

### SHTC 2009 Committee Meetings Schedule

DAY	TIME	COMMITTEE
<b>SUNDAY</b>		
Yorkshire	2:30-4:00pm	HTD EC (Closed)
Yorkshire	4:00-5:30pm	HTD EC (Open)
Victorian	4:00-5:30pm	HTD Membership Development and Recognition
Elizabethan A/B	6:00-7:00pm	Conference Opening Reception
Yorkshire	7:30-9:00pm	HTD 2009 IMECE Planning
<b>MONDAY</b>		
Cambridge	11:00am-12:30pm	Max Jakob Board of Award
Cambridge	2:00-3:30pm	Organizing Committee, IHTC Washington DC
Mayfair	4:00-5:30pm	2010 SHTC Planning
Sussex	3:30– 5:30pm	JHT Board of Associate Editors
Cambridge	5:30 – 7:00pm	HTD K-6
Derby	5:30 – 7:00pm	HTD K-15
Sussex	5:30 – 7:00pm	HTD K-12
Mayfair	7:30 – 9:00pm	HTD K-10
<b>TUESDAY</b>		
Cambridge	8:30 – 10:00am	HTD K-8
Derby	8:30 – 10:00am	HTD K-13
Derby	11:00am – 12:30pm	HTD 2011 ASME/JSME/KSME Planning
Cambridge	11:00am – 12:30pm	HTD 2009 IMECE Planning
Mayfair	11:00am – 12:30pm	HTD K-2
Sussex	11:00am – 12:30pm	HTD K-11
Cambridge	2:00-3:30pm	HTD K-3 Honors and Awards Committee
Derby	2:00-3:30pm	Council of Past HTD Chairs
Sussex	2:00-3:30pm	HTD K-19
Cambridge	4:00 – 5:30pm	HTD K-20
Derby	4:00 – 5:30pm	HTD K-22
Grand Ballroom	7:00-9:00pm	HT Awards Banquet
<b>WEDNESDAY</b>		
Cambridge	9:30 – 11:00am	Summer Conference Participating Division Leadership
Mayfair	11:00am – 12:30pm	HTD K-5
Georgian	5:30 – 7:00pm	K-16

(Add tutorial sessions of InterPack. If it will be there for the final program then ignore this.)

## MONDAY, July 20, 2009

7:00 – 8:00

Grand Ballroom Author's Breakfast

8:00 – 9:30

### PARALLEL SESSIONS

California East (8:30 – 9:30)

**KEYNOTE: Symposium on Radiative Heat Transfer  
in Honor of Prof. Michael F. Modest's 65th birthday**  
Chair: Sandip Mazumder, *Ohio State University*  
Co-Chair: Brent Webb, *Brigham Young University*

**88648 Overview of Radiative Transfer in Cellular Porous Materials**  
R. Viskanta, *Purdue University*

**Nano-scale Radiative Heat Transfer for Large-Scale Environmental Issues**  
(presentation only)  
Shigenao Maruyama, *Tohoku University, Japan*

Elizabethan A

**Sensitivity and Uncertainty in Computational Heat Transfer**  
Chair: Ashley Emery, *University of Washington*  
Co-Chairs: Kevin Dowding, *Sandia Labs*

**88521 Calibration of the Sandia One-Dimensional Direct and Inverse Thermal (SODDIT)  
Code for Estimating Heat Flux to a Large Pipe Calorimeter in a Jet Fuel Fire**  
Tim Bullard, *University of Nevada*  
Miles Greiner, *University of Nevada*

**88072 Molecular Dynamics Problem Initialization and Statistics Collection for Arbitrary  
Geometries**  
Aaron P. Wemhoff, *Villanova University*  
Geoffrey Haas, *Villanova University*

**88491 Comparison of Analytical and Computational Thermal Models for Gas Metal Arc  
Braze Welding**  
Sanjiv E. Shah, *University of Texas at Austin*  
Jason C. Lee, *University of Texas at Austin*  
Carlos Rios-Perez, *University of Texas at Austin*  
Carolyn Conner Seepersad, *University of Texas at Austin*

