

Special Issue

Proton Conducting Solid Oxide Fuel Cells

Message from the Guest Editor

Solid Oxide Fuel Cells (SOFCs) are efficient energy conversion devices. At present, the reduction in operating temperatures to an intermediate temperature (IT) range (400–700 °C) is the main task for SOFC development. Now, proton-conducting oxides have attracted widespread interest as electrolyte materials, for use in IT-SOFCs due to their low activation energy and sufficiently high ionic conductivity. Great research efforts have been focused on the fabrication and study of the electrochemical performance of proton-conducting SOFCs with different configurations. Despite the impressive progress that has been achieved, significant challenges remain, especially with respect to minimizing the material interaction, the reduction in polarization losses, and the increase in cell durability, among others. This Special Issue aims to cover recent advances and new trends in the development of materials for different cell components and their processing and performance, the design, fabrication and testing of cells, cell performance modeling, and related activities in the field of the proton-conducting SOFCs.

Guest Editor

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Deadline for manuscript submissions

closed (30 June 2021)



Applied Sciences

an Open Access Journal
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Impact Factor 2.5
CiteScore 5.5



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[applsci](https://doi.org/10.3390/applsci)





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Message from the Editor-in-Chief

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