Special Issue

Proton/Anion-Conducting Polymers for Energy Conversion Systems

Message from the Guest Editor

The deployment of renewable energy is essential for battling climate change. However, the vulnerable supplies of renewable energy cannot replace incumbent fossil energy. Convert the renewable energy into hydrogen fuel, which can be stored, redistributed, and converted back to electrical power by fuel cells. The energy-to-hydrogen conversion is performed by water electrolysis. Proton/anion conducting polymers are used as proton/anion exchange membranes in fuel cells and water electrolyzer stacks. The membrane electronically separates the cathode and anode while conducting protons/anions, enabling the circuit to be completed for system operation. While sulfonated tetrafluoroethylene based fluoropolymer-copolymer is currently the dominant compound for PEM application, other proton/anion-conducting polymers are being researched. This Special Issue focus on the synthesis of novel proton/anion conducting polymers, membrane manufacturing methods, and their applications in PEM/AEM fuel cells and water electrolyzers. Papers on ion conducting mechanisms, membrane degradation, and additives for performing enhancement are also of interest.

Guest Editor

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Message from the Editor-in-Chief

Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.7.

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.

Editor-in-Chief

Prof. Dr. Alexander Böker
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