**88145 Numerical Study of Flow and Heat Transfer in Novel Structure Packed Beds**  
Jian Yang, *Xi'an Jiaotong University*  
Qiuwang Wang, *Xi'an Jiaotong University*  
Min Zeng, *Xi'an Jiaotong University*

Elizabethan B

**Thermophysical Properties of Nanomaterials**

Chair: Heng Ban, *Utah State University*

**88347 Thermal Conductivity of  $\alpha$ -Tetragonal Boron Nanoribbons**

Scott W. Waltermire, Vanderbilt University  
Juekuan Yang, Vanderbilt University  
Deyu Li, Vanderbilt University  
Terry T. Xu, University of North Carolina at Charlotte

**88450 Flow Characteristics of Aluminium Oxide Nanofluids**

Vanessa M. Egan, University of Limerick  
Patrick A. Walsh, University of Limerick  
Edmond J. Walsh, University of Limerick

**88618 Development of a Quantitative Nanoscale Thermal Conductivity Profiling Technique by the Removal of Influence Due to Heat Transfer through the Air**

Kyeongtae Kim, Korea University  
Jaehoon Chung, Korea University  
Gwangseok Hwang, Korea University  
Ohmyoung Kwon, Korea University  
Joon Sik Lee, Seoul National University  
Seungho Park, Hongik University  
Young Ki Choi, Chung-Ang University

**88269 Thermal Models for Determining Thermal Conductivity and Thermal Boundary Conductance Using Pump-Probe Thermoreflectance Techniques**

Patrick E. Hopkins, Sandia National Laboratories  
R. Serrano, Sandia National Laboratories  
Leslie M. Phinney, Sandia National Laboratories

Victorian

**Fundamentals of Single Phase Convection I**

Chair: Patrick Oosthuizen, *Queen's University*  
Co-Chairs: Chris Kobus, *Oakland University*

**88001 Numerical Simulations of an Unsteady Confined Natural Convection Flow**

Gillian Leplat, ONERA - The French Aerospace Lab  
Emmanuel Laroche, ONERA - The French Aerospace Lab  
Philippe Reulet, ONERA - The French Aerospace Lab  
Pierre Millan, ONERA - The French Aerospace Lab

**88003 Study of Natural Convection in Volumetrically Heated Enclosures for Different Aspect Ratios and Prandtl Numbers**

Parameshwar Deshmukh, Indian Institute of Technology Bombay  
Sushanta K. Mitra, University of Alberta  
U. N. Gaitonde, Indian Institute of Technology Bombay

**88046 Natural Convection Flow in Vertical Channel Due to Ramped Wall Temperature at One Boundary**

Narahari Marneni, Universiti Teknologi Petronas  
Vijay R Raghavan, Universiti Teknologi Petronas

**88091 An Interaction of Natural Convective Heat Transfer from Two Adjacent Isothermal Narrow Vertical and Inclined Flat Plates**

Abdulrahim Kalendar, Queen's University  
Patrick H. Oosthuizen, Queen's University  
Bader Kalendar, College of Technological Studies

**88093 Natural Convective Heat Transfer from an Array of Square Vertical Plates Mounted on a Large Plane Vertical Adiabatic Surface and with One High Heat Flux Element**  
Patrick H. Oosthuizen, Queen's University  
Jane T. Paul, Queen's University

**88094 Natural Convective Heat Transfer from an Inclined Isothermal Square Cylinder with an Exposed Top Surface Mounted on a Flat Adiabatic Base**  
Abdulahim Kalendar, Queen's University  
Patrick H. Oosthuizen, Queen's University

Kent

**Thermal Management Systems and High Heat Flux Cooling for Avionics (Electronics)**

Chair: Erol Ulucakli, *Lafayette College*  
Co-Chairs: Julie Asfia, *Boeing Company*  
Amy Fleischer, *Villanova University*  
Jeff Punch, *University of Limerick*

