

Meeting Minutes
HTD K-15 Committee
Transport Phenomena in Manufacturing and Materials Processing

2009 Summer Heat Transfer Conference
Derby Room, Westin St. Francis Hotel, San Francisco, CA, USA
Monday July 20, 2009, 5:30-7:00 PM

Attending: Ben Li, Sy-Bor Wen, Ralph Greif, Calvin Li, Junling Hu, Ronghui Ma, Khairul Alam, Patricio F. Mendez*, Jamil Khan, Adrienne Lavine, Wei Li*, Wilson Chiu.

*New member. Email addresses are provided in the Attachment section.

1. HTD Executive Committee Report – Lou Gritzo

- JHT editor-in-chief nominations to Chang Oh by Nov 2009. Term starts Aug 2010.
- 2009 IMECE
 - Organizer: Lou Gritzo.
 - November 13-19, 2009, Orlando, FL.
 - 430 abstracts submitted.
- 2010 SHTC
 - June 29-July 1, 2010, Chicago, IL.
 - Abstracts due November 5, Final papers due June 15.
- 2010 IHTC
 - Organizer: Yogesh Jaluria.
 - August 7-13, 2009, Washington, DC.
 - Abstracts due October 1; Final papers due May 14, 2010.
- 8th ASME/JSME Thermal Engineering Joint Conference (AJTEC)
 - Organizer: James Klausner
 - March 13-17, 2011, Honolulu, HI.
 - Seek Track Committee track chair names and titles. Seek potential keynote speakers. Email to James Klausner by August 2009.
 - Abstracts due May 2010.
- HTD will not participate in IMECE 2010.
- IMECE 2011 located at Denver, CO.
- HTD newsletter has returned to print, available on ASME website.
- New ASME HTD journal *Applications in Thermal Science and Engineering*, Editor in Chief is Michael Jensen. Seek submissions.

2. Report from 2009 SHTC (KCR: Wilson Chiu)

- 5 sessions, 17 papers, 4 invited speakers:
 1. *Transport Phenomena in Manufacturing and Materials Processing I*, Sy-Bor Wen and Ronghui Ma, 4 papers.
 2. *Transport Phenomena in Manufacturing and Materials Processing II*, Sy-Bor Wen and Ronghui Ma, 5 papers (1 no-show).
 3. *Heat and Mass Transfer in Nanomanufacturing I*, Tae Choi and Patrick Mensah, 4 papers.

4. *Heat and Mass Transfer in Nanomanufacturing II*, Tae Choi and Patrick Mensah, 4 papers.
5. *NSF-Sponsored Invited Panel on Challenges and Opportunities in Manufacturing and Materials Processing*, Wilson Chiu and Costas Grigoropoulos, 4 invited speakers. Announcement is attached.

3. Update on 2009 IMECE (November 13-19, Orlando, FL)

- K-15 Representative: Wilson Chiu.
- Scheduled Subtopics:
 1. *Transport Phenomena in Manufacturing and Materials Processing*, Calvin Li and Ronghui Ma, 6 papers submitted.
 2. *Laser and Multiphase in Thermal Processing and Applications*, Yuwen Zhang and J. K. Chen, 5 papers submitted.

4. Subtopics for 2010 SHTC (June 29-July 1, Chicago, IL)

- K-15 Representative: Wilson Chiu
- Proposed Subtopics:
 1. *Transport Phenomena in Manufacturing and Materials Processing* (Ben Li, Calvin Li).
 2. *Phase Change and Microstructural Evolution in Thermal Processing* (Junling Hu, Patricio Mendez).
 3. *Thermal Processing in Renewable Energy Systems* (Jamil Khan, Ben Li).

5. Subtopics for 8th ASME-JSME Thermal Engineering Joint Conference (March 13-17, 2011, Honolulu, HI)

- K-15 Representative: Wilson Chiu
- Proposed Subtopics:
 1. *Transport Phenomena in Manufacturing and Materials Processing* (?)
 2. *Heat and Mass Transfer in Nanomanufacturing* (Wei Li, ?)
 3. *Laser Thermal Processing and Applications* (Hai-Lung Tsai?)

6. New Business

- K-15 seeks vice chair nominations to begin 3 year term starting November 2009. Send nominations to Ben Li. K-15 members will vote on eligible candidates at the K-15 committee meeting to be held during the 2009 IMECE (Nov 13-19, Orlando, FL).
- K-15 will organize a special session during the 2009 IMECE to celebrate Yogesh Jaluria's 60th birthday. This celebratory session will be organized by Wilson Chiu, Ralph Greif, and Khairul Alam.

Submitted by Wilson Chiu.

