K16 Committee Meeting Minutes

K-16 COMMITTEE ON HEAT TRANSFER IN ELECTRONIC EQUIPMENT
2007 International Mechanical Engineering Congress and Exposition (IMECE)
Sheraton Seattle Hotel
Seattle, Washington, USA
Tuesday, November 13, 2007
4:00 pm to 5:30 pm

Attendees (22):

Members (11):

Gamal Refai-Ahmed (AMD), Mike Ellsworth (IBM), Amy Fleisher (Villanova University), Samuel Graham (Georgia Tech), Jeff Suhling (Auburn), Mike Yovanovich (Univ.Waterloo), Victor Chiriac (Freescale), Sandeep Tonapi (GE), Bahgat Sammakia (Binghamton University), David Copland (Sun Microsystems), Masaru Ishizuka (Toyama Prefectural University Japan), Pradip Majumdar

Non-members (10):

Monem Alyaser (Asteck), Monem Beitelmal (HP); Bill Maltz (Electronics Cooling), John Saylor (Clemson University), Jim Smith (Sechan Electronics), Mani Parkash (intel), Tunc Icoz (GE), Lian-Tuu Yeh (Huawie Technologies), George Nanna (Purdue University), John Thome (Swiss Federal Institute of Technology)

1. Self introduction of all present
2. Minutes from K-16 at 2007 Interpack in Vancouver approved without change
3. Report from Tim Tong, HTD Rep
    a. HTD is seeking nominations from the different K committees in the following positions:
        1. 2 opening positions in K-2, Admin committee-long range
        2. One opening position in the Max Jacob Committee
        3. three opening positions in K3- the honor and awards committee
        4. Executive Committee is looking for an industrial member
        5. six associate editors for J Heat transfer to be submitted to Jaluria

        6. Nomination to the technical program chair to the 2011 Summer Heat Transfer Conference
        7. two openings in the development committee
    b. the process for nomination is to send short Bio and letter to Tim Tong
    c. There will be amendments to the By-law for the society before IMECE.
        1. the current by-laws is in the web page of the HTD
        2. Draft by-law will be sent to the chairs of K- committees by October 2007
        3. the Revise by –laws will be done by January 2008
    d. 2008 IMECE will adapt new model. There will be chair of each technical committee to serve in its technical committee instead of the Ks-rep. Action: Mike will send proposal to HTD to appoint non K-chair in the IMECE technical committee.
    e. There is a proposal to have the conference papers as extending abstract. This also, will encourage more industrial praticpation:
        1. currently, the full conference paper can be sited
        2. the extending abstract will be reviewed by the session chair
        3. Action: Mike from K-16 to give its view on K-5 meeting on July 12, 2007
    f. HTD custodial account has $140k. Proposal is welcome by K22 to use grants in the order of $3k to $4k
4. IMECE 2007 report by Sam Graham
    a. The K-16 received 86 abstracts out of that 55 papers were submitted
    b. K-16 has 11 sessions
    c. There was concern on how the IMECE conference organization team is appointed track chair from the top
    d. Difficult access to the webpage by the K-16 reps
    e. Gamal will Chair the K-16 IMECE sessions and his co-chair is Pradip Majumdar

5. ITHERM 2008 Report by Yogi Joshi (done by Mike)
    a. Abstracts accepted 297 (submission now closed)
    b. Manuscripts due: Dec 14, 2007
    c. Planned stand-up sessions: 32 (Thermal: 18, Mechanics: 8, Emerging technologies:6)

   d. Poster session highlighting energy efficient electronics with ~35 papers
   e. Keynotes : 4, including one afternoon keynote; selection of speakers in progress.
   f. Short Courses/Tutorials: Wednesday; including 2 and 4 hour modules; currently accepting proposals
   g. Poster session
      1. Paper selection based on highlighted theme of Energy Efficient Electronics, e.g data centers, thermal energy storage, thermoelectrics…).
      2. ~35 posters, preceded by a lunch keynote on the same topic.
      3. Best poster award to promote greater participation.
      4. Poster session is just like any other session, not of a lesser value.
   h. Short courses
      1. 2 hour tutorials and 4 hour courses
      2. Short courses are detailed introduction to an important topic
      3. Tutorials are for rapid exposure to an emerging topic.
      4. Deadline for Proposal Submission December 30th , 2007.
      5. Final selected Short Courses and Tutorials announced by January 20th, 2008.
   i. Exhibit
      1. Jointly with ECTC
      2. Bus will take attendees on Wednesday at 5 PM for reception and visit.
      3. A second visit will be on Thursday right after lunch (2 buses planned).
      4. Looking for more exhibitors.