**88192 A Method for Rapid Estimation of Fluid Temperature Drop in Duct Flows**  
A. S. Krishnan, Kumaraguru College of Technology  
K. Srinivasan, Defence Research and Development Laboratory

**88512 Impinging Jet on a Concave Surface for Aircraft Anti-Icing**  
V. Bianco, Seconda Università degli Studi di Napoli  
O. Manca, Seconda Università degli Studi di Napoli  
S. Nardini, Seconda Università degli Studi di Napoli  
M. Roma. Piaggio Aero Industries

**88189 Air Jet Impingement Heat Transfer at Low Nozzle-to-Plate Spacings under a Fixed Pumping Power Condition**  
Kyo Sung Choo, KAIST  
Sung Jin Kim, KAIST

**88303 Numerical Evaluation of 2D and 3D Steady and Unsteady Flows of a Pair of Opposed Confined Impinging Air Jets**  
Victor Chiriac, Freescale Semiconductor Inc.  
Jorge L. Rosales, Phoenix Analysis & Design Technologies

Borgia

**Transport Phenomena in Manufacturing and Materials Processing I**

Chair: Sy-Bor Wen, *Texas A&M University*  
Co-Chairs: Ronghui Ma, *The University of Maryland*  
Calvin Li, *The University of Toledo*

**88142 Advanced Scaling Techniques for the Modeling of Materials Processing**  
Karem Tello, Colorado School of Mines  
Ustun Duman, Colorado School of Mines  
Patricio Mendez, University of Alberta

**88220 Experimental Study of Forced Convection Heat Transfer of Water in a Short Micro Duct at Turbulent Reynolds Number**  
Iltesham Z. Syed, Michigan Technological University.  
Abhijit Mukherjee, Michigan Technological University

**88265 Simulation of Thermal Transport in a Nanocomposite Blow Mold**

M. K. Alam, Ohio University

P. Klein, Ohio University

D. Garg, Ohio University

**88321 Experimental and Numerical Study on the Cold Start Performance of a Single PEM Fuel Cell**

Calvin H. Li, University of Toledo

John Beatty, University of Toledo

Sam Durbin, University of Toledo

Paul Hodgins, University of Toledo

Peter Kwasniak, University of Toledo

**88407 Study the Shielding Gas Effect on the Metal Transfer and Weld Pool Dynamics in GMAW**

Z.H. Rao, Central South University

J. Hu, University of Bridgeport

S.M. Liao, Central South University

H.L. Tsai, Missouri University of Science and Technology

**9:30 – 10:00**

Italian Room

Refreshment Break

**10:00 – 11:00**

Tower A

**Keynote (Summer Heat Transfer Conference)**

**The Nature and Treatment of Thermal Radiation from High-Temperature Gases and Plasmas**

Michael Modest, Pennsylvania State University

**11:00-12:30**

**PARALLEL SESSIONS**

Tower A

**Symposium on Radiative Heat Transfer**

**in Honor of Prof. Michael F. Modest's 65th birthday I**

Chair: Sandip Mazumder, *Ohio State University*

Co-Chair: Brent Webb, *Brigham Young University*

**88033 Green's Function Approach to Nonlinear Conduction and Surface Radiation Problems**

Matthew R. Jones, Brigham Young University

Vladimir P. Solovjov, Brigham Young University

**88035 Adjoint Equations and Error Measure in Radiative Heat Transfer with Diffuse Reflection**

Pierre E. Vueghs University of Liège

Pierre Rochus, University of Liège

**88060 A Brief History of the  $T^4$  Radiation Law**

John Crepeau, University of Idaho

**88065 Conservative Interpretation of Nonconservative Discrete Ordinates Radiative Intensity Distribution**

Kihwan Kim, Korea Advanced Institute of Science and Technology

Seok Hun Kang, Korea Institute of Energy Research

Tae-Ho Song, Korea Advanced Institute of Science and Technology

**88120 Narrow-Band  $k$ -Distribution Database for Atomic Radiation in Hypersonic Nonequilibrium Flows**

Ankit Bansal, Pennsylvania State University,  
Michael F. Modest, Pennsylvania State University  
Deborah Levin, Pennsylvania State University

