

Special Issue

New Advances in Heterogeneous Catalysis Materials

Message from the Guest Editor

Due to an urgently needed change in the use of raw materials as well as an increasing demand for enduring storage of electrical power from renewable energy sources, new catalyst materials and advanced concepts for the utilization of biomass for industrially relevant basic chemicals as well as Power-To-X (gas, liquid, and heat) technologies represent major challenges these days. Current industrial processes and catalyst-based environmental technologies have to be transformed into more green and sustainable procedures to achieve the objective of climate neutrality in the carbon cycle. To realize a continuous transition from a fossil fuel-based economy into a climate-neutral economy, chemical conversions of the most important greenhouse gas—carbon dioxide—into basic chemicals by catalytic or electrocatalytic processes must also be intensified. Finally, the return of already existing products and micro-pollutants must be given an increased focus with the objective to integrate them into these new raw material cycles by catalytic processes.

Guest Editor

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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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