



Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

International Journal of Heat and Mass Transfer

journal homepage: www.elsevier.com/locate/ijhmt



Editorial

Biomedical-related special issue

The motivation for this special issue is to illustrate the dynamism and growing breath of the sister fields of heat transfer, mass transfer, and fluid flow. The need for breakthroughs in human health care has fostered interdisciplinary research involving both medical and engineering professionals. One area where collaborative work has been especially fruitful is in biological systems where both heat, mass, and fluid flow play major roles, both with regard to the proper functioning of those systems and to novel therapeutic procedures. For example, thermal-based therapies involving energy deposition by laser irradiation and by heating via microwaves, ultrasound, and radio frequencies are beginning to replace conventional surgeries. Surgical replacement by use of cryoprobes is also gaining favor.

This special issue illustrates the penetration of heat, mass, and fluid flow phenomena into biomedical problems. I have asked Professors John P. Abraham and Ephraim M. Sparrow to take charge of editing this special issue. They have brought together a group of illustrious biomedical and engineering professionals who have

contributed a stunning array of papers encompassing a wide breadth of biomedical applications in which heat, mass, and fluid flow play central roles. I am grateful to these guest editors and to the participating authors for making this special issue a milestone issue.

Editor-in-Chief

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Available online 13 June 2008