Elizabethan A

**Thermal Issues in Combined Heat, Power, and Cooling Systems**

Chair: S.A. Sherif, *University of Florida*  
Co-Chair: Laura A. Schaefer, *University of Pittsburgh*

**88143 A Numerical Study on Heat Transfer Characteristics of CO<sub>2</sub>-DME Mixture Fluid**

Xin-Rong Zhang, Peking University  
Jia Liu, Peking University  
Hiroshi Yamaguchi, Doshisha University

**88641 Steam Ejector Used as a Substitute for Cooling Tower in the Ethanol Production Process**

Luiz Antonio, Instituto de Pesquisas Energéticas e Nucleares  
Negro Martin Lopez, Instituto de Pesquisas Energéticas e Nucleares  
Daniel Kao, Instituto de Pesquisas Energéticas e Nucleares

**88551 Analysis of Single-Phase Convective Heat Transfer and System COP at Higher Power Levels in Thermoelectric-Based Hydronic Cooling and Heating Device**

Michael J. Kazmierczak, University of Cincinnati  
Abhishek Gupta, University of Cincinnati

**88426 Use of the Linear Driving Force Approximation in Adsorption Heat Pump and Chiller Modeling**

Alex Raymond, Georgia Institute of Technology  
Srinivas Garimella, Georgia Institute of Technology

**88399 Two and Three-Dimensional Simulations of Enhanced Heat Transfer in Nuclear Fuel Rod Bundles**

Leo A. Carrilho, Westinghouse Electric Co.  
Jamil Khan, University of South Carolina  
Michael E. Conner, Westinghouse Electric Co.  
Abdel Mandour, Westinghouse Electric Co.  
Milorad B. Dzodzo, Westinghouse Electric Co.

**88326 Evaluation of Thermal Comfort and Energy Demands in University Classrooms**

Sobia Farooq, University of Texas at Tyler  
Fredericka Brown, University of Texas at Tyler

Elizabethan B

**Transport Phenomena in Fuel Cells**

Chair: Pradip Majumdar, *Northern Illinois University*  
Co-Chairs: Jianhu Nie, *University of Nevada, Las Vegas*  
Yitung Chen, *University of Nevada Las Vegas*

**88630 Heat and Mass Transport Analysis of Polymer Electrolyte Membrane Fuel Cell with Bipolar Plates**

Pavan Kumar Konnepati, Northern Illinois University  
Pradip Majumdar, Northern Illinois University

**88355 Toward the Detailed Simulation of the Heat Transfer Processes in Unsaturated Porous Media**

F. A. Jafar, Victoria University  
G. R. Thorpe, Victoria University  
Ö.F. Turan, Victoria University

**88354 Numerical Simulation of Fluid Transport in a Single Micro-Nano Pore of Porous Membrane**

Yang Chu, Graduate University of Chinese Academy of Sciences  
Junfeng Lu, Chinese Academy of Sciences  
Wen-Qiang Lu, Graduate University of Chinese Academy of Sciences

**88423 An Investigation of Scale Variation in Multi-Layer Mini- and Micro- Channel Heat Sinks in Single Phase Flow Using a Two Equation Porous Media Model**

Bryan Hassell, Villanova University  
Alfonso Ortega, Villanova University

Victorian

**Fundamentals of Single Phase Convection II**

Chair: Patrick Oosthuizen, *Queen's University*  
Co-Chairs: Chris Kobus, *Oakland University*

**88461 Effect of Turbulent Prandtl Number on Convective Heat Transfer to Turbulent Upflow of Supercritical Carbon Dioxide**

