ASME Journal of Heat and Mass Transfer
Online journal at:
https://asmedigitalcollection.asme.org/heattransfer

Guest Editorial

Special Issue: First James V. Beck Memorial Symposium on Inverse Problems, Parameter Estimation, and Heat Conduction

The James V. Beck Memorial Symposium at the ASME Summer Heat Transfer Conference (SHTC) provides a platform for researchers to exchange ideas, showcase research achievements, and discuss new developments in the areas of inverse problems, parameter estimation, and heat conduction. This symposium is held in memory of Professor James V. Beck, a pioneer in inverse problems and parameter estimation, and a highly respected contributor to the field of heat transfer, particularly in heat conduction.

The inaugural session of the James V. Beck Memorial Symposium was held during SHTC 2023. This special issue features a selection of papers presented at the conference which were recommended for publication in the *ASME Journal of Heat and Mass Transfer* after completing the journal's peer review process. These papers represent the symposium's scope, covering novel solutions to heat conduction problems [1,2], real-world applications of parameter estimation in heat transfer [3], and solutions to inverse heat transfer problems [4], including applications of artificial intelligence and intelligent algorithms in solving inverse problems [5–7].

The ASME James V. Beck Memorial Symposium will be held every three years during the Summer Heat Transfer Conference. We hope you consider attending this exciting event in the future.

Hamidreza Najafi
Department of Mechanical and Civil Engineering,
Florida Institute of Technology,
Melbourne, FL 32901

Keith Woodbury
Department of Mechanical Engineering,
University of Alabama,
Tuscaloosa, AL 35487

Kevin Dowding
Sandia National Laboratories,
Albuquerque, NM 87185

References

[1] de Monte, F., Woodbury, K. A., and Najafi, H., 2024, "Construction of Short-Time Heat Conduction Solutions in One-Dimensional Finite Rectangular Bodies," ASME J. Heat Mass Transfer-Trans. ASME, **146**(9), p. 091402.
[2] Goudarzi, S., Lam, L. S., Muzychka, Y. S., and Naterer, G. F., 2024, "Transient Thermal Spreading From a Circular Heat Source in Polygonal Flux Tubes," ASME J. Heat Mass Transfer-Trans. ASME, **146**(9), p. 091102.
[3] Woodbury, K. A., Cutler, G., Najafi, H., and Kota, M., 2024, "Estimation of Multiple Contact Conductances in a Silicon-Indium-Silicon Stack," ASME J. Heat Mass Transfer-Trans. ASME, **146**(9), p. 091401.
[4] Peruchi, Pacheco da Silva, R., Woodbury, K., Samadi, F., and Carpenter, J., 2024, "Band Heater Heat Flux Characterization Using Inverse Heat Conduction Problem Models," ASME J. Heat Mass Transfer-Trans. ASME, **146**(9), p. 091101.
[5] Allard, D., and Najafi, H., 2024, "Genetic Algorithm as the Solution of Non-Linear Inverse Heat Conduction Problems: A Novel Sequential Approach," ASME J. Heat Mass Transfer-Trans. ASME, **146**(9), p. 091404.
[6] Nascimento, J. G., Menegaz, G. L., and Guimaraes, G., 2024, "Artificial Intelligence-Based Thermal Imaging for Breast Tumor Location and Size Estimation Using Thermal Impedance," ASME J. Heat Mass Transfer-Trans. ASME, **146**(9), p. 091201.
[7] Olabiyi, R., Pandey, H., Hu, H., and Iquebal, A., 2024, "A Bayesian Spatiotemporal Modeling Approach to the Inverse Heat Conduction Problem," ASME J. Heat Mass Transfer-Trans. ASME, **146**(9), p. 091403.

