



ANNOUNCEMENTS

EUROTHERM Seminar No. 53: Advanced Concepts and Techniques in Thermal Modelling

8–10 October 1997, Thermique et Emploi des Combustibles, Faculté Polytechnique de Mons, Mons, Belgium

EUROTHERM 53

This is the second Eurotherm seminar devoted to the topic “Advanced concepts and techniques in thermal modelling”. It is a wish of the participants to the first seminar, in 1994, that a review be made—periodically—of the **progress achieved in the field of thermal modelling**. It is also an opportunity to establish a **contact with scientists who practice modelling in other disciplines and use concepts and methods**—less familiar to the thermal scientists—that could be applied, with some advantage, in thermal modelling.

SCOPE OF THE SEMINAR

The **scope of the seminar** will then be best specified by developing the content of the term “modelling”. Four headings may be distinguished: motivation, mathematical formulation, equation transformation, and (numerical) solution. Numerous variations exist under these different headings:

- **motivation**: beside mere *simulation*, there may be *stability investigation*, *identification of boundary conditions*, *parameter identification* (physical property or empirical coefficient), *data reconciliation*, *sensitivity analysis*, *optimization*, *monitoring and/or control*, *safety study*, ...
- **mathematical formulation** (model building): most commonly, it is based on the application of the *conservation principles to a volume element of continuous medium*; variety may result from the diversity of the *phenomena or effects taken into account*; but one may derive equations

from the application of *variational principles* or use “universal” stereotypes like state equations, bondgraphs, neural networks, ... On the other hand, namely for non-continuous medium, the “principles” are to be expressed for a population of individuals: e.g. *Monte Carlo*, *molecular dynamics*, ... and some particular features like *fractality* may occur.

- **equation transformation** may consist of *discretization* (*spatial, spectral, modal, ...*) *preconditioning*, *mathematical transformation* (*body-fitted coordinates, Laplace transforms, ...*), *Lagrangian recasting*, *order reduction*, *filtering*, ...
- finally, numerous variations still exist at the **solution level**: those corresponding to the peculiarities of the equations to be solved (*non-linearities, matrix structure, stiffness, ill-conditioning, ...*), but also those related to computational efficiency (*adaptive meshing, adaptive time steps, multigrid, ...*) or the structure of the computer (*parallel computation, ...*).

SEMINAR SECRETARIAT

For further information please contact:

Dr P. Lybaert
 Thermique et Emploi des Combustibles
 Faculté Polytechnique de Mons
 Rue de l'Épargne 56
 B-7000 Mons
 Belgium
 Phone: +32 (65) 37 44 59
 Fax: +32 (65) 37 44 00
 e-mail: euro53@stecsgl.fpm.ac.be

The Tenth International Symposium on Transport Phenomena (ISTP-10) in Thermal Science and Process Engineering

30 November–3 December 1997, Kyoto Research Park, Kyoto, Japan

BACKGROUND

This multidisciplinary, international conference will provide a forum for researchers and practitioners to exchange information, present new developments, and discuss the future directions and priorities in the areas of transport phenomena. The conference theme for ISTP-10 is **Thermal Science and Process Engineering** in the 21st century. Previous ISTP symposia were Honolulu 1985 (Rotating Machinery), Tokyo 1987 (Turbulent Flows), Taipei 1988 (Thermal Control), Sydney 1991 (Heat and Mass Transfer), Beijing 1992 (Heat

Transfer), Seoul 1993 (Thermal Engineering), Acapulco 1994 (Transport Phenomena in Manufacturing Processes), San Francisco 1995 (Combustion) and Singapore 1996 (Thermal Fluids Engineering).

SCOPE

Papers which deal with any aspects of transport phenomena ranging from fundamental sciences to applied tech-

nologies in thermal science and process engineering are invited. Topics include but are not limited to:

aerospace, advanced energy systems, automotive, bioengineering, boiling, chemical process systems, combustion and reacting flows, combustors, computational fluid dynamics, condensation, conduction and insulation, cryogenic engineering, electronics cooling, energy and environment, forced, natural and mixed convection, heat exchangers, interfacial phenomena, material processing, measurement and experimental techniques, melting and freezing, mining and metallurgical engineering, multiphase flow, ocean and marine sciences, petrochemical engineering, porous and particulate systems, process engineering, propulsion and power, radiation, refrigeration and air conditioning, rotating machines,

solar energy, thermal energy storage, thermal-fluids machinery, transport properties of gases, liquids, and solids, turbulence and flow instabilities.

CONFERENCE SECRETARIAT

Please address all correspondence to:
 Professor K. Suzuki
 ISTP-10 Secretariat
 Department of Mechanical Engineering
 Kyoto University
 Kyoto 606-01, Japan
 Phone: +81-75-753-5250
 Fax: +81-75-753-5851
 e-mail: ksuzuki@htrans.mech.kyoto-u.ac.jp

11th International Heat Transfer Conference

23–28 August 1998, Kyongju, Korea

The International Heat Transfer Conferences are held every 4 years, with the purpose of bringing together the international heat transfer community. The 11th Conference will cover both fundamental and applied topics in heat transfer, including ablation, aerospace heat transfer and energy conversion system, aerothermodynamics, biological heat transfer, biotechnology, boiling and condensation, buoyancy driven flows, chaos in heat transfer, combined heat and mass transfer, combustion, computational fluid dynamics and heat transfer, conduction, cryogenic heat transfer, electric systems, environmental heat transfer, forced, natural and mixed convection, heat exchangers, heat pipes and capillary pumped loops, heat transfer at very high fluxes, heat transfer augmentation, heat transfer in energy conservation and renewable energy, heat transfer in turbomachinery and gas turbines, insulation, interfacial phenomena, manufacturing

heat transfer, measurement techniques, melting and freezing, micro-scale heat transfer, modelling and numerical techniques, nuclear reactor systems, particulate and porous media, process equipment, radiation, solar energy, spacecraft thermal control, stability problems in heat transfer, thermal energy storage, thermophysics, thin-film heat transfer, transport properties, two phase flow.

For further information, please contact:
 Professor J. S. Lee
 Department of Mechanical Engineering
 Seoul National University
 Seoul 151-742, Korea
 Phone: +82 (0) 2 880 7117
 Fax: +82 (0) 2 883 0179
 e-mail: jslee@gong.snu.ac.kr