Special Issue

Transition Metal Catalysis

Message from the Guest Editors

Transition metal catalysis has attracted a great deal of interest due to its efficiency, greenness, and convenient use. Moreover, it plays an important role in both academia and industry, where selectivity, activity, and stability are crucial parameters to control. In particular, transition metals represent excellent catalysts in heterogeneous and homogeneous catalytic research. In fact, they have been proven to lower the activation barrier for chemical reactions thanks to their ability to lend electrons or withdraw electrons from the reagent, depending on the nature of the reaction. Their capacity to be in a variety of oxidation states, to interchange between the oxidation states, and to form complexes with the reagents allows them to be used in a huge variety of catalytic processes, from polymerization processes to bio-syngas transformation, fuel cell applications, and modern organic synthesis. This Special Issue will focus on the use of transition metal catalysis in green and sustainable chemical processes. Particular importance will be placed on its application in CO2 transformation, energy harvesting, green synthesis, and environmental remediation processes.

Guest Editors

Prof. Dr. Alessandro Di Michele
Department of Physics and Geology, University of Perugia, Perugia, Italy

Dr. Carlo Pirola
Dipartimento di Chimica, Università degli Studi di Milano, 20133 Milano, 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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