

# Annual Conference of the IEEE Industrial Electronics Society (IECON 2021)

## Special Session on

### “Energy and health management of DC microgrids”

#### Organized by

**Principal Organizer:** Dr. Zhixue Zheng ([zhixue.zheng@univ-lorraine.fr](mailto:zhixue.zheng@univ-lorraine.fr))

Affiliation: Université de Lorraine & CentraleSupélec, Metz, France

**Organizer 1:** Dr. Zhongliang Li ([zhongliang.li@lis-lab.fr](mailto:zhongliang.li@lis-lab.fr))

Affiliation: Aix-Marseille Université, Marseill, France

**Organizer 2:** Prof. Yigeng Huangfu ([yigeng@nwpu.edu.cn](mailto:yigeng@nwpu.edu.cn))

Affiliation: Northwestern Polytechnical University, Xi'an, China

**Organizer 3:** Prof. Zedong Zheng ([zzd@tsinghua.edu.cn](mailto:zzd@tsinghua.edu.cn))

Affiliation: Tsinghua University, Beijing, China

**Organizer 4:** Prof. Michel Aillerie ([michel.aillerie@univ-lorraine.fr](mailto:michel.aillerie@univ-lorraine.fr))

Affiliation: Université de Lorraine & CentraleSupélec, Metz, France

## Call for Papers

### Theme:

Over the last decade, remarkable progress has been made in increasing the penetration of renewable energy sources (RES), with a majority in AC microgrid due to the dominant AC-based electrical power systems. Nevertheless, DC microgrid has demonstrated more advantages for numerous usages due to the factors: (1) natural interface to DC type RES, storage systems and loads; (2) higher efficiency and reliability due to the reduction of conversion stages; (3) simpler control system with no issues of skin effects, harmonics, synchronization, and reactive power flow. It is hence becoming an attractive solution for both residential and industrial applications. This special session is dedicated to gathering the recent works on the topics related to DC microgrid's reliability and efficiency improvement. Particularly, the energy and health management aspects will be focused on.

Topics of interest include, but are not limited to:

- Topology, modelling, and control of RES and power converters.
- Advanced energy management strategies for DC microgrids.
- Health management strategies including fault diagnostic, prognostic, and fault tolerant control.

- Stability analysis and improvement of multi-energy DC microgrids.
- Interaction of both energy and health management strategies.
- Advanced robust control for power converters using in DC microgrids.
- Novel topologies of power converters for DC microgrids.

**Submissions Procedure:** All the instructions for paper submission are included in the conference website: <https://attend.ieee.org/iecon-2021/>

**Deadlines:**

Full paper submission:	June 25, 2021
Paper acceptance notification:	July 30, 2021
Camera-ready paper submission:	Aug 27, 2021