Minutes of the
K-20 Committee Meeting on Computational Heat Transfer

2004 HTD/FED Summer Conference
Charlotte, NC
July 13, 2004

Therese Rhodes called the meeting to order at 8:00 am.

Attending:

Sumanta Acharya	Ashley Emery	Jayathi Murthy
N.K. Anand	Baki Farouk	Darrell Pepper
Malcolm Andrews	Sean Hseih	Dick Pletcher
Dave Carrington	Roy Hogan	Therese Rhodes
Yitung Chen	Milind Jog	Aki Runchal
Randy Clarksean	Jerry Jones	S.P. Vanka
Al Crosbie	Jamil Khan	Stephen Webb
Rod Douglass	Ben Q. Li	Hui Zhang
Kevin Dowding	Laurent Pilon	Lili Zheng

Approval of Previous Minutes
The minutes of the K-20 committee meeting held at the 2003 IMECE were reviewed and approved.

Announcements - none

Executive Committee Report
Rod Douglas reported the following items from the Heat Transfer Division Executive Committee:

- The Executive Committee is trying to make the process for nominating Executive Committee Members and K-committee Chairs more transparent. Executive Committee is asking K-committees to be discussing potential nominees. Therese should be expecting an email on this issue around August 16. Nominations will be solicited by email in the near term.
- Upcoming meetings
    - IMECE starts November 13 in Anaheim, CA. The HTD has approximately 285 papers in the system.
    - The Summer Heat Transfer Conference will be held July 17-22, 2005 at the Westin St. Francis Hotel in San Francisco, CA and will be collocated with the InterPACK'05 Conference.
- ASME reorganization is ongoing to make ASME more "streamlined"
    - Executive Committee needs us to be thinking about our options to best serve our membership. The options being presently considered are basically to join with the other Divisions of the Basic Engineering Group (and/or other groups) or to remain a Division.
    - The Executive Committee is also seeking input on the process for making this decision.
    - Stay tuned to http://www.asme.org/change for periodic updates and information. Provide comments and feedback to ASME and copy the HTD Executive Committee.

- The 2004-2005 Executive Committee is, R.D. Skocypec, Chairperson; M.K. Jensen, Vice Chairperson; T.W. Tong, Secretary; C.H. Oh, Treasurer; R.W. Douglass, Member; and Y. Bayazitoglu, Past Chairperson.
- Executive Committee is interested in feedback regarding this conference. In the future, they are considering a 4-year rotation for the summer meeting with FED, InterPACK, AIAA, and JSME.
- Rob reminded us that KCRs and Session Chairs need to be responsive to emails from the conference organizers. Additionally, all papers need to go through the ASME review process.
- Custodial account balances is $30-35K now. The intent is to build it up to a base of ~$50K.

Review of Sessions in 2003 IMECE, Washington, DC

TPR: Russ Skocypec
KCR: N.K. Anand

Sessions:

- HT-9D Validation of Computational Models (Dowding/Emery), Format: Technical Publication, 5 papers, 5 authors showed, session was well-attended
- HT-11C Computational Heat Transfer in Porous / Composite Media & Heat Exchanger Systems I (Andrews, Kahn), Format: Technical Publication, 4 papers, 4 authors showed, poorly attended.
- HT-10C Discontinuous Finite Elements in Heat Transfer (Li, Heinrich), Format: Technical Publication, 4 papers, 5 presentations, session is later in conference
- HT-10A Computational Heat Transfer in Porous / Composite Media & Heat Exchanger Systems II (Kahn, Andrews), Format: Technical Publication, 4 papers, 3 authors showed.
- HT-11A Industrial Applications of Computational Heat Transfer I (Clarksean, Rhodes), Format: Technical Publication/Extended Abstract, 4 papers, ~12 attended
- HT-10B Industrial Applications of Computational Heat Transfer II (Clarksean, Pepper), Format: Technical Publication/Extended Abstract, 4 papers, ~18 attended
- HT-10D Advances in Computational Heat Transfer (Douglas, Pepper, and Acharya) Format: Technical Paper, 5 papers, later in conference
- HT-11D Numerical Modeling of Turbulent Heat Transfer (Guessous, Acharya), Format: Technical Publication, 5 papers, later in conference
- HT-11B Tutorial on Micro-and Nano-scale Heat Transfer -II (Jayathi Murthy), Format: Panel, with K-16, two sessions, both later in conference

Review of Sessions in 2004 NHTC, with ASME FED, Charlotte, NC

TPR: Raj Manglik
KCR: Lili Zheng
Lili provided the following summary. Session organizers please check and update missing information. Total of 112 papers in the following listed sessions.

