**Session Title**: Transfer, conversion and storage of thermal energy

**Introduction**:

In this ever-developing world, the hunger for energy is increasing. Most of the energy in today’s world is spent on the continuous production of drinking water, heating, cooling applications and power generation. Among all these processes, thermal energy is either the source or rejected. Understanding the transfer, conversion and storage of thermal energy, is therefore critical for optimizing these corresponding facilities to have a shorter operation duration, a higher conversion efficiency, and a larger storage capacity. In this session, we will discuss the recent advances in fundaments and technologies for transfer, conversion and storage of thermal energy.

**Topics**:

* Heat and mass transfer from atomistic scale to device scale
* Advanced and traditional thermal energy conversion technologies, e.g., solar to thermal, thermal to electricity.
* Thermal energy storage technologies, e.g., high-temperature thermal storage using molten salt
* Heat dissipation in micro/nanoelectronics or semiconductors
* Advanced cooling technologies based on conduction, convection, and radiative heat transfer

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