Majid Bazargan, K.N.Toosi University of Technology  
Mahdi Mohseni, K.N.Toosi University of Technology

**88447 Numerical Investigation the Effect of Transversal Septa on Forced Convection in Circular Tubes**

O. Manca, Seconda Università degli Studi di Napoli  
S. Nardini, Seconda Università degli Studi di Napoli  
D. Ricci, Seconda Università degli Studi di Napoli

**88445 Numerical Analysis on the Effects of Transversal Ribs on Forced Convection in Channels**

O. Manca, Seconda Università degli Studi di Napoli  
S. Nardini, Seconda Università degli Studi di Napoli  
D. Ricci, Seconda Università degli Studi di Napoli  
S. Tamburrino, Seconda Università degli Studi di Napoli

**88424 Forced Convection between a Wire and an Upward Flow Slot Submerged Jet: Preliminary Remarks**

Federica Baffigi, University of Pisa  
Carlo Bartoli, University of Pisa

**88382 Symbolic Calculation for Free Convection in a Circular Cavity with Periodic Heat Generation**

Kamyar Mansour, Amirkabir University of Technology

**88376 Linear Stability Analysis for the Onset of Convection during Microwave Heating of Samples Confined within Horizontal Plates**

Madhuchhanda Bhattacharya, Indian Institute of Technology Madras  
Tanmay Basak, Indian Institute of Technology Madras

Kent

**Heat Pipe Heat Transfer**

**Chair:** Jay Ochterbeck, *Clemson University*  
**Co-Chair:** Steve Cai, *Teledyne Scientific Co.*

**88076 Thermal Property Measurements of Carbon Nanotube Forest Synthesized by Thermal CVD Process**

Qingjun Cai, Teledyne Scientific & Image Company  
Bing-chung Chen, Teledyne Scientific & Image Company  
Yuan Zhao, Teledyne Scientific & Image Company  
Julia Mack, Teledyne Scientific & Image Company  
Yanbao Ma, Teledyne Scientific & Image Company  
Chung-lung Chen, Teledyne Scientific & Image Company  
Hengzhi Wang, Boston College  
Zhifeng Ren, Boston College

**88077 High Heat Flux Phase Change of CNT Bi-Wick Structure Using Integrated Platinum Temperature Thermometer and Heater**

Qingjun Cai, Teledyne Scientific & Image Company  
Chialun Tsai, Teledyne Scientific & Image Company  
Yuan Zhao, Teledyne Scientific & Image Company  
Chung-lung Chen, Teledyne Scientific & Image Company

**88243 Mathematical Modeling of a Miniature Loop Heat Pipe with Two Evaporators and Two Condensers**

Jentung Ku, NASA Goddard Space Flight Center  
Triem Hoang, TTH Research, Inc.  
Tamara O'Connell, TTH Research, Inc

**88421 Thermal Performance of a Thin Flat Plate Heat Pipe**

Wei Qu, Chinese Academy of Sciences  
Shijuan Li, Chinese Academy of Sciences  
Hongwu Yang, Sanwei Heat Transfer Technology Co

**88205 Evaporators for High Temperature Lift Vapor Compression Loop for Space Applications**

Tadej Semenic, Advanced Cooling Technologies, Inc  
Xudong Tang, Advanced Cooling Technologies, Inc  
Eric Sunada, Jet Propulsion Laboratory

*Borgia*

**Transport Phenomena in Manufacturing and Materials Processing II**

**Chair:** Sy-Bor Wen, *Texas A&M University*  
**Co-Chairs:** Ronghui Ma, *The University of Maryland*  
Calvin Li, *The University of Toledo*

**88562 Moving Heat Sources in a Half Space: Effect of Source Geometry**

Mohsen Akbari, Simon Fraser University  
David Sinton, University of Victoria  
Majid Bahrami, Simon Fraser University

**88587 Experimental Evidence of Density and Mechanical Properties Enhancements of Binary Alloys by Solidification Subject to Vibrations**

