

ANNOUNCEMENT

International Centre for Heat and Mass Transfer Symposium on Molecular and Microscale Heat Transfer in Materials Processing and Other Applications

1–5 December 1996, Yokohama, Japan

This symposium is cosponsored by the Institute of Industrial Science, University of Tokyo.

OBJECTIVES

The understanding of transport processes from molecular and microscale points of view has become of increasing importance in newly developing areas of heat and mass transfer, e.g. materials processing, micro-mechatronics and micro-biotechnology. The length scale at issue is of the order of a micrometer to a nanometer. Many of the classical methods of handling the transport processes are ineffective and a new paradigm should be established. Strenuous efforts have been made in many countries to develop the frontiers of molecular and microscale heat transfer. This international symposium is planned to bring together scientists and engineers from all over the world who are active in the area of microscale heat transfer. It will serve as a forum for exchange information and experience in this new area, and as a means of encouraging cooperation and stimulating future research.

TOPICS

The topics to be discussed at the symposium will include but are not limited to:

- Molecular dynamics approach to heat conduction,

evaporation, condensation, melting, solidification and light–interface interaction.

- Microscale heat and mass transfer in formation of a thin film or ultra-fine particles, and in crystal growth from a melt or a solution.
- Microscale measurement and active control in injection molding of polymers.
- Molecular and microscale heat and mass transfer in manufacturing of materials by ultra-rapid cooling.
- Microscale heat and mass transfer in plasma processing.
- Measurement of temperature and thermophysical properties utilizing atomic- or molecular-scale phenomena.
- Nano-scale processing using atomic force or electron microscopy.
- Phase change heat transfer in ultra-high precision processing using electron beam, ion beam, laser beam or electric discharge.

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