

Education Committee
ASME Heat Transfer Division

Minutes – IMECE 2003
Tuesday, November 20th, 2003, 9:00 - 11:00 am

Attendance: Anderson, Bergman, Boehm, Campo, DeWitt, Figliola, Khounsary, Kulacki, McLeskey, Norris, Pena-Taveras, Smith, Stevens, Suryanarayana.

Regrets Sent: Bianchi, Jones, McAssey

Introductions

Officers (for a three-year period beginning Jan 2002)

Chair: Pamela Norris, University of Virginia

Vice-Chair: Ann Anderson, Union College

Secretary: Dave DeWitt, Emeritus Professor, Purdue University

Members

Reading, Discussion and Approval of the Minutes, IMECE 2002 Meeting

Agenda – accepted (see Attachment #1)

Old Business – Past and Current Sessions

IMECE Paper Standup Sessions: “Innovations in Heat Transfer Education”

2001 Richard Figliola and Pam Norris - Panel Session “*Integrating the Thermal Fluid Sciences.*” Profs. DeWitt and Figliola prepared a summary paper entitled, *Heat Transfer Education: Integration of the Thermal Sciences Stem*, for the Heat Transfer Celebration, Purdue, April 3-5, 2003 (see proceedings, <http://tools.ecn.purdue.edu/ME/heattransfer/htimages.htm>). Work is underway to obtain updates from the panelist and prepare a more expansive paper for publication.

2002 Andrew Smith and Zhoumin Zhang - Panel Session “*Teaching Nano-Micro Heat Transfer.*” Prof. Smith has agreed to prepare a summary review of the presentations and discussion. Suitable publication venues include IMECE proceedings for the following year, ASEE, and the International Journal of Engineering Education. This topic would be suitable also for Microscale Physical Engineering.

2003 Dereje Agonafer and Ann Anderson – Panel Session “*Integrating Thermal Sciences into Capstone Design Experiences.*” Panelists include:

Massoud Kaviany, Univ. of Michigan

Yogesh Jaluria, Rutgers Univ.

Robert Ribando, Univ. of Virginia

Prof. Anderson reported attendance of 35-40 person with good discussion. No plans were revealed for a summary on the presentations and discussion. Session HT-2B, Nov. 19, see Attachment #2.

IMECE Student Poster Sessions: “Student Research and Design in Heat Transfer”

Prof. Smith reported on the session (Nov 20, HT-1P, see Attachment #2). Five abstracts were received in response to the call, and 5 papers were accepted. Concern was expressed about the poor location for the poster sessions, which probably accounted for the less than normal traffic. The number of posters is consistent with previous years; the quality continues to remain high.

New Business

IMECE Paper Standup Sessions: “Innovations in Heat Transfer Education”

Ideas for topics for standup sessions papers and panels are sought. Connection will be made with the Heads Committee to determine what topics they are encouraging. Richard Figliola agreed to write and provide guidelines for running a panel session for future panel chairs. Plans for the coming years include:

2004 Richard Figliola and Antonio Campo, Stand-up paper session on “Innovations in Heat Transfer Education

2004 Matt Jones and Marcus Bianchi, Panel session on "Innovations in Heat Transfer Education: Modeling and Simulation." Organizers are encouraged to perform informal surveys in order to provide an overview of activity throughout the country. Organizers should request of the panelists informal extended abstracts and copies of the visual aids in order to prepare a summary of the session.

2005 Al Ortega (K-16) and Ann Anderson, Panel on "Innovations in Heat Transfer Education: Electronic Packaging." Organizers are encouraged to perform informal surveys in order to provide an overview of activity throughout the country. Organizers should request of the panelists informal extended abstracts and copies of the visual aids in order to prepare a summary of the session. This session is jointly offered with K-16 xxxxxxxxxxxx.

2005 Ted Bergman, Stand-up paper session on “Innovations in Heat Transfer Education”

IMECE Student Poster Sessions: “Student Research and Design in Heat Transfer”

A detailed set of instructions for use by organizers in running their sessions was included with the Minutes of the IMECE 2002 meeting. Chairs are encouraged to offer suggestions to expand on this planning resource. Copies of the instructions will be sent under separate cover to the organizers.

