



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

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Deadline for manuscript submissions:

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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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