



## Cerium-based Materials for Energy Conversion

Guest Editors:

### **Prof. Dr. Ulrich F. Vogt**

1. Empa, Swiss Federal  
Laboratories for Materials  
Science and Technology,  
Überlandstrasse 129, 8600  
Dübendorf, Switzerland  
2. Albert-Ludwigs-University  
Freiburg, Crystallography,  
Institute of Earth and  
Environmental Sciences,  
Hermann-Herder-Str. 5, D-79104  
Freiburg i.Br., Germany

### **Prof. Dr. Paolo Fornasiero**

Department of Chemical and  
Pharmaceutical Sciences,  
Universita'degli Studi di Trieste,  
34127 Trieste, Italy

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### **Message from the Guest Editors**

Ceria ( $\text{CeO}_2$ ) plays a key role in many catalytic processes. Due to its excellent oxygen storage capacity (OSC), ceria-based mixed oxides are widely used for industrially-relevant applications, like three-way catalysis, catalytic oxidation in exhaust converters, SOFC fuel cells, SOEC electrolysis, water-gas shift reactions, or thermochemical- and photocatalytic water splitting. There is no doubt that ceria is able to reduce the energetic requirements of catalytic process, particularly relevant are the direct application in energy sector. This is the case of ceria-based materials used as electrolytes in SOFS, as co-catalyst in anodes of SOFC or in DAFC, as active components in the formulation of reforming catalysts for hydrogen production. Applications in photo- or photoelectrochemical processes for solar fuel production are also exponentially growing. This Special Issue aims to bring together the actual status of research on the use of ceria-based materials for energy-related applications. Therefore, we invite you to contribute with a paper in the above-mentioned areas.

Prof. Dr. Ulrich F. Vogt

Prof. Dr. Paolo Fornasiero

*Guest Editors*





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## Editor-in-Chief

**Prof. Dr. Duncan H. Gregory**  
School of Chemistry, University of  
Glasgow, University Avenue,  
Glasgow G12 8QQ, UK

## Message from the Editor-in-Chief

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*Inorganics* Editorial Office  
MDPI, Grosspeteranlage 5  
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