2004 Jim McLeskey and Rob Stevens.

2005 Andrew Smith and Bob Boehm.

Guidelines for the K-21 Committee. Guidelines for the organization and functions of the committee were approved at the IMECE 2002 meeting. It was agreed that attendance requirements would be enforced beginning with the IMECE 2004 meeting (See Attachment #3). As a means of honoring the earliest contributions to the committee, the *Founding Members*, defined as those of record in 1995, will be exempt from the attendance requirements. (See Roster 2003).

K-21 Website. Ann Anderson agreed to design the website. Ideas for the site will be drawn from sister K-committee URLs. Mention was made to provide guidelines for panel organizers including: surveys of activities on the topic, presenter’s abstracts, copies of visual aids, and most important, summary paper for publication or committee archives.

Election of Officers for 2005-07. Following the usual leadership succession path, the current vice-chairperson will be nominated for Chair automatically. Additional nominations, and those for the vice chairperson, should be sent to the current chair, Prof. Norris, by October 1, 2004. At the IMECE 2004 K-21 meeting, members will be asked to vote on the nominees and a recommendation forwarded to the HTD Executive Committee for their action in appointing the chair. Elections for the secretary position will be held at the IMECE 2005 meeting.

KCR 2004. Ann Anderson agreed to serve as our K-committee representative for 2004.

KCR 2005. Ted Bergman agreed to serve as our K-committee representative for 2005.

Attachments (3)

Prof. David P. DeWitt, Secretary

School of Mechanical Engineering, Purdue University, dpd@purdue.edu
Attachment #1 (1 pp)

Agenda File from Pam Norris

Attachment #1 (2 pp)

03-IMECE Standup Paper Session (Panel)

9:30am-11:00am Virginia B, Lobby Level

HT-2B: Innovations in Heat Transfer Education: Integrating Thermal Sciences into the Capstone Design Experience (Panel)

Sponsored by Heat Transfer (K-21)

Chair: *Dereje Agonafer, University of Texas at Arlington*

Co-chair: *Ann Anderson, Union College*

Panelists: *Massoud Kaviany, University of Michigan;*

Christina Amon, Carnegie Mellon; Yogesh Jaluria,

Rutgers University; Robert Ribando, University of

Virginia; David Dewitt, NIST

03-IMECE Student Poster Session

2:00pm-5:00pm Exhibit Hall, Exhibit Level

HT-1P: Student Research and Design in Heat Transfer Poster Session

Sponsored by Heat Transfer (K-21)

Chair: *Edward McAssey, Villanova University*

Co-chair: *Andrew Smith, US Naval Academy*

IMECE2003-41350 CFD Modeling of Cross Corrugated Microturbine Recuperator (1)

Jiri Hejcek, Miroslav Jicha, Brno University of Technology, Czech Republic

IMECE2003-42055 Thermal Conductivity Measurements of Thin Aluminum Layers Using Steady State Joule Heating and Electrical Resistance Thermometry in Suspended Bridges (2)

John Pierce Reifenberg, Justen Deering England, Ryan M. Voss, Prakash Rao, Will A. Schmitt, Yizhang Yang, Shahab Shojaei-Zadeh, Wenjun Liu, Sadegh M. Sadeghipour, Mehdi Asheghi, Carnegie Mellon University

IMECE2003-42569 Experimental Measurement of Steady 2-D Thermal Green's Functions (3)

Al Ortega, Justin Wodrich, Gregg Radtke, The University of Arizona

IMECE2003-55532 Diagonal-Flow, Gap-Pickup Generator Rotor Heat Transfer Model (4)

Justin M. Costley, James T. McLeskey, Jr., Virginia Commonwealth University

IMECE2003-55535 Nano-Scale Heat Transfer Education at Carnegie Mellon University, Programs for Mechanical Engineering and High School Students (5)

Sadegh M. Sadeghipour, Mehdi Asheghi, Carnegie Mellon University

Attachment #3 (2 pp)

**Guidelines for the ASME HTD K-21 Committee
Heat Transfer Education**

The committee was established on an *ad-hoc* basis beginning July 1, 1995, and granted permanent status January 1, 2002. These guidelines represent the operating traditions describing the organization and functions of the committee.

Mission of the Committee. The primary mission of the Heat Transfer Education Committee is to document issues related to education that are important to the Heat Transfer Community, and to promote change that will strengthen the education interface with research and engineering practice. In so doing,

- We keep abreast of the changing scene in education pedagogy and the changing environment of the Heat Transfer field,
- Organize and conduct symposia on educational issues, and
- Solicit free exchange on education among members of the Division.
- Finally, we promote publication and other exchange of ideas in heat transfer education.

