

Meeting Agenda - K-16 COMMITTEE ON HEAT TRANSFER IN ELECTRONIC EQUIPMENT -  
ITHERM 2010

Bally's Hotel, Las Vegas, NV  
Friday, June 4, 2010, 5:45-6:30

Presiding: Amy Fleischer, Villanova University, Committee Chair

In Attendance (22): Brendan Holt (Raytheon, [bholt@raytheon.com](mailto:bholt@raytheon.com)); Arun Gowda (GE Global Research, [gowda@ge.com](mailto:gowda@ge.com)); Kripa Varanasi (MIT, [Varanasi@mit.edu](mailto:Varanasi@mit.edu)); Koneru Ramakrishna (Anveshak, [rama@anveshak.com](mailto:rama@anveshak.com)); Shlomo Novotny (Vette Corp, [snovotny@vettecorp.com](mailto:snovotny@vettecorp.com)); Jeff Suhling (Auburn, [jsuhling@eng.auburn.edu](mailto:jsuhling@eng.auburn.edu)); Victor Chiriac (Qualcomm, [vchiriac@qualcomm.com](mailto:vchiriac@qualcomm.com)); Baris Dogruoz (Ansys/Fluent, [mbd@fluent.com](mailto:mbd@fluent.com)); Greg Walker (Vanderbilt, [greg.walker@vanderbilt.com](mailto:greg.walker@vanderbilt.com)); Suresh Garimella (Purdue, [sureshg@purdue.edu](mailto:sureshg@purdue.edu)); Pramod Chamarthy (GE, [pramond.chamarthy@ge.com](mailto:pramond.chamarthy@ge.com)); Bahgat Sammakia (Binghamton, [bahgat@binghamton.edu](mailto:bahgat@binghamton.edu)); Bruce Murray (Binghamton.edu); Sandeep Tonapi (Anveshak, [sandeep.tonapi@anveshak.com](mailto:sandeep.tonapi@anveshak.com)); Jim Petroski (GrafTech, [jim.petroski@graftech.com](mailto:jim.petroski@graftech.com)); Sushil Bhavnani (Auburn, [bhavnsh@auburn.edu](mailto:bhavnsh@auburn.edu)); Mark North (thermacore, [m.t.north@thermocore.com](mailto:m.t.north@thermocore.com)); Ed Walsh (University of Limerick, [Edmond.walsh@ul.ie](mailto:Edmond.walsh@ul.ie)); Lian-Tuu Yeh (Huuwei technologies; [jjyeh2@aol.com](mailto:jjyeh2@aol.com)); Chuck Minning (JPL, [Charles.p.minning@jpl.nasa.gov](mailto:Charles.p.minning@jpl.nasa.gov)); Yogi Joshi (Ga Tech, [yogendra.joshi@me.gatech.edu](mailto:yogendra.joshi@me.gatech.edu)); Satish Kumar (Ga Tech, [satish.kumar@me.gatech.edu](mailto:satish.kumar@me.gatech.edu))

1. Minutes from the K-16 meeting at 2009 IMECE Conference, Orlando, FL (posted on K-16 website) were approved by those in attendance.
2. A review of ITherm 2010 was presented by Yogi Joshi, General Chair, ITherm 2010.

ITherm 2010 featured 182 papers in 19 thermal sessions, 10 mechanics sessions and 5 emerging technologies sessions. There were 253 paid attendees, including 73 students and substantial international participation. The attendance was in line with typical ITherm attendance, and better than the previous event in Orlando. The next ITherm will be in 2012 in San Diego.

3. An update on IMECE 2010 was provided by Sandeep Tonapi.

IMECE 2010 will be held in Vancouver, Nov. 12-18. EPPD received 181 submitted abstracts, 151 of which are expected to be submitted as draft papers. The draft paper deadline passed on May 31, but the website will accept draft papers for a while longer. 50% of draft papers have been submitted at this point. There will be two thermal based plenary talks at IMECE given by K-16 members. The Calvin Rice lecture to be presented by Gamal Refai-Ahmed, and Avi Bar-Cohen will speak from the point of view of his new position at DARPA. Judges are needed for a student poster session - contact Gamal Refai-Ahmed if interested. Session chairs will be needed for the K-16 sessions. Contact Shirish Mulay if interested.

4. Bahgat Sammakia presented an update on the Journal of Electronic Packaging.

JEP's acceptance rate is now 40% and the impact factor has risen to 0.827. The number of incoming papers has remained the same. Therefore, with the higher reject rate, more high-quality submissions are needed. Please consider submitting to JEP. The time from submission to publication is approximately a year with the delay primarily coming from ASME formatting delays. A discussion on this was held. Most in attendance pushed for faster publication at least on-line. Bahgat will look into this. There are opportunities for new Associate Editors. Submit nominations to Bahgat. Particular emphasis should be on those

potential AEs who can bring in new submission in rising areas, and those from Europe and Asia.

