K-16 COMMITTEE ON HEAT TRANSFER IN ELECTRONICS
Meeting Minutes
Tuesday, November 19, 2002
2002 ASME IMECE, NEW ORLEANS

Atttending Members:

Abdelmessih	Amanie	Saint Martin's College	abdelmessih@stmartin.edu
Amon	Christina	Carnege Mellon	camon@cmu.edu
Anderson	Ann	Union College	anderson@union.edu
Bar-Cohen	Avram	University of Maryland	abc@umd.edu
Bhavnani	Sushil	Auburn University	bhavnani@eng.auburn.edu
Chiriac	Victor	Motorola, Inc.	victor.chiriac@motorola.com
Ellsworth	Michael	IBM Corporation	mje@us.ibm.com
Fisher	Tim	Purdue University	tsfisher@purdue.edu
Fleischer	Amy	Villanova University	amy.fleischer@villanova.edu
Garimella	Suresh	Purdue University	sureshg@ecn.purdue.edu
Graham	Samuel	Sandia National Lab	sgraham@sandia.gov
Joshi	Yogendra	Georgia Tech	yogendra.joshi@me.gatech.edu
Herman	Cila	Johns Hopkins University	herman@htan.me.jhu.edu
Lee	Seri	Intel Corporation	seri.lee@intel.com
Majumdar	Pradip	Northern Illinois University	majumdar@ceet.niu.edu
Meekisho	Lemmy	Portland State University	lemmy@me.pdx.edu
Murthy	Jayathi	Purdue University	jmurthy@ecn.purdue.edu
North	Mark	Thermacore, Inc.	north@thermacore.com
Ortega	Al	University of Arizona	ortega@u.arizona.edu
Price	Donald	Raytheon	dprice@raytheon.com
Samakia	Bahgat	SUNY Binghamton	bahgat@binghamton.edu
Walker	Greg	Vanderbilt University	greg.walker@vanderbilt.edu
Yovanovich	Michael	University of Waterloo	mmyov@mhtlab.uwaterloo.ca

Attending Visitors

Copeland	David	Fujitsu Laboratories	copeland@fla.fujitsu.com
Keska	Jerry	University of Louisiana	jkeska@louisiana.edu
Khounsary	Ali	Argonne National Lab	amk@aps.anl.gov
Narayanan	Vinod	Oregon State University	vinod.narayanan@orst.edu

Reported Couldn't Attend: Roger Schmidt, Rich Culham, Rich Wirtz

Topics:

1.- Call to Order; meeting started at 3:45 pm

2.- Approved minutes of 2002 meeting held at ITherm 2002, San Diego, CA – Thanks to Michael Ellsworth for preparing the minutes.

3.- Announcements: Congratulations to:

- K-16/EPPD Clock Awardee: Roger Schmidt (IBM)
- EPPD Awardee for Outstanding Contribution to the Thermal Management of Electronic Systems: Dereje Agonafer (U.T. Arlington)
- EPPD Awardee for Outstanding Contributions to Mechanics of Electronic Packaging: Rich Pryputniewicz (WPI)

4.- Executive Committee Report
Mike Jensen, representing the HTD Executive Committed reported:

- 2003 Summer Heat Transfer Conference, to be held in Las Vegas, NE, July 21-23; HTD will sponsor the conference without the administration of ASME; registration $390 including lunch banquet, breakfasts and luncheons.
- 2004 Summer Heat Transfer Conference, jointly with FED, to be held on Charlotte, NC.
- 2006 IHTC, to be held in Sydney, Australia, August 13-18 and 2010 IHTC, to be held in Washington, DC; Y. Jaluria and A. Bar-Cohen are the US organizers.
- HT Current Contents will be published only electronically. Send suggestions to Jill Perterson, Jepete@ufl.edu
- KCRs will have a new web tool to organize all sessions, move papers around, etc.
- Members can access HTD website through ASME website

5.- K-16 web page http://www.asme.org/divisions/htd/K16/index.html

- A round of applause was solicited by Al Ortega to acknowledge the outstanding service of our retiring k-16 webmaster Eric Zimmerman at West Point. Congrats in his new position as Director of Research at the Army's Topographic Engineer Center (TEC) in Northern Virginia
- On behalf of k-16, Cristina Amon expressed our sincere gratitude to Michael Ellsworth for volunteering to serve as the new k-16 Webmaster.
- To all k-16 members, please review your personal information, update sub-committees co-chairs and goals, update list of upcoming conferences and seminars. Send this information to Michael Ellsworth mje@us.ibm.com

