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Metal Oxide Composites as Oxygen Carriers for the Application of Chemical Looping Technologies

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Deadline for manuscript submissions:
closed (10 May 2022)

Message from the Guest Editors

Chemical looping technologies have emerged as attractive processes for the applications of clean energy and syngas production. Thanks to its dual-fluidised bed reactor system, air never mixes with the fuel, which inherently separates CO2 from the other flue gas components. Metal oxides, such as Cu-, Co-, Mn-, Ni-, Fe-based and their composites, transfer the oxygen between these two interconnected reactors as oxygen carriers and play a crucial role in the commercialisation of the chemical looping technologies. We invite researchers to contribute to the Special Issue on “Metal Oxide Composites as Oxygen Carriers for the Application of Chemical Looping Technologies”, the potential topics include but are not limited to:
Synthesis of novel metal oxide composites as oxygen carriers;

- Advanced material characterisation techniques on oxygen carriers;
- Phase and structural changes of oxygen carriers in chemical looping applications;
- Kinetics of oxygen carriers under chemical looping applications;
- Computational modelling of surface interactions of oxygen carriers with additives;
- Quantitative structure property relationships and predictions of new oxygen carriers.

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Special Issue

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Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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