July 27, 2009

Attachments:

1. Attendance and E-mail List
2. NSF Invited Panel Announcement

ATTACHMENT 1

HTD K-15 Committee Meeting July 20, 2009 Attendance and E-mail List

Name	Email Address
Ben Li	benqli@umich.edu
Sy-Bor Wen	syborwen@tamu.edu
Ralph Greif	greif@me.berkeley.edu
Calvin Li	Calvin.Li@utoledo.edu
Junling Hu	jjhu@bridgeport.edu
Ronghui Ma	roma@umbc.edu
Khairul Alam	alam@ohio.edu
Patricio F. Mendez	pmendez@ualberta.ca
Jamil Khan	jamil.khan@sc.edu
Adrienne Lavine	lavine@seas.ucla.edu
Wei Li	weili96@zju.edu.cn
Wilson Chiu	wchiu@enr.uconn.edu

NSF-Sponsored Invited Panel

Challenges and Opportunities in Manufacturing and Materials Processing

Tuesday, July 21, 2009: 11:00 AM to 12:30 PM
Borgia Room, Westin St. Francis Hotel, San Francisco, CA
2009 ASME Summer Heat Transfer Conference

The ASME Heat Transfer Division's K-15 Technical Committee on Transport Phenomena in Manufacturing and Materials Processing will hold an invited panel during the 2009 ASME SHTC, where invited experts will present the latest challenges & opportunities in their field.



High Temperature Heat Transfer Materials Needs for Concentrating Solar Power Systems Thomas R. Mancini, Sandia National Laboratories

Dr. Mancini is the Concentrating Solar Power Program Manager at Sandia National Laboratories in Albuquerque, NM. He has a distinguished 30-year career in solar energy R&D and has published more than 100 technical papers and reports. Tom received his Bachelors, Masters, and Ph. D. degrees in Mechanical Engineering from Colorado State University. He was a Professor of Mechanical Engineering at New Mexico State University during 1975 - 1985. Tom is currently a Senior and Distinguished Member of the Technical Staff at Sandia National Laboratories working on concentrating solar power. Tom is *Chair* of the ASME Solar Energy Division and ASME Energy Committee, Member of the Energy Resources Board, and Fellow of ASME.



Lithium Battery Manufacturing in the Emerging Energy Landscape Nitash P. Balsara, University of California, Berkeley

Prof. Balsara is a chemical engineer with a bachelor's degree from the Indian Institute of Technology in Kanpur, India in 1982, a master's degree from Clarkson University in Potsdam, New York in 1984, and a Ph.D. from Rensselaer Polytechnic Institute in Troy, New York in 1988. He did post-doctoral research at the University of Minnesota, and at Exxon Research and Engineering Company in Annandale, New Jersey. In 1992, he joined the faculty of Department of Chemical Engineering at Polytechnic University in Brooklyn, New York. In 2000 he moved to the Department of Chemical Engineering at the University of California, Berkeley with a faculty staff appointment at Lawrence Berkeley National Laboratory.



Pharmaceutical Freeze-Drying: Challenges and Opportunities Evgenyi Y. Shalaev, Pfizer Global Research and Development

Dr. Shalaev, AAPS Fellow, is an Associate Research Fellow in Pfizer Inc. in Groton, Connecticut, USA. He works in a Parenteral Center of Emphasis in the Pfizer Global Research and Development division and responsible for developing various dosage forms and manufacturing processes including freeze-dried formulations. Dr. Shalaev received his Ph.D. in Chemistry from the Institute of Molecular Biology, Novosibirsk Region, Russia. He held the Royal Society Fellowship and the University of Cambridge, UK. His current research is focused on chemical and physical stability of amorphous and other disordered organic solids. He has published over sixty research papers, book chapters, and patent applications.



Ultra High Temperature Ceramics Matthew J. Gasch, NASA Ames Research Center

Dr. Gasch received his Ph.D. in Materials Science and Engineering from the University of California, Davis in 2003. His professional career as a Research Scientist began at NASA Ames Research Center (2002-2009) where he worked on hafnium and zirconium based Ultra High Temperature Ceramics (UHTCs) for passive sharp leading edge aerospace applications. Most recently, Dr. Gasch served as design lead for the CEV thermal protection advanced development project. His team was responsible for testing and evaluating the Avcoat heatshield TPS design that brought together many challenging areas including: ablative materials, thermo-structural issues, manufacturing, entry physics, testing in unique facilities such as arc jets and instrumentation.

For additional information:

Wilson K. S. Chiu
Associate Professor
Department of Mechanical Engineering
University of Connecticut
Storrs, CT 06269-3139
Phone: 860-486-3647
E-mail: wchiu@engr.uconn.edu

Costas P. Grigoropoulos
Professor
Department of Mechanical Engineering
University of California Berkeley
Berkeley, CA 94720-1740
Phone: 510-642-2525
E-mail: cgrigoro@me.berkeley.edu

This event is supported by the National Science Foundation under Grant No. CBET-0820605. Additional support is provided by the ASME Heat Transfer Division.