6.- Review of 2002 IMECE Sessions, New Orleans, LA
TPR: Yildiz Bayazitoglu; HTD sponsored 409 papers published in 8 proceedings; 510 abstracts
K-16 KCR: Pradip Majumdar; 6 sessions (5 topics) and 2 panels:

Micro and Nano Scale Heat Transfer in Electronics (2 sessions)
Chairs: Cristina Amon and Timothy S. Fisher
Innovative/Non-conventional cooling techniques: Thermo-Electric, Heat Pipes, Thermosyphon etc.
Chairs: Suresh V. Garimella and Michael J. Ellsworth
High Performance Liquid and Evaporative Cooling in Electronics
Chairs: Seri Lee and Sushil H. Bhavnani
Benchmark Problems/Solutions for Electronic Cooling Application
Chairs: Dereje Agonafer and Gamal Refai-Ahmed
Extending the Limits of Natural and Forced Convection Cooling in Electronics
Chairs: Alfonso Ortega and Shirish Mulay
Fundamentals of Electronics Cooling
Chairs: Pradip Majumdar and Lemmy Meekisho

7.- 2003 Summer Heat Transfer Conference, July 21-23, 2003 Las Vegas, NE
TPR: Van Carey
K-16 KCR: Amanie Abdelmessih

- Status: 21 abstract received as of November 1

December 15, 2002	Submission of Abstracts
February 1, 2003	Submission of Full Papers
March 1, 2003	Submission of Extended Abstracts
April 1, 2003	Authors Notification of Paper/ Extended Abstract Acceptance
May 1, 2003	Submission of Final Paper and Completed Copyright Forms

Volunteers for session chair and co-chairs were solicited. A short meeting was held after the k-16 committee meeting to discuss the logistics for the summer conference organization.

8.- 2003 IMECE, November 16-21, Washington, DC
TPR: Russ Skocypec
K-16 KCR: Michael J. Ellsworth

- **K-16 sessions: 4 topics were proposed for 5/6 sessions**
  - Defining and Extending the Limits of Air Cooling Electronic Equipment (Ortega and Mulay)
  - Micro and Nano Scale Heat Transfer in Electronics (Amon and Fisher)
  - Thermal Issues in Semiconductor and Packaging Materials; co-sponsored with K-15 ir EPPD (Graham and Khounsary)
  - Emerging Problems in Thermal Management of Electronics (Khounsary and Agonafer)

- Those who wish to propose a session, send an email to Mike Ellsworth (Michael Ellsworth mje@us.ibm.com) before December 4, 2003.

9.- Report from:

- **ITherm 2002, May 29-June 1, 2002, San Diego;** Report from Cristina Amon – The conference was co-located with ECTC; General Chair: Cristina Amon; Program Chair: Koneru Ramakrishna. It was sponsored financially by IEEE/CPMT and listed also as co-sponsored by k-16 & EEPD ASME; 270 participants not including exhibitors (increase of 30%) and 141 papers (increase of 26%).
- **InterPACK 2003, July 6-11, 2003, Maui, Hawaii;** General Chair: Don Price, Program Chair: Alfonso Ortega;
  - **U**pdate from Don Price: Still working with ASME on the financial arrangements; set of 6 tutorials will be offered in 2 parallel sessions, free to participants; abstract deadline extended to December 6; targeting 150 to 200 abstracts
  - David Copeland reported about the InterPACK exhibits; ASME has agreed that all proceeds will go to EPPD; there is space for 14 exhibitors.
- **ITherm 2004, Las Vegas, NE:** Report from Program Chair: Bahgat Sammakia; General Chair: Koneru Ramakrishna.

10.- K-16 Chair and Co-chair 2003-2006

K-16 Chair 2003-2006 – Don Price, current k-16 vice-chair, was proposed to the HTD Executive Committee for appointment.

K-16 Vice-Chair 2003-2006 – The selection process was discussed; since k-16 leadership is desirable to alternate between academia and industry, the next k-16 vice-chair will come from academia or national lab. Nominations are to be sent to Don Price by Jan. 15, 2003. Then, Don will request a vote from the k-16 members.

11.- Next K-16 Committee Meeting will be held at InterPACK in Hawaii on July 6-11, 2003

Minutes will be quickly distributed to request input of other k-16 members who won't attend InterPACK but will participate in the Summer Heat Transfer Conference (July 21-23, 2003). In case of perceived need, a meeting can be held at the Summer Heat Transfer Conference.

12.- We will review the k-16 membership list. k-16 membership of those who have not been active in the last 2 years (e.g., co-chair sessions, participate in meetings) will expire. HTD has substituted the constraint of being a member in only one technical committee by the requirement of being an active member of the technical committees.

13.- Meeting Adjournment at 5:15pm