1997-1998 ASME Heat Transfer Division Report of the Ad-Hoc Committee

K-21 Committee Meetings. The K-21 Committee usually meets at the ASME IMECE on Tuesday, the second day of the heat transfer sessions. The meeting date and time is negotiated by the Chairperson with the Heat Transfer Executive Committee (HTD EC) program representative, and notice is sent by e-mail to the committee membership two months before the IMECE event.

Chairperson. The chairperson of the K-21 Committee is appointed by the HTD EC for a three-year term of office (currently 2002-04). Nominations for the Chair are sought from the Committee membership, and candidates are announced to the membership and feedback solicited, but it is the responsibility of the outgoing chair to offer recommendations to the HTD EC Chair by the end of the outgoing chair's term.

Vice-Chairperson. The Vice-Chairperson of the K-21 Committee is appointed by the Chairperson and may serve in that capacity as long as it is mutually agreeable. The Vice-Chairperson has the responsibility of being aware of the functions of the Chairperson, to assist in matters as requested by the Chairperson, and to act in the absence of the Chairperson. Since the appointment of the Chairperson is made by the HTD EC, there is no automatic line of succession.

Secretary. The Secretary of the K-21 Committee is appointed by the Chairperson and may serve in that capacity as long as it is mutually agreeable. The Secretary is responsible for taking meeting minutes, including membership attendance, and distributing them by e-mail to the Committee membership approximately one month after the meeting. The Secretary is responsible also for the distribution of meeting announcements and the agenda in a timely manner. The Secretary is the individual to contact should a member be unable to attend scheduled meetings.

Requirements for Membership. Committee membership is open to any person in good standing within ASME. Members of the K-21 Committee are allowed to hold membership in other HTD K Committees. Members should be interested in some aspect of heat transfer or thermal sciences engineering education. The K-21 Committee seeks balanced representation from industry, government, and academia.

Application for Membership. Anyone interested in becoming a member of the K-21 Committee should send a letter to the Chairperson explaining the reasons why membership is sought, and indicating willingness to actively participate in Committee activities. The Chairperson should invite the prospective member as a guest to the next meeting, and if agreeable to active participation (attendance, session organizer, sub-committee work), the person will be added to the membership roster.

Organization of the Technical Sessions for IMECE. The major responsibility of the K-21 Committee is the organization of two technical sessions at IMECE.

- Stand-up Paper or Panel Sessions are identified by the main title, Innovations in Heat Transfer Education, followed by an appropriate descriptive subtitle. The Committee develops the session topics and appoints the session organizers who issue the paper calls and schedule session needs with the HTD IMECE program chair.
- Student Poster Sessions are identified by the title Student Research and Design in Heat Transfer. The Committee appoints session organizers, who issue the paper calls, recruit participants and schedule session needs with the HTD IMECE program chair. The HTD EC provides up to \$2000 for student travel (\$500 limit per student recommended); requests for reimbursement should be submitted through the K-21 Chairperson to the HTD EC Chair.

Organization of Technical Sessions with Others. The K-21 Committee should actively assist with the organization of joint sessions with other K-Committees, ASME Divisions, and other professional societies.

Session Organizers. In addition to coordinating activities with the HTD program representative, the Chairperson of the K-21 Committee should also be included in correspondence distribution such as the list of abstracts received and accepted, and decisions as to the publication format. The session organizers are responsible for conducting the review process of papers/posters. Session organizers are requested to provide a brief evaluation summary at the K-21 Committee meeting following each of their sessions for the purpose of evaluating effectiveness of the session and generating archival records. Organizers for panel-type sessions are encouraged to solicit summary abstracts of panelists' contributions that can be used to generate papers suitable for publication and/or for posting on the Committee website.

Sub-Committee Assignments. The Chairperson of the K-21 Committee may appoint members to lead sub-committees with special assignments, which presently include: Stand-up Session (resource person), Student Poster Session (resource person), and Industrial Applications for the Classroom (chair).

Resignation From the Committee. The HTD EC has a stated policy that a Committee member should be encouraged to resign if not participating in committee activities. Lack of participation is defined by the K-21 Committee as (a) failure to attend four consecutive regular meetings, even if the Secretary has been notified ahead of time and (b) Failure to notify the K-21 Committee Secretary of inability to attend two consecutive regular meetings.

Prof. David P. DeWitt, Secretary
December 13, 2003