catalysts

an Open Access Journal by MDPI

IMPACT FACTOR 3.8

CITESCORE 6.8

Nickel-Based Catalysts for Hydrocarbon Fuel Reforming

Guest Editors:

Dr. Dmitry Pashchenko
Heat Power Department, Samara State Technical University, Molodogvardeiskaya Str. 244, 443100 Samara, Russia

Dr. Maxim Nikitin
Institute of Architecture and Civil Engineering, Samara State Technical University, 443001 Samara, Russia

Deadline for manuscript submissions:
closed (15 March 2021)

Message from the Guest Editors

Dear Colleagues,

Nickel-based catalysts are widely used in various industries. The processes of reforming hydrocarbons, in particular natural gas, are the main method of hydrogen and synthesis gas production. In addition, nickel-based catalysts are widely used in thermochemical waste-heat recuperation systems due to their low cost and high efficiency. Despite significant advances in the development of nickel-based catalysts, there is great potential for increasing their efficiency.

The aim of this Special Issue is to cover promising recent research and novel trends in the field of nickel-based catalysts for various chemical processes, including hydrocarbon reforming. The development of nickel-based catalysts involves many aspects of materials science, including synthesis, reactivity, mechanical properties, flow stability and contact mechanics, as well as gas–solid reaction engineering. Studies offering material design would also be of great interest. Moreover, flow dynamics and heat and mass transfer processes are interesting for the development of new nickel-based catalysts; these topics also can be discussed in this Special Issue.