Sessions:

- 2-1-1 Radiative Heat Transfer and Stochastic Methods (Emery w/ K-6)
  Format: Technical Publication, 1 session, 5 papers, ? authors showed, about ? attended.
- 4.1 Applications of Computational Fluid Dynamics and Heat Transfer (Guessous, Spall, w/FED Brzoska)
  Format: Technical Publication, 9 sessions, 55 papers, well attended, about 20 for each session
- 4-2 LES_SYMP_04_2 (Acharya, Celik)

Format: Technical Publication, 5 sessions, 25 papers, extremely well attended, over 70 attended in the 1st session

- 4-5 Computational Heat Transfer for Hazardous Waste Management / for Yucca Mountain (Webb, Carrington, Runchal w/K-19)
  Format: Technical Publication, 3 sessions, 12 papers, 12 authors showed, about 7-10 attended.
- 4-6-1 Verification Problems and Benchmarking in Computational Fluid Dynamics & Heat Transfer (Anand, Emery)
  Format: Technical Publication, 1 session, 3 papers, 1 author showed, about 8 attended.
- 4-8-1 Mesh Generation and Application (Douglas)
  Format: Technical/Short paper forum, 1 session, 4 papers, ? author showed, about ? attended.
- 9-1-1 Computation of Heat Transfer for Biological Applications (Bergman, Zheng, w/ K-17)
  Format: Technical Publication, 4 papers, 4 authors showed, over 10 attended.
- 10-4-1 Inverse and Conjugate Problems and Optimization of Heat Transfer (Dulikravich, Jones)
  Format: Technical Publication, 4 papers, 4 authors showed, over 10 attended.
- 14-1 Tutorial on Grid Generation (Douglas, Dowding)
  Format: Tutorial lectures for 2 sessions

Other 2004 HTFED Summer Meeting Discussion

Issues related to audio-visual continue to be on the top of the list of issues that need to be addressed.

- Many rooms did not have microphones, laser pointers, and laptops. Some rooms did not have video projectors. Several authors expected to have laptops provided for their presentation. It was noted that there was some information on this topic on the ASME web, but many were unaware of it. In the future, KCRs should be sure that the session organizers understand the AV plans and that they communicate that info to the presenters. As was discussed in Washington at the IMECE, it is probably best to have one computer hooked up to the projector with all presentations on it. Significant amounts of time can be wasted dealing with pc/video issues if you change computers between presentations. CDs can be an option for use with a single computer. Bottom line is that it is easiest if the session chair has a laptop and all presentations
- Room changes were made on the day of the presentation which caused some confusion. The main issue was that no additional signs or directions to the new room were provided at the originally scheduled room.

Review of Sessions for 2004 IMECE, Anaheim, CA

TPR: Mike Jensen
KCR: Pradip Majumdar
HTD sessions will start on Saturday, November 13, 2004. Most sessions have papers out for review. Sessions that haven't, need to get them out immediately. We presently have 44 papers in the system.

- Boundary Element Methods in Heat Transfer (Kassab, Emery)
- Computation of Multi-scale Heat Transfer (Li, w/K-15)
- Computational Heat Transfer for Manufacturing Processes (Majumdar, Vanka, w/K15)
- Meshless Fluid Flow and Heat Transfer Computational Methods (Pepper, Runchal)
- Computational Heat Transfer for Reaction Related Processes (Zheng, Khan)
- Industrial Applications of Computational Heat Transfer (Rhodes, Clarksean)
- Advances in Numerical Techniques in Heat Transfer (Anand, Hogan, Acharya)
- Tutorial on Numerical Heat Transfer and Fluid Flow (Runchal, Pepper, Vanka, Acharya) -- shoot for four sessions (2 for heat transfer, 2 for fluid flow), back to back, two in the am, two in the pm
- Benchmarking of a 3D Backward Facing Step with Heat Transfer (Heinrich, Carrington, Armaly, Pepper)

Review of Sessions in 2005 NHTC, San Francisco, CA

TPR: Cristina Amon
KCR: Lili Zheng
Meeting at the Westin St. Francis, July 17-22, and co-located with the InterPACK'05 Conference.

Sessions:

- "micro/nano/chip-level" cooling heat transfer --- (Emery)
- Computational Methods for Thermo-electric and Acoustic Problems (Farouk)
- Computational Heat Transfer in Material Processing (w/K-15, Zheng, Li)
- Inverse and Conjugate Problems and Optimization Heat Transfer (Jones, Woodbury, Dowding)
- High Performance Computing using Grid Computing (Pepper, Chen)
- Verification and Validation Applications (Dowding, Hogan)
- Advances and Applications of LES/DNS for Heat Transfer Problems (Vanka, Kalib, Khan)
- Application of Computational Heat Transfer (Kahn, Spall)
- Computational Heat Transfer for Nuclear Applications (Webb)
- Computational Heat Transfer Applications in Porous Media (Khan, Amin)
- Tutorial on Numerical Micro/Nano Scale Heat Transfer (????)
- Computational Heat Transfer in Industrial Applications (Rhodes, Clarksean)
- Computational Heat Transfer for Interfacial Phenomena (Hui Zhang)

Review of Sessions in 2005 IMECE, Orlando, FL

TPR:
KCR: Malcolm Andrews

Sessions:

- Advances in Computational Heat Transfer (Anand, Li, Hogan, Jones)
- Multiphase Heat-Mass Transfer and Melting/Solidification in Materials Processing (w/K-15 and FED Multi-phase, Andrews, Hui Zhang)
- Meshless Methods in Computational Heat Transfer and Fluid Flow (Pepper)
- Multigrid Methods and Adaptive Refinement Techniques in Heat Transfer (Vanka, Choudhury)
- Uncertainty Quantification, Verification, and Validation Applications (Dowding, Hogan)
- Advances and Applications of LES/DNS for Heat Transfer Problems (Vanka, Choudhury, Khalid)
- Computational Heat Transfer in Industrial Applications (Clarksean, Rhodes)

Meeting Adjournment

The meeting adjourned at 10:00 a.m.

Respectfully submitted,

Roy Hogan