of a chemical reaction without changing the intrinsic thermodynamic equilibrium between materials. So far, metal (oxide), semiconductor, and even insulator-based materials are found in various forms in heterogeneous catalysis and photocatalysis, where thermal- or photo-energy drives the turnover of a reaction and transform energy into chemical bonds. Large-scale production of fine chemicals and commodities has been dominantly catalyzed by heterogeneous catalysis in the chemical industry and will continue to do so in the forthcoming future. The mimicking of photocatalytic activities in nature is often termed artificial photosynthesis. This Special Issue focusing on “Heterogeneous Catalysis and Photocatalysis in Materials” calls for the submission of manuscripts from the general fields of heterogeneous catalysis and photocatalysis.

Guest Editors

Prof. Dr. Xueqiang Zhang
Prof. Dr. Tong Zhu
Prof. Dr. Xin Li

Deadline for manuscript submissions

closed (20 May 2023)

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Message from the Editorial Board

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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