catalysts

an Open Access Journal by MDPI

IMPACT FACTOR 4.0

CITESCORE 7.6

CO and CO_2 Conversion over Heterogeneous Catalysts

Guest Editor:

Dr. Sergei Chernyak
Department of Chemistry, Lomonosov Moscow State University, 1-3 Leninskiye Gory, 119991 Moscow, Russia

Deadline for manuscript submissions:
closed (28 February 2022)

Message from the Guest Editor

Catalytic conversion of carbon oxides is one of the most important topics in terms of ecological, chemical engineering, and energy aspects. The choice of the appropriate catalyst for these processes may lead to a great diversity of valuable products. Clean synthetic fuels, lubricants, light olefins, methanol and high alcohols, dimethyl ether, polyurethane, etc. can be produced through CO or CO_2 hydrogenation, oxidative dehydrogenation, and other reactions. Transformations of carbon oxides are also of great interest for green chemistry because effective and low-cost CO_2 utilization and CO oxidation are significant ecological challenges facing our world.

Despite large-scale implementation of several reactions, many issues still need to be clarified and resolved. Optimization of both catalytic systems and reaction conditions, study of reaction mechanisms, and development of new effective nanocatalysts are the main topics in the case of CO and CO_2 conversion. This Special Issue aims to show the recent progress and trends in theoretical and practical study of carbon oxide transformations into valuable products via heterogeneous catalytic processes.