

## Special Issue

# EV Battery Thermal Management

### Message from the Guest Editor

The market share of battery electric vehicles (EVs) is growing around the world, particularly in China where the growth rate is fastest, because of their potential for much lower local greenhouse gas emissions and a reduction of imported petroleum. The cost of lithium ion batteries for the EVs is coming down while their energy density is enhancing leading to increased EV range. This Special Issue focuses on the thermal management of EV batteries, which is essential for delivering a long life and good performance of the batteries. EV battery performance may be improved at higher temperatures, but their cycle and calendar life are degraded with higher temperatures due to an increased rate of side reactions. At colder temperatures, the energy and power density decrease, which affects EV acceleration capability and range. The scope of this Special Issue encompasses all types of thermal management systems, measurements needed for designing improvement in thermal management systems, modeling tools for faster design of thermal management systems, and, finally, examples of battery thermal management in select EVs in the market.

---

### Guest Editor

Prof. Dr. Ahmad Pesaran

Transportation and Hydrogen Systems Center, National Renewable Energy Laboratory, Golden, Colorado, USA

---

### Deadline for manuscript submissions

closed (10 June 2019)



## Energies

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/si/21314](https://mdpi.com/si/21314)

*Energies*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[energies@mdpi.com](mailto:energies@mdpi.com)

[mdpi.com/journal/  
energies](https://mdpi.com/journal/energies)





# Energies

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/journal/  
energies](https://mdpi.com/journal/energies)



## About the Journal

### Message from the Editor-in-Chief

*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

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

#### Journal Rank:

CiteScore - Q1 (Control and Optimization)