

# TRANSPORT PHENOMENA AND THERMAL ANALYSIS IN MICRO/NANO-SCALE STRUCTURE SURFACES

## GUEST EDITORS

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**Prof. Yongqing He**, Chongqing Key Laboratory of Micro-Nano System and Intelligent Sensing, Chongqing Technology and Business University, Chongqing 400067, China. [yqhe@ctbu.edu.cn](mailto:yqhe@ctbu.edu.cn)

**Prof. Xiaodong Ren**, Department of Thermal Engineering, Tsinghua University, Beijing 10084, China. [rxid@mail.tsinghua.edu.cn](mailto:rxid@mail.tsinghua.edu.cn)

**Prof. Oronzio Manca**, Department of Engineering, University of Campania "Luigi Vanvitelli", Naples, Italy. [Oronzio.MANCA@unicampania.it](mailto:Oronzio.MANCA@unicampania.it)

**Prof. Bengt Sundén**, Department of Energy Sciences, Division of Heat Transfer, Lund University, Lund SE-22100, Sweden. [Bengt.Sunden@energy.lth.se](mailto:Bengt.Sunden@energy.lth.se)

**Prof. Jin Wang**, School of Energy and Environmental Engineering, Hebei University of Technology, Tianjin 300401, China. [wjwcn00@163.com](mailto:wjwcn00@163.com)

## DESCRIPTION

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The recent development of micro/nanofabrication has expanded the scope of research on transport phenomena, especially in heat and mass transport processes of small-scale devices. Fundamental studies of micro- and nano- scale novel structured materials have provided many innovative solutions in thermal management, thermal energy storage, solar thermal energy conversion, water desalination, etc. An improved scientific understanding of these micro-/nano-scale transport phenomena requires the cooperation of researchers from different backgrounds, and there are still many challenges to address before these results can be adopted in practice.

The aim of this special issue is to invite contributors to present the state-of-the art developments in the fields of micro-/nano- scale transport phenomena. We invite investigators to contribute to this special issue with original research articles as well as review articles on fundamental physics of advances in thermal and fluid dynamics problems. Potential topics include, but are not limited to the following topics:

- ▶ Heat and mass transfer enhancements in micro/nano-structured devices,
- ▶ Droplet transport and characterization analysis on micro/nano-structured surfaces,
- ▶ Addition of nanoparticles for improving combustion processes,
- ▶ Micro/nano- encapsulated phase change materials in buildings,
- ▶ Micro/nano - materials for CO<sub>2</sub> capture,
- ▶ Interfacial and thermal transport processes at micro/nano - scales,
- ▶ Thermal problems related to hydrophilic or hydrophobic structured surfaces,
- ▶ Various nanofluids in solar systems,
- ▶ Functional nano-films,
- ▶ Quantum and surface effects of nanostructured materials,
- ▶ Particles/cells manipulation in micro/nano-fluidics

Please note that the above topics are recommended and by no means exclusive. Therefore, works focused on other research areas that are in the scope of this special issue are also welcomed.

## SUBMISSION DEADLINES

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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, which are located at [https://www.degruyter.com/view/supplement/s23915471\\_Instruction\\_for\\_Authors.pdf](https://www.degruyter.com/view/supplement/s23915471_Instruction_for_Authors.pdf). 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:

- ▶ **1st round: Manuscript Due: Sep. 15, 2020**
- ▶ **1st round: Review Due: Nov. 1, 2020**
- ▶ **1st round: Publication Date: Dec. 15, 2020**

When entering your submission please choose the option type of an article: **“Transport phenomena and thermal analysis in micro/nano-scale structure surfaces”**

Submissions for the special issue are now open.

In case of any technical problems, please contact the Managing Editor of Open Physics:  
Paulina Leśna-Szreter PhD, [Paulina.Lesna-Szreter@degruyter.com](mailto:Paulina.Lesna-Szreter@degruyter.com)