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NANOMATERIAL UTILIZATION AND STRUCTURAL OPTIMIZATION IN ENERGY DEVICES AND BIOMEDICAL MICROENVIRONMENTS

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DESCRIPTION

The recent development of micro/nanofabrication has expanded the research scope of synthesis, transport phenomena, and thermal analysis in energy devices and biomedical microenvironments with and without electromagnetic effects. It is necessary to develop treatment technology in tumor microenvironment with advanced functional nanomaterials. Phase change materials could optimize and improve the efficiency of energy storage system, electronics cooling system, etc. In addition, heat/mass transport processes are essential for fuel cell performance, which tightly depends on the materials of gas diffusion layer and catalyst layer. It is then necessary to deeply understand the coupling/influencing mechanisms between materials and functions in the corresponding utilizations, e.g., phase change materials on heat transfer and energy storage. The latest scientific findings and R&D trends in energy saving and performance improvement will be published based on the cooperation of researchers from different backgrounds.

This special issue aims to present state-of-the-art developments of nanomaterial utilization in energy devices and biomedical microenvironments. We will invite investigators to contribute to this special issue with original research articles and review articles on the relevant advanced science and technologies. Potential topics include but are not limited to the following issues:

- Nanomaterials in energy harvesting and thermal storage
- Gas diffusion layer/catalyst layer in fuel cells
- Efficiency optimization of electromagnetic launching
- Phase change nanomaterials in electronic devices
- Functional nanomaterials in tumor microenvironment
- Advanced optimization of heat exchangers
- Functional materials for boiling/condensation/de-icing/defogging

PUBLICATION SCHEDULE / HOW TO SUBMIT

Please note that the above topics are recommended and by no means exclusive. Studies on other research areas of this special issue are also welcomed.

All papers will go through the *Open Physics*' high standard, quick, fair, and comprehensive peer-review procedure. Before submission authors should carefully read the Instructions for Authors. Prospective authors should submit an electronic copy of their complete manuscript through the journal Manuscript Tracking System at http://www.editorialmanager.com/openphys, according to the following timetable:

Open for submissions: 1st August 2023
Paper submission deadline: 30th October 2023

When entering your submission please choose the option type of an article: "Nanomaterial utilization and structural optimization (...)". Submissions for the special issue are now open. In case of any technical problems, please contact the Managing Editor of Open Physics: **Juliusz Skoryna, Ph.D.,** Juliusz.Skoryna@degruyter.com