

## WEDNESDAY 22 MARCH

9h00 Registration

9h30 Opening ceremony

- ▶ Pasquale MAMMONE, President of Artois University
- ▶ J-Luc. BÉSSÈDE, President of APIME

10h00 **Invited lecture:** Jean-François WECXSTEEN Auxel-Amphenol

10h45 Coffee break

11h00 **Electrical Energy Efficiency (Session O1)**

**Chairpersons :** Baptiste CHAREYRON / Raphaël ROMARY

- ▶ Discussion on the contribution of hybrid excitation synchronous machines for the development of sustainable electrical drives
- ▶ Realization and preliminary tests of an axial-flux synchronous machine with HTS armature windings
- ▶ Feasibility study of a cryogenic diode rectifier
- ▶ Superconducting cables and their benefits for a DC railway network

12h00 Lunch

13h30 **Electrical Grid Reliability & resiliency (Session O2)**

**Chairpersons :** Stéphane DUCHESNE / J-Christophe RIBOUD

- ▶ Lightning and surge protection of wind turbines and photovoltaic installations
- ▶ Composite Insulated Cross Arm: Electric field design and tests validations
- ▶ Integration of 3D digital models for the engineering and maintenance of high voltage substations
- ▶ A novel method for fault location in MV distribution networks with compensated neutral grounding

14h30 Coffee break

14h45 **Circular economy for electrical systems (Session O3)**

**Chairpersons :** Sophie PERSONNAZ / Hamid BEN HAMED

- ▶ Digitalized Operating Procedures Through Augmented Reality, for training and maintenance of Power equipment
- ▶ Refurbishing an old machine or replacing it by a new one: comparative study of environmental impacts.
- ▶ Innovative rotor shape for electrical machine in a recycling-oriented value chain
- ▶ Influence of Life Cycle Assessment on R&D and industrialization strategies – Use case of stationary energy storage

15h45 **Visit of LSEE (Environment and Electrical Systems research Lab) platform in Béthune:**

- ▶ 45 minutes bus travel
- ▶ Visit (1h15)
- ▶ Return in Arras at 19h15

20h00 Gala dinner in Arras, CAESAR SAVEURS



## THURSDAY 23 MARCH

8h30 **Invited lecture:** Vincent DEBUSSCHÈRE Univ. Grenoble Alpes, Grenoble INP

9h15 **Electrical Grid Reliability & resiliency (Session O4)**

**Chairpersons :** Arnaud ALLAIS / Samuel NGUEFEU

- ▶ Design differently to reduce our environmental impacts
- ▶ Energetic Macroscopic Representation Modeling and Control of a multi-sources system
- ▶ Fast integral modeling approach for the characterization of a superconducting stabilizer in DC electric grid
- ▶ Managing battery thermal load while having regards to total cost of ownership
- ▶ Applied superconductivity for electric grid

10h30 Coffee break

10h45 **Electrical Energy Efficiency (Session O5)**

**Chairpersons :** J-Philippe LECOINTE / Yacine AMARA

- ▶ Anisotropic behaviour and modelling of magnetic ageing in FeSi electrical steels
- ▶ Experimental DC microgrid in La Réunion: study of loss-savings energy on simulations and comparison with measurements on real deployment
- ▶ MVDC MgB<sub>2</sub> superconducting cable in liquid hydrogen
- ▶ Impact of Wide Band-Gap Semiconductors on the Design in Power Electronics

11h45 **Electrical Grid Reliability & resiliency (Session O6)**

**Chairpersons :** Hervé MOREL / François BALAVOINE

- ▶ MVDC superconducting cable export architecture and protection
- ▶ Environmental impacts of different electricity production scenarios in France in 2060
- ▶ A probabilistic voltage sag estimation for a robust fault location method on MV distribution feeders

12h30 Lunch

14h00 **Circular economy for electrical systems (Session O7)**

**Chairpersons :** Laurent DUPONT / Bruno DOUINE

- ▶ Remaining levers to reduce the climate change impact of today's SF<sub>6</sub>-free high-voltage equipment
- ▶ Multicriteria analysis, based on LCA, as a systemic method for industrial strategy for a greener grid
- ▶ Eco-design Implementation in Power Electronics: a Literature Review
- ▶ Alternatives of insulated wires for winding electrical machines

15h00 Closing ceremony

15h30 End of SATES