



2024 Third International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART)

November 22-24, 2024

Call for Contributions to the Special Session on

Novel Topologies of Electrical Machines with and without Rare-Earth Magnets

By Dr. Dawei Liang and Prof. Zi-Qiang Zhu

Thematic: Electrical machines have been extensively employed in various applications, such as transportation, renewable energy generation, servo systems, and domestic appliances. On the one hand, permanent magnet (PM) machines have been used widely for many applications due to high efficiency and high torque density. Many novel PM machine topologies have been developed in recent years. On the other hand, the reliance on rare earth materials has raised concerns about cost, supply chain vulnerabilities, and environmental impacts. As a result, there has been a growing interest in the development of alternative machine topologies that utilize non-rare earth magnet materials.

This special session focuses on the latest research advancements in machine topologies of both PM and non-rare earth PM machines.

Topics of interest include, but are not limited to:

1. Novel PM machine machines, e.g., field modulated and magnetically geared PM machines, stator PM machines, axial flux PM machines, transverse flux PM machines, etc.
2. Less rare-earth, mixed PM, and hybrid excited machines.
3. Non-rare-earth machines, e.g., synchronous reluctance machines, rotor or stator wound field synchronous machines, switched reluctance machines, and induction machines.
4. Electromagnetic/multi-physical design of electrical machines in specific industrial and domestic applications.

Submission: Prospective authors are invited to submit an extended abstract of two to three A4 pages. There is no specific template. Abstracts should be submitted directly to the special session organizer via email: d.liang@sheffield.ac.uk

Deadlines:	May 24, 2024	Abstract submission
	June 15, 2024	Provisional Acceptance
	July 30, 2024	Full paper submission
	August 30, 2024	Final acceptance