J. Vadasz J., University of Pretoria  
J. P. Meyer J.P., University of Pretoria  
S. Govender S., University of Pretoria  
M. Andrick M., University of Pretoria  
W. Carter W., University of Pretoria  
H. Ebrahim H., University of Pretoria

A. Naidoo A., University of Pretoria  
I. Ngubane I., University of Pretoria  
M. Ogle M., University of Pretoria

**88388 The Role of Aperture in the Extraction of Functional Components from Plant Materials**

Qianqian Di, Tianjin University  
Junhong Yang, Tianjin University  
Jun Zhao, Tianjin University  
Liqiu Wang, University of Hong Kong

**88389 Mechanism on Mass Transfer in Micro-Scale during the Microwave Drying of Plant Porous Materials**

Junhong Yang, Tianjin University  
Qianqian Di, Tianjin University  
Jun Zhao, Tianjin University  
Liqiu Wang, University of Hong Kong

**88384 Semi Analytical Prediction of Automobile Body Temperature Distribution in the Top Coat Paint Oven**

P. Hanafizadeh, Sharif University of Technology  
B. Sajadi, Sharif University of Technology  
M. H. Saidi, Sharif University of Technology  
H. Khalkhali, IKCO. Expert  
M. Taherraftar, IKCO. Expert

**12:30 – 2:00**

Grand Ballroom

Lunch for Conference Attendees

**14:00-15:30**

**PARALLEL SESSIONS**

Tower A

**Symposium on Radiative Heat Transfer  
in Honor of Prof. Michael F. Modest's 65th birthday II**

Chair: Sandip Mazumder, *Ohio State University*  
Co-Chair: Brent Webb, *Brigham Young University*

**88019 Radiation Characteristics of Promising Algae for CO<sub>2</sub> Fixation and Biofuel Production**

Halil Berberoğlu, University of California, Los Angeles  
Pedro S. Gomez, University of California, Los Angeles  
Laurent Pilon, University of California, Los Angeles

**88023 Modeling of Radiative Heat Transfer in 2D Complex Furnace of Biomass Pyrolysis Fumes: A Study of Shadow Effect**

Mohamed Ammar Abbassi, METS - ENIS - IPEIS  
Kamel Guedri, Unité de Recherche d'Etude des Milieux Ionisés et Réactifs  
Mohamed Naceur Borjini, Unité de Recherche d'Etude des Milieux Ionisés et Réactifs  
Kamel Halouani, METS - ENIS - IPEIS  
Belkacem Zeghmati, LAMPS Université de Perpignan via Domitia

**88031 Tomography-Based Heat and Mass Transfer Characterization of Reticulate Porous Ceramics for High-Temperature Processing**

Sophia Haussener, ETH Zurich

Patrick Coray, Paul Scherrer Institute  
Wojciech Lipiński, University of Minnesota  
Peter Wyss, EMPA Duebendorf  
Aldo Steinfeld, ETH Zurich

**88186 A Numerical Study on the Slab Heating Characteristics in a Reheating Furnace with the Formation and Growth of Scale on the Slab Surface**

Dong Eun Lee, Process Solutions Research Group  
Jung Hyun Jang, Chonbuk National University  
Man Young Kim, Chonbuk National University

**88190 SLMB Modeling of the Full Spectrum Cumulative k-Distribution of H<sub>2</sub>O**

Frédéric André, Université de Lyon  
Rodolphe Vaillon, Université de Lyon

Elizabethan A

**Fundamentals of Instrumentation and Characterization Techniques I**

Chair: Leslie Phinney, *Sandia National Labs*  
Co-Chair: Chris Dames, *UC Riverside*

**88645 Using Infrared Thermography for Detecting Defects on Surfaces with Low and Variable Emissivity**

Christopher Dalton, University of Oklahoma  
Brandon Olson, University of Oklahoma  
Feng C. Lai, University of Oklahoma

