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Advancements in Sustainable Propulsion Technologies for Ground, Maritime and Air Transportation

Organizers

- **Rosario Miceli** (University of Palermo) - rosario.miceli@unipa.it
- **Massimo Caruso** (University of Palermo, Italy) - massimo.caruso16@unipa.it

Abstract

The transition to a sustainable and universally accessible energy system necessitates a significant overhaul of the mobility system, as transportation currently consumes 25-30% of global primary energy. Therefore, ground, marine and air mobility is expected to evolve with autonomous driving, high connectivity, electrification, implementation of innovative mobility schemes, fostering efficiency, flexibility and reduced environmental impact. In this context, this special session aims to explore the latest developments in sustainable propulsion technologies for ground, maritime, and air transportation, focusing on innovative solutions to reduce emissions, increase energy efficiency, and promote environmental sustainability across various modes of transportation.

Topics of Interest:

1. Alternative fuels and propulsion systems for ground vehicles, including electric vehicles (EVs), hydrogen fuel cells, and biofuels.
2. Energy-efficient drivetrain technologies and vehicle design optimization for improved fuel economy.
3. Sustainable propulsion solutions for maritime vessels, such as wind-assisted propulsion, hydrogen fuel cells, and battery-electric systems.
4. Advanced ground, marine and air propulsion systems and design innovations to minimize environmental impact and increase efficiency.

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5. Methodologies for advanced measurements and performance measurements of propulsion systems.
6. Sustainable aviation fuels (SAF) and electric propulsion systems for reducing carbon emissions in air transportation.
7. Novel aircraft engine designs and aerodynamic enhancements for fuel efficiency and emissions reduction.
8. Integration of renewable energy sources, such as solar and wind power, into transportation propulsion systems.
9. Smart transportation technologies and intelligent propulsion management systems for optimizing energy use and performance.
10. Regulatory frameworks and policies driving the adoption of sustainable propulsion technologies in transportation.

Proposals outside these topics can be accepted within the scope of this special session. Sources and Storage Systems applications and to bridge the gaps between research, development and implementation in terms of technological advancements.