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Special Issue on Heat and Mass Transfer in Biotechnology

Heat and mass transfer in biotechnology (HMTB) plays a crucial role in applications like cryopreservation, drug delivery, cryosurgery, laser-cell interactions, stem-cell engineering, diagnostics and thermal therapies including photo-thermal, high intensity focused ultrasound, microwave, radio frequency, and magneto-thermal. Studying the fundamentals of HMTB mechanisms and exploring novel applications are of both academic and technological significance.

This Special Issue will focus on the recent advances in the field of HMTB and its applications. Review and original research papers in both experimental and theoretical aspects are welcome and all manuscripts will be peer reviewed.

Topic Areas

- Experimental and computational cryosurgery, cryotherapy, cryoablation and cryopreservation
- Calorimetry for single biological cell studies
- Laser-induced thermal, mechanical and radiative transport processes for biomedical applications
- Laser-plasmonic nanoparticle interactions
- Biomaterials with spatiotemporal complexity to encapsulate and deliver small molecules, genes and peptides/proteins
- Thermal therapies in conjunction with immunotherapy
- Heat transport in drug delivery
- Thermal modulation at the cellular level and associated systemic response
- Thermally based diagnostics
- Targeted molecular thermal modulation

Publication Target Dates

Paper submission deadline: **June 30, 2021**
Initial reviews completed: **August 15, 2021**
Special Issue publication date (tentative): **October 30, 2021**

Submission Instructions

Papers should be submitted electronically to the journal at journaltool.asme.org. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the [ASME Journal of Heat Transfer](#) and then select the Special Issue **Heat and Mass Transfer in Biotechnology (HMTB)**.

Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

Special Issue Editors

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