**88380 Characterization of Electronic Packages by Thermal Diffusion Tomography**

Hakan Erturk, Bogazici University

**88583 Raman Thermometry Measurements and Thermal Simulations for MEMS Bridges at Pressures from 0.05 to 625 Torr**

Leslie M. Phinney, Sandia National Laboratories  
Justin R. Serrano, Sandia National Laboratories  
Edward S. Piekos, Sandia National Laboratories  
John R. Torczynski, Sandia National Laboratories  
Michael A. Gallis, Sandia National Laboratories  
Allen D. Gorby, Sandia National Laboratories

**88370 Heat Transfer in Encased Graphene**

Zhen Chen, University of California, Riverside  
Wanyoung Jang, University of California, Riverside  
Wenzhong Bao, University of California, Riverside  
Chun Ning Lau, University of California, Riverside  
Chris Dames, University of California, Riverside

**88330 Thermal Conductivity Measurement of Cobalt-Iron Thin Films Using the Time-Resolved Thermoreflectance Technique**

Taehee Jeong, Carnegie Mellon University  
Jian-Gang Zhu, Carnegie Mellon University

Elizabethan B

**Industrial Applications of Computational Heat Transfer I**

Chair: Kevin Dowding, *Sandia Labs*  
Co-Chair: Ruhul Amin, *Montana State University*

- 88085 Natural Convection Heat Transfer from a Horizontal Circular Cylinder with Constant Surface Heat Flux**  
Maria Neagu, University "Dunarea de Jos" of Galati
- 88013 Computational Heat Transfer Analysis and Design of Third-World Cookstoves**  
Alex Wohlgemuth, Ohio State University  
Sandip Mazumder, Ohio State University  
Dale Andreatta, SEA Ltd
- 88254 Numerical Analysis of Flow Behavior inside the Blast Furnace**  
Dong Fu, Purdue University Calumet  
Fengguo Tian, Purdue University Calumet  
D. (Frank) Huang, Mittal Steel Company  
Chenn Q. Zhou, Purdue University Calumet
- 88110 Cooling Enhancement of Radiators Using Dimples and Delta Winglets**  
Anuradha Guntaka, GE Global Research  
Manoj Gokhale, GE Global Research  
Subhrajit Dey, GE Global Research  
Bhaskar Tamma, GE Global Research  
Ankit Somani, Georgia Tech University
- 88451 Computational Study of Conjugate Heat Transfer in T-Junctions**  
Simon Kuhn, Paul Scherrer Institute  
Bojan Ničeno, Paul Scherrer Institute  
Horst-Michael Prasser, Paul Scherrer Institute
- Victorian*
- Fundamentals of Single Phase Convection III**  
Chair: Patrick Oosthuizen, *Queen's University*  
Co-Chairs: Chris Kobus, *Oakland University*
- 88614 Optimal Shape Design for Heat Convection Problems Using Nurbs**  
Farbod Fakhrebadi, University of Tehran  
Farshad Kowsary, University of Tehralran
- 88607 Natural Convection Heat Transfer from Vertical Triangular Ducts**  
Mohamed E. Ali, King Saud University  
Hany Al-Ansary, King Saud University
- 88594 Laminar Natural Convection in an Air-Filled Square Cavity with Partitions on the Top Wall**  
Wenjiang Wu, McMaster University  
Chan Y. Ching, McMaster University
- 88502 Symbolic Calculation for Free Convection for Porous Material in a Circular Cavity with Porous Material**  
Kamyar Mansour, Amirkabir University of Technology
- 88478 Utilizing Disk Shaped Thermistors to Experimentally Determine the Prandtl Number Dependence Ranging from Vapors to Liquids**  
Chris J. Kobus, Oakland University

