

Special Issue

Advances in Fault Diagnosis and Modeling of Fuel Cells

Message from the Guest Editors

Fuel cells are considered a suitable candidate for next-generation green energy technology revolutions due to their high power density, high energy conversion, reduced greenhouse gas emissions, and modular structure. The operation of a fuel cell system involves multiple auxiliary subsystems other than the fuel cell stack, and it requires multi-field knowledge, for example, complex electrochemistry, thermodynamics, and fluid mechanics. In this case, an accurate fuel cell model is meaningful for the fuel cell's efficient operation and safety. On the other hand, fault diagnosis, more particularly online diagnosis, dedicated to detecting, isolating, and analyzing different faults, has proven beneficial for ensuring that fuel cell systems operate safely, reducing downtime, and mitigating performance degradation. To accurately detect and identify the faults occurring in the system is not a trivial task. This special section focuses on the latest progress and developments in the modeling and fault diagnosis of fuel cells in order to be utilized in various fuel cell systems and promote the commercialization of fuel cell technology.

Guest Editors

Prof. Dr. Daming Zhou

Dr. Meibo Lv

Prof. Dr. Zhongliang Li

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Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University
Niccolò Cusano, 00166 Roma, Italy

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