Special Issue

Current Status and Future Aspects of Bimetallic and Trimetallic Catalysts

Message from the Guest Editors

This Special Issue aims to provide an overview of the recent applications of bimetallic and trimetallic catalysis, highlighting the growing importance in a number of areas including reforming, hydrodesulfurization, dehydrogenation, aromatization, and polymerization reactions. Such catalysts have gained increasingly more traction due to the synergy of active phases, which is expected to significantly enhance the performance of the process compared to single-metal catalysts. Despite a significant number of researchers focusing their attention on the employment of bimetallic/trimetallic formulations, the catalytic mechanisms that result in the above-described performance improvements have not been clearly illustrated yet. There are still several aspects that need to be investigated in depth; the development of methods for synthesizing bimetallic and trimetallic catalysts with precise control over their composition and morphology is essential in ensuring the desired synergy and in maximizing the catalytic performance. Moreover, the study of methods for improving stability and limiting sintering and poisoning is crucial in reducing the deactivation phenomena.

Guest Editors

Dr. Concetta Ruocco

Department of Industrial Engineering, University of Salerno, Via Giovanni Paolo II, Fisciano, Italy

Dr. Olga Muccioli

Department of Industrial Engineering, University of Salerno, Via Giovanni Paolo II, Fisciano, Italy

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
catalysts@mdpi.com

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Prof. Dr. Keith Hohn
Carl R. Ice College of Engineering, Kansas State University, Manhattan, KS, USA

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