*Kent*

**Emerging Combustion Technology**  
Chair: Hongsheng Guo, *National Research Council Canada*

- 88219 Quantification of Heat Flux from a Reacting Thermite Spray**  
Eric Nixon, Texas Tech University  
Michelle Pantoya, Texas Tech University  
Daniel Prentice, Idaho National Laboratory
- 88634 Consequences of Surface Deposition of Molten Aluminum in High-Temperature Oxidizing Environments**  
John C. Hewson, Sandia National Laboratories  
Vernon F. Nicolette, Sandia National Laboratories  
William W. Erikson, Sandia National Laboratories
- 88058 Fuel Flexible Biomass Reburn Technology**  
Guang Xu, GE Energy  
Wei Zhou, GE Energy  
Larry Swanson, GE Energy
- 88425 Heat and Mass Transfer and Kinetic Processes Modeling in a Methane Steam Conversion Facility**  
Gustavo A. Restrepo, Moscow Power Engineering Institute  
Andrey N. Krylov, Moscow Power Engineering Institute  
Eduard D. Sergievskiy, Moscow Power Engineering Institute
- 88624 Critical Conditions for Fire-Induced Smoke Confinement by Air Curtain in Long Channels**  
Jie Ji, University of Science and Technology of China  
Wei Zhong, Zhengzhou University  
Ran Huo, University of Science and Technology of China  
Jinhua Sun, University of Science and Technology of China
- Borgia*
- Heat and Mass Transfer in Nanomanufacturing I**  
Chair: Tae Choi, *University of North Texas*  
Co-Chair: Patrick Mensah Sr., *Southern University and A&M College*
- 88041 Characteristics of Pool Boiling Bubble Dynamics in Bead Packed Porous Structures**  
Calvin H. Li, University of Toledo  
Ting Li, University of Toledo  
Paul Hodgins, University of Toledo  
G. P. Peterson, University of Colorado, Boulder
- 88068 Optical Characterizations of Nanoparticle Sintering and Coalescence for Electronics Fabrication**  
Heng Pan, University of California, Berkeley  
Seung Hwan Ko, University of California, Berkeley  
Costas P. Grigoropoulos, University of California, Berkeley
- 88130 Modeling of Pressure Evolution during Nanosecond Laser Ablation of Metal Films**  
Mohammad Hendijanifard, Southern Methodist University  
David A. Willis, Southern Methodist University
- 88223 Processing and Thermal Conductivity of Carbon Nanotube-Reinforced Nickel Matrix Composites**  
J.Y. Hwang, University of North Texas

A.R.P. Singh, University of North Texas  
R. Banerjee, University of North Texas  
J. Tiley, Air Force Research Laboratory  
T.Y. Choi, University of North Texas

**15:30 – 16:00**

Italian Room

Refreshment Break

**16:00 – 17:30**

**PARALLEL SESSIONS**

Tower A

**Symposium on Radiative Heat Transfer  
in Honor of Prof. Michael F. Modest's 65th birthday III**

Chair: Sandip Mazumder, *Ohio State University*

Co-Chair: Brent Webb, *Brigham Young University*

**88599 Spectral Module for Photon Monte Carlo Calculations in Hypersonic  
Nonequilibrium Radiation**

Takashi Ozawa, *Pennsylvania State University*

Michael F. Modest, *Pennsylvania State University*

Deborah A. Levin, *Pennsylvania State University*

**88564 Modeling Hydrogen Release from Doped Borosilicate Glass by Furnace or Lamp  
Heating**

Rei Kitamura, *University of California, Los Angeles*

Laurent Pilon, *University of California, Los Angeles*

**88505 An Angular Finite Element Method for the Solution of the Even-Parity Equation**

R. Becker, *Universität Karlsruhe*

R. Koch, *Universität Karlsruhe*

M. F. Modest., *Universität Karlsruhe*

H.-J. Bauer, *Universität Karlsruhe*

**88359 A Parametric Case Study in Radiative Heat Transfer Using the Reverse Monte-  
Carlo Ray-Tracing with Full-Spectrum *k*-distribution Method**

Xiaojing Sun, *University of Utah*,

Philip J. Smith, *University of Utah*

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