

MSE 2024

24 - 26 Sep 2024 (Darmstadt)

dgm.de

Topic F: Functional Materials, Surfaces and Devices

F09: Advances in Thermoelectricity: From Sustainable Materials to Energy Harvesting Devices

Functional materials are the cornerstone for addressing the challenges raised by sustainable energy supply. Among the various available technologies (e.g., photovoltaics, photocatalysis), thermoelectricity allows for recovering electricity from waste heat. In this symposium, we aim to cover all aspects of recent thermoelectric developments related to the materials synthesis and processing, thermoelectric properties measurements, calculations and simulations, design and fabrication of devices. Presenters will provide state-of-the-art research achievements in thermoelectricity for sustainable applications. As thermoelectricity is a multidisciplinary field of research, this symposium will gather scientists from physics, chemistry, materials science and engineering. The covered topics will include, but will not be limited to:

- Processing of bulk and abundant materials, nanostructures, thin films, heterostructures and nanocomposites by both bottom-up and top-down synthesis routes
- Experimental and theoretical investigations of materials with complex structures or unconventional properties, e.g., multiscale and topological materials
- Simulations methods from atomic scale to meso- and macro-scale to unravel electronic and lattice transport mechanisms and to help in the design of materials, including AI approaches
- Development of conventional, microstructured and flexible thermoelectric modules

Symposium Organizer



Dr. Pascal Boulet
Aix-Marseille University



Prof. Dr. Marie-Christine Record
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Dr. Heiko Reith
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