6. Report on 2008 SHTC, August 10-14, Jacksonville, FL
   a. The committee Appointed Amani Abdelmeasih to be the KCR
7. Report on the K-16 by
   a. Please review your personal information, update list of upcoming conferences and seminars and send changes in this information to Gamal Rafai-Ahmed, Secretary and K-16 Webmaster, http://divisions.asme.org/htd/committees/K16/
8. Report on 2009 InterPACK, July 8-12, Vancouver, BC, Canada (Jeff Suhling, InterPACK General Chair Sandeep Tonapi, Program Chair)

   InterPACK '07 Summary

   InterPACK '07 was held on July 8-12, 2007 at the Westin Bayshore Resort in Vancouver, British Columbia, Canada. InterPACK is the flagship conference of the ASME Electronic and Photonic Packaging Division (EPPD), which provided organizational and technical leadership in all aspects of the of the conference planning. The InterPACK Conference Series began in 1992 as the ASME-JSME Joint Electronic Packaging Conferences, and the series was renamed to InterPACK in 1995. InterPACK ’07 was the 9th in the InterPACK series, each being co-sponsored by the Japan Society of Mechanical Engineers (JSME). InterPACK ’07 was also technically co-sponsored by the IEEE CPMT Division, iNEMI, the ASME MEMS Division, and the ASME Nanotechnology Institute. InterPACK ’07 was co-located with the ASME-JSME Thermal Engineering Conference (AJTEC) and the ASME Summer Heat Transfer Conference (SHTC), both being organized by the ASME Heat Transfer Division. This collaboration was very beneficial since it provided additional technical programming options for InterPACK attendees, as well as additional leveraging of several conference costs, primarily with the conference hotel.

The main conference organizers were General Chair Roger Schmidt (IBM), Co-General Chair Far East Hideo Miura (Tohoku University, Japan), Program Chair Jeffrey C. Suhling (Auburn University), and Conference Administrator Kelly Sutton (University of Arizona EPD). This was the first InterPACK where the ASME staff was not used to provide administrative support. This approach was very positive change as we were able to obtain a lower cost structure for several key items, while providing greater benefits/service than was available in the past.

Overall, InterPACK '07 was a great success. The combined conferences attracted 832 attendees, with 368 registering for InterPACK and 464 registering for AJTEC/SHTC. InterPACK ‘07 was only the third in the history of the InterPACK conference series to achieve 300 attendees; closely following the success of InterPACK ’05 (378) and InterPACK ’97 (381). The InterPACK registration included registrants from 20 different countries. Attendees were generally pleased with the program and venue.

The program featured 273 technical papers in 67 technical sessions. The technical papers were organized by 8 Technical Track Committees, comprised of leading scientists and engineers from industrial companies, government laboratories, and academic institutions throughout the world. These Committees also will serve as a start to developing a technical committee structure for the EPPD. The average session attendance was 32, with a maximum of 90 and a minimum of 7. The technical sessions were 90 minutes long, with 6-7 sessions held in parallel. There were normally 2 sets of parallel sessions held in the morning, and 1 set in the afternoon. Each session was programmed with 3-5 papers, with 4 being the goal number (22.5 minutes per paper). This represented a change (improvement) from recent InterPACKs where up to 6 papers were scheduled per session.

There were challenges to the program organization that need to be considered at future conferences. The utilized webtool was one developed for the University of Arizona EPD by JM Technology Solutions, Inc. of Austin, TX. The people of JM provided good service and the webtool proved acceptable. However, it is inferior to the ASME webtool in several ways, causing unhappiness to many of the organizers who were used to that approach. We chose to use the JM webtool for two reasons: much lower cost and our familiarity with its operation because it is also used for the ITherm conferences. It is recommended to use the ASME webtool in the future if it proves affordable. The other major challenge was the lack of timeliness by authors in every aspect of abstract and paper submission. This problem becomes worse for every conference, and innovative ideas are needed to solve it. We had particular problems obtaining a correctly filled out ASME copyright form from the authors, and then getting ASME to approve the form. At one point, the CD was ready to go to press and over 50 InterPACK papers were slated for deletion. In the final state, we believed we had obtained all of the copyright forms except for one. However, ASME required that 3 InterPACK papers be excluded from the final CD. Another concern is the high dropout rate from approved abstract to final paper. We received 405 abstracts for InterPACK ’07, but only ended up with 273 final papers (32% dropout rate).

