

# Annual Conference of the IEEE Industrial Electronics Society (IECON 2022)

## Special Session on

## “Advances in Multi-port Power Converters: Applications in Energy Systems”

### Organized by

Immanuel Ninma Jiya ([immanuel.jiya@ieee.org](mailto:immanuel.jiya@ieee.org))  
University of Agder, Norway

Nand Kishor ([nand.kishor@hiof.no](mailto:nand.kishor@hiof.no))  
Østfold University College, Norway

Tuyen Vu ([tvu@clarkson.edu](mailto:tvu@clarkson.edu))  
Clarkson University, USA

### Call for Papers

#### Theme:

With the increasing integration of multiple renewable energy sources, power electronic converters have gained popularity for effective energy utilization. This is as they represent some of the most critical elements for efficient and reliable operation for application in all-electric hybrid energy systems and grid integration of renewable energy systems. All-electric hybrid energy systems have played a key role in microgrids and zero-emission transportations, to this end, hybridization in electric energy systems is a trending area of research which is fuelled by the advancements in power electronic converters.

Subsequently, multi-port converters have gained popularity not only to achieve compact integration hybrid electric energy systems, but also higher efficiency and power density. Over the past few years, several innovations have taken place.

With these opportunities for improvement in mind, this special session aims to attract the latest developments in multi-port power converters and their applications to facilitate exchange of experiences to advance this field.

#### Topics of interest include, but are not limited to:

1	Topologies, design, modelling of multi-port power converters
2	DC-DC, DC-AC, AC-DC Converters
3	Modular Multilevel Converters and Inverters, their modulation techniques
4	Control applications in integrated system, Emerging and fault tolerant control methods
5	Applications in hybrid energy resources, storage, including electric vehicles charging ports, medium-voltage/high-voltage DC transmission
6	Simulation, theoretical analysis, reliability, stability studies
7	Real-time hardware-in-the-loop (HIL) implementation, Virtual test platform of multi-port converters for energy systems

Good quality papers may be considered for publication in the IEEE Trans. on Industrial Electronics, subject to further rounds of review.

**Sponsoring IES Technical Committee(s):**

IEEE IES Technical Committee on Renewable Energy Systems (TC-RES) <https://res.ieee-ies.org/>

IEEE IES Power Electronics Technical Committee (PETC) <https://petc.ieee-ies.org/>

**Submissions Procedure:**

All the instructions for paper submission are included in the conference website: <https://iecon2022.org/>

**Deadlines:**

Full paper submission:	April 15, 2022
Paper acceptance notification:	June 17, 2022
Camera-ready paper submission:	July 29, 2022