

Special Issue

Catalysis and Catalytic Processes for Valuable Chemical Production from CO₂

Message from the Guest Editors

In the field of catalytic conversion, significant research efforts are underway in order to develop sustainable methods for the manufacturing of compounds and eco-friendly energy carriers in response to the severe climate crisis we face today. Among these efforts, the development of catalyst systems for the synthesis of value-added chemicals via the conversion of CO₂, highlighted as an eco-friendly hydrogen carrier, has led to the application of various innovative methods and significant achievements. Despite the remarkable advances made to date, numerous challenges remain in this research field; this includes enhancing the activity and stability of catalysts, elucidating the catalytic reaction mechanisms, and assessing the practical economic and environmental viability. Life Cycle Assessment–Techno-Economic Analysis will be an important area of study moving forward. This Special Issue of *Catalysts* will focus on recent advancements in the development of catalyst systems for the conversion of CO₂. The scope of this Special Issue will also extend to exploring reaction mechanisms via theoretical calculations and in situ analysis experiments.

Guest Editors

Dr. Kwang-Deog Jung
Dr. Kwangho Park
Dr. Kyung Rok Lee

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Catalysts
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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