

Special Session on

Green Hydrogen: Production, Conversion, and the Full Value Chain

Green hydrogen is becoming a key solution for global decarbonization and future energy security. As renewable energy grows, developing efficient production methods, smart conversion pathways, and a well-integrated value chain is more important than ever.

This Special Session invites contributions on technologies and innovations supporting the green hydrogen ecosystem from renewable-powered electrolysis to storage, transport, conversion, and real-world applications in energy, mobility, and industry.

We especially welcome work on modeling, control, optimization, and digitalization of hydrogen systems, including emerging concepts such as the Internet of Energy (IoE), digital twins, and IoT-based monitoring and control.

Topics of interest include, but are not limited to:

- Renewable-powered electrolysis systems (PEM, alkaline, SOEC)
- ➤ Power-to-Hydrogen and Power-to-X technologies
- > Hydrogen storage, compression, liquefaction, and transport
- > Hydrogen conversion pathways (ammonia, methanol, synthetic fuels)
- ➤ Fuel cell technologies and grid-connected applications
- ➤ Hybrid renewable—hydrogen systems and multi-energy integration
- Modeling, simulation, and digital twins for hydrogen systems
- ➤ Internet of Energy (IoE) applications for hydrogen ecosystems
- ➤ IoT-enabled monitoring and control for hydrogen infrastructures
- > AI and optimization for hydrogen production and value chain management
- > Safety, reliability, and efficiency in hydrogen infrastructures
- Techno-economic and life-cycle assessments of hydrogen value chains

Organizer(s):

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Deadlines of the special session:

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Full paper submission (maximum 6 pages):	March 15, 2026
Notification of acceptance:	April 12, 2026
Final submissions due:	April 26, 2026

All the instructions for paper submission are included at the conference website. https://gpecom.org/2026/guidelines/