



Catalytic Reforming of Methane

Guest Editors:

Dr. Hamidreza Arandiyani

Laboratory of Advanced Catalysis for Sustainability, School of Chemistry, The University of Sydney, Sydney 2006, Australia

Prof. Dr. Mehran Rezaei

Catalyst and Advanced Materials Research Laboratory, Chemical Engineering Department, University of Kashan, Kashan, Iran

Deadline for manuscript submissions:

closed (31 March 2019)

Message from the Guest Editors

Natural gas reforming by means of dry reforming has recently achieved great importance as a way of producing syngas. Great attention is being paid to the conversion of CH₄ and CO₂, the cheapest carbon-containing materials, into more valuable compounds by catalytic reactions.

This particular Special Issue of *Catalysts* is, therefore, on the following topics:

- Tackling the issue of catalyst design based on an understanding of its deactivation mechanism;
- Active catalysts with a small particle size, appropriate metal-support interaction but nonetheless good reducibility, and a certain tolerance to carbon formation;
- Investigating the prevention of carbon diffusion into active metal crystallites while maintaining acceptable activity;
- Optimizing of the reaction conditions for the process in a variety of different catalytic material classes, including perovskite mixed oxides, metal-oxide systems, and intermetallic compounds;
- Combining catalysis and plasma, which can be an alternative to integrate the advantages of catalysis and plasma.

