

IEEE PEMC 2026

22nd International Power Electronics
and Motion Control Conference
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Power Electronics
and Motion Control
Conference



Special Session on

“Fuel Cell Application for Electric Vehicle and Microgrid”

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Call for Papers

Fuel cell technologies are emerging as a key enabler for sustainable transportation and resilient energy systems. In electric vehicles, fuel cells offer fast refueling, extended driving range, and zero local emissions. In microgrids, fuel cells provide reliable, low-carbon power generation, grid support, and enhanced system resiliency, particularly when integrated with renewable energy sources and energy storage systems.

This Call for Papers invites original research and review articles addressing modeling, control, power electronics, energy management, and system integration of fuel cell–based solutions for electric vehicles, Data centers and microgrids. Contributions focusing on hybrid energy systems, hydrogen infrastructure, grid-connected and islanded operation, diagnostics, reliability, and emerging applications are particularly encouraged. Both theoretical developments and experimental or real-world implementations are welcome.

Topics of interest include, but are not limited to: fuel cell technologies and modeling; power electronic interfaces and converters; energy management and control strategies; fuel cell electric vehicles; fuel cell–based microgrids; hybrid systems with renewables and storage; hydrogen production and utilization; system reliability, safety, and sustainability.

Submissions Procedure:

All the instructions for paper submission are given at the conference website:

<https://taltech.ee/en/PEMC2026/paper-submission>

Topics of interest include but are not limited to

1	DC–DC converters and inverters for fuel cell systems
2	High-efficiency power conditioning for fuel cell EVs
3	Wide-bandgap (SiC/GaN) converters for fuel cell applications
4	Multiport converters for fuel cell–battery–supercapacitor systems
5	EMI, thermal management, and reliability of power electronic interfaces for Fuel cell
6	Optimal power sharing between fuel cells, batteries, and supercapacitors
7	High-efficiency power conditioning for fuel cell