Special Issue

Chemical Looping Combustion Reactor and Its Applications

Message from the Guest Editors

Chemical looping combustion (CLC) is a representative technology for CO2 capture and is regarded as one of the most promising methods due to its inherent CO2 separation. In CLC, one key challenge is to develop a suitable chemical looping combustion reactor ensuring a high CO2 yield, combustion efficiency, and carbon capture efficiency. Various kinds of reactors with special configurations are applied to enhance the performance of chemical looping combustion reactors. The visualization and understanding provided by modeling and simulation, the immeasurable information (gas–solid phase flow, unconverted gas distribution, gas leakage routes) assist investigators in upgrading the design of the reactors, optimizing the operation parameters, scaling up the reactors, etc. This Special Issue will focus on Chemical Looping Combustion Reactor and Its Applications. Topics of interest for publication include but are not limited to:

- Chemical looping combustion reactor design and operation;
- Modeling and simulation of chemical looping process;
- Pilot plants and microreactors;
- Novel chemical looping technologies reactors;
- Technoeconomic analysis on the CLC system.

Guest Editors

Prof. Dr. Haibo Zhao

State Key Laboratory of Coal Combustion, School of Energy and Power Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

Dr. Jinchen Ma

State Key Laboratory of Coal Combustion, School of Energy and Power Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

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

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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