5. A discussion was held on the K-16 clock award. In light of the elevation of the Allan Kraus award for achievement in Thermal Management of Electronics to ASME level, the role of the clock award was considered. The historical role of the award was discussed, as were the current rules for award administration (see Appendix A for current rules). The award has historically recognized both K-16 committee members and outgoing chairs for achievement and for outstanding service. Some discussion was held as to whether it has always been awarded to outgoing K-16 chairs and members requested that the list of award winners be checked against the list of chairs. (See Appendix B for the list of previous Clock Award winners from the k-16 website and the list of previous K-16 chairs – which shows that it has not always been awarded to past chairs) The list of clock award winners is on our website, but the list of previous chairs is not. A request to add the list of previous committee chairs to the website was made and approved. The general consensus was that there is no need to make any changes to the administration of the clock award, and that it should continue to be awarded yearly to committee members as the rules currently state. Thus, solicitations for the 2010 Clock award will begin shortly by Sam Graham and the award will be given at 2010 IMECE.
6. A review of a new award proposal by Gamal Refai-Ahmed was considered (see Appendix C for proposal). The K-16 membership was generally supportive of the award proposal but thought that perhaps it needed some refinement. Questions about award administration were discussed, and whether it would be a K-16 award, EPPD award or HTD award. Sandeep Tonapi as EPPD chair thought that it would be an EPPD/HTD award with some K-16 committee representation on the selection committee. More details will be provided at the next meeting by Gamal Refai-Ahmed.
7. Membership update – members were reminded to submit new contact information for website updates if they have change positions. New members will also be added to the website. Those added to the member list will include Ed Walsh (University of Limerick) and Satish Kumar (Georgia Tech). Updated contact information was submitted by Victor Chiriac, Kaz Yazawa and Jim Petroski. (See appendix D for new member and updated contact information).
8. The next K-16 Committee Meeting will be at 2010 IMECE Vancouver, Nov. 12-18.
9. Meeting Adjournment 6:30

Appendix A: K16 clock award process:

- The award will be given every year
- If there is a change of the chair of the K16 committee the award will be given to the outgoing chair for his/her contributions to the committee, pending agreement of the past winners of the award through a vote that the outgoing chair has served well and deserves the award
- In years when there is no change of K-16 committee chair a list of nominations will be solicited from the K16 membership at large.
- A vote will then be held with all of the K16 members allowed to vote for all nominees. The vote will require the K16 members to rank all nominees from 1 to n.
- The award will be given to the nominee with the lowest average score (closest to 1).

Appendix B: List of past K-16 chairs and Clock Award Winners (add both to website, list of clock award winners on website has errors)

**K-16 Chairs**

1981-1984 Avram Bar-Cohen (Univ. Minnesota)  
1984-1987 Sevgin Oktay (IBM)  
1987-1990 Richard Wirtz (Univ. Nevada-Reno)  
1990-1993 Bob Simmons (IBM)  
1993-1996 Alfonso Ortega (Univ. of Ariz.)  
1996-1999 Dereje Agonafor (IBM)  
1999-2002 Cristina Amon (Carnegie-Mellon)  
2002-2005 Donald Price  
2005 – 2007 Bahgat Sammakia (SUNY – Binghamton)  
2007 – 2009 Michael Ellsworth (IBM)  
2009- 2011 Amy Fleischer (Villanova University)

**Clock Award Winners**

1990 Ephraim Suhir  
1992 Avram Bar-Cohen  
1994 Bob Simons  
1996 Richard Wirtz  
1998 Dereje Agonafor  
2000 Michael Yovanivich  
2001 Alfonso Ortega  
2002 Roger Schmidt  
2003 Cristina Amon  
2004 Bahgat Sammakia  
2005 Don Price  
2006 Suresh Garimella  
2008 Yogendra Joshi  
2008 Sushil Bhavnani

## Appendix C: New Award Proposal

From Gamal Refai-Ahmed:

My respectful colleagues in EPPD and L-16, as you know, I am the recipient of ASME Calvin Lecture Award 2010. To continue the effort of promoting engineering practice and knowledge across the world which ASME acknowledges every year through this award, I am working to establish an award devoted to Africa and Middle East to promote the best engineering practice and teaching in the area of heat transfer and electronics packaging.

I am planning to put the seed money in from my honorarium, ~\$4k- tax, to initiate this award which will be administrated by EPPD. I will work to raise this cash to \$15k to \$20k to support this award.

1. The award will be devoted to Africa and Middle East
2. The award will focus on promoting the best engineering practice and teaching in the area of the heat transfer and electronic packaging
3. There will be one for teaching and other for best engineering practice
4. The award will recognize engineers under 35 years
5. In the first stage we will give the following:
  - One year free membership in ASME
    - **K-16 members please vote on this motion to be sent to HTD to give two free ASME memberships every year**
  - One year free subscription to the Journal of Electronics Packaging (Bahgat is working to find a way to approve that and EPPD)
  - One year free subscription to the Journal of Heat Transfer
    - **K-16 members please vote on this motion to be sent to JHT Editor to give two free JHT membership every year**
  - A free registration in local ASEME/sponsor ASME conference in the area of heat transfer and electronics packaging (EPPD to vote on it)
6. In the 2<sup>nd</sup> stage, I would like to continue raise money on the top of \$4k to reach \$20k, to allow awards of \$250 to \$400 cash to support the recipients to attend the regional conference.

## **Appendix D: New Member and Updated Contact Information:**

Ed Walsh  
Senior Research Fellow Stokes Institute  
University of Limerick Limerick, Ireland

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