

## Special Issue

# Modelling and Experimental of Polymeric Materials for Electrochemical Energy Conversion and Storage Systems

### Message from the Guest Editors

In recent decades, there has been a growing increase in the use of electrochemical systems for energy production and storage to minimize the environmental impact caused by CO<sub>2</sub> emissions from fossil fuels. Low-temperature fuel cells, electrolyzers, Li-ion batteries, and redox flow batteries are just a few examples of eco-friendly devices. Polymers are a part of these systems as ion-conducting membranes or separators, among others. The optimized design and synthesis of polymers is critical to achieve good electrochemical and mechanical properties for improved performance and extended durability. In this regard, mathematical modelling plays an essential role to explore aspects that are difficult to examine experimentally, such as percolation transport mechanisms at the microscopic scale and local volume-averaged fluxes at the macroscopic scale. Therefore, the coupling of modelling and characterization techniques is indispensable to predict the behavior of polymeric materials and assist the optimization of their properties via modification of the synthetic route.

### Guest Editors

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### Deadline for manuscript submissions

closed (5 October 2022)



## Polymers

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I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

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### Editor-in-Chief

Prof. Dr. Alexander Böker

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