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Special Session

Nanotechnology for energy conversion, transportation, storage and utilization

Session Organizers:

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Session Abstract:

Nowadays, nanotechnologies are considered of big potential for decisive technological breakthroughs in optimizing the whole value added chain of energy, i.e. from development and conversion process, to transport and storage, up to the consumers' utilization. The range of possible applications in the energy sector comprises gradual short and medium-term improvements for a more efficient use of conventional and renewable energy sources, as well as completely new long-term approaches for energy saving, recovery and utilization. Aim of this session is therefore to offer an opportunity for describing which technical solutions are currently being developed and/or those already applicable, as well as for which issues new solution options will be available only in the medium to long term.

The special session will include, but will not be exclusively limited to, the following topics:

Nanostructured thermoelectric materials for direct conversion between thermal and electric energy, nanotechnology for solar thermal and solar photovoltaic devices, nano-assisted combustion, nanofluids, silicon and carbon nanostructures for novel energy storage solutions, nanotechnologyin building construction material