

## 2026 11th International Conference on Power Electronics Systems and Applications



### Important Dates

<b>Submission Deadline</b>	<b>June 25, 2026</b>
Notification Deadline	July 25, 2026
Registration Deadline	August 30, 2026

## Special Session 1: Lithium-Ion Battery Energy Storage: Multiphysics Modeling and Power-Electronics-Based Safe Charging Control

Lithium-ion battery energy storage systems are increasingly deployed in electric vehicles and grid applications, where accurate multiphysics modeling and safe charging control have become essential. Strong couplings among electrochemical reactions, thermal dynamics, mechanical stress, and degradation demand advanced multi-scale models for reliable state estimation and lifetime prediction. Meanwhile, power-electronics-based fast charging and active balancing play a critical role in enhancing efficiency, safety, and cell uniformity in large battery packs. This Special Session highlights recent advances in multiphysics battery modeling, digital twins, state-of-health estimation, and power-electronics-enabled safe charging and balancing control. Topics include physics-informed models, aging-aware fast-charging strategies, converter topologies, multi-port charging architectures, thermal management, and AI-assisted diagnostics. The session aims to bring together academic and industrial researchers working toward safer, more efficient, and higher-performance lithium-ion battery energy storage systems.



**Chair: Yajie Jiang**

*Institute of Electrical Engineering, Chinese Academy of Sciences (IEE-CAS), China*



**Co-Chair: Lei Zhang**

*Institute of Electrical Engineering, Chinese Academy of Sciences (IEE-CAS), China*

### Publication

**IEEE** The accepted and presented papers will be published in the **PESA Conference Proceedings**. Conference content will be submitted for inclusion into **IEEE Xplore** and indexed by **Ei Compindex** and **Scopus**, etc.

- ★ **PESA 2026 has been included in IEEE event list! (Read More)**
- ★ **All past PESA proceedings are archived in IEEE Xplore and indexed by Ei Compindex and Scopus.**



#### SCI Journal

Up to 20% of the outstanding PESA 2026 papers will be selected and recommended for review and potential publication in IAS Transactions and IAS Magazines (JCR-Q2).

### Submission Guidelines

**Submission Link:** <https://www.easychair.org/my/conference?conf=pesa2026>

Please select **Special Session 1** after accessing the submission system.

[Full Paper Template](#)

[Abstract Template](#)

#### Note:

- ~ Full Paper (**No less than 4 pages normally, 10 pages maximum. 5-6 pages are recommended**, including all figures, tables, and references)
- ~ Abstract (Within 300 words)
- ~ Official language is **English** in paper/abstract writing and presenting
- ~ Download the Full Paper/Abstract Template for proceedings and read **guidelines**.

### Publication History

Accepted and presented papers of **10-year PESA** have been successfully published and indexed by **Ei Compindex & Scopus**.

**PESA 2024:** Hong Kong, China - ISBN: 979-8-3503-6580-1

**PESA 2022:** Hong Kong, China - ISBN: 978-1-6654-8668-2

**PESA 2020:** Hong Kong, China - ISBN: 978-1-7281-8890-4

**PESA 2017:** Hong Kong, China - ISBN: 978-1-5386-1387-0

**PESA 2015:** Hong Kong, China - ISBN: 978-1-5090-0063-0

**PESA 2013:** Hong Kong, China - ISBN: 978-1-4799-3491-1

More info, please visit: <https://www.icpesa.net/history.html>

### Contact US

Conference Secretariat: Lynn S.L. Gong

Email: [pesa\\_secretariat@bmail.org](mailto:pesa_secretariat@bmail.org)

Conference Website: [www.icpesa.net](http://www.icpesa.net)

Special Session Page: <https://www.icpesa.net/special-session-1.html>

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