In addition to the traditional paper sessions, InterPACK ’07 featured 12 keynote speakers, 16 tutorials, 6 panels, 31 exhibitors, and an inaugural student poster session with 33 student presenters. Six Plenary Keynote sessions were held on Tuesday-Wednesday-Thursday mornings, as well as lunches on Monday-Tuesday-Wednesday. In addition, several of the Technical Tracks organized Track Keynote Sessions featuring 6 Track Keynotes, which were of a more focused technical nature than the Plenary Keynotes. The Track Keynotes were a new feature to InterPACK ’07 and several were highly attended.

Tutorials were presented on Sunday (first day of conference). A total of 27 tutorials were offered, with the EPPD putting on 16 tutorials, and the HTD putting on 11 tutorials. The tutorials were taught in 3 different time slots, so one could attend up to 3 tutorials over the day. Attendees were charged $100 to attend the tutorials (full day), and were provided a CD containing PDF files of the presentations for the EPPD tutorials. Those who missed the tutorials but attended the conference could purchase a CD with the presentations for $50. Although the quality of the presentations was generally very good, tutorial income and attendance were disappointing, with only 47 paid attendees, and 77 total attendees. The average tutorial attendance was 8, with a maximum of 25 and a minimum of 2. Unfortunately, the costs of the honorariums paid to the instructors and the audio-visual equipment exceeded the registration income. Thus, the tutorials registered a small financial loss (~$2000) instead of the profits as anticipated. Several methods of improvement were identified and will be implemented at InterPACK ’09.

In a change from previous conferences, the panel sessions were held in a late afternoon time slot (4:00-5:30 PM) that did not conflict with any of the regular paper sessions. This format was a success and should be continued. The panels featured a moderator and from 3-5 panelists. Many of the moderators and panelists made special trips to the conference just for the purpose of serving on the panel. Panel session attendance averaged 61, with a maximum 110 and a minimum of 30.

InterPACK '07 also featured a revitalized exhibits area, with 31 exhibitors (27 from industry, 4 universities). This number was much higher than any previous InterPACK, the closest being InterPACK ’97 with 16 exhibitors. The exhibits were held on Tuesday and Wednesday during the day. The exhibits area stayed busy and feedback from the exhibitors was very positive. The exhibitors were charged $1150, which gave them 2 registrations for the conference. The majority of the income from the exhibitors was used to stage the main reception of the conference (Tuesday evening Exhibitors Reception). The only disappointing aspect of the exhibits was that the venue did not allow the food for the reception to be located in the exhibits area. Thus, the traffic in the exhibits was very light during the reception.

Key to the success of this conference was the formation of a new InterPACK Industrial Advisory Board (IAB) comprised of representatives from several companies including AMD, Freescale, IBM, Intel, Motorola, and Texas Instruments. The IAB provided valuable input into the organization of the conference including development of an inaugural Student Poster Session and Contest. The purpose of the poster session was to allow students to better network with participants from industry and academia, and to encourage student excellence through the availability of Best Poster Awards (plaques and cash). It was held in a special time slot on Monday afternoon (2:00-3:30), with no other InterPACK sessions in parallel. The poster session featured 33 posters by students from academic institutions worldwide, and over 200 people viewed the posters. In a departure from other conferences, papers presented as student posters were also presented a second time during the technical sessions (either by the student or one of their co-authors). Thus, there were no perceived disadvantages to being in the poster session. The IAB generously provided financial support for the poster session ($29,000). The funds were used for the poster contest awards, as well as for $650 travel grants for students presenting posters and papers at the conference.

The early-bird registration fee for general attendees of InterPACK ’07 was $495. In addition, session and track chairs were allowed to register at a discounted rate of $425. These rates were among the lowest in InterPACK history, only being matched or beaten during the past 10 years by InterPACK ’05 ($495) and InterPACK ’95 ($425). Contradictory to the low registration fee, attendees at InterPACK ’07 received several benefits to their registration fee besides admission to all of the conference programming. These included a CD proceedings containing the papers from all of the co-located conferences; two full color conference programs; fully catered morning and afternoon breaks; and several meals and receptions for all attendees including 4 breakfasts (Monday-Tuesday-Wednesday-Thursday), 3 lunches (Monday-Tuesday-Wednesday), Opening Reception (Sunday), and Exhibitor Reception (Tuesday). This was the first InterPACK to provide lunches as a part of the conference fee, and total meal/break/reception package was more elaborate than any other InterPACK by a great margin.

Probably the most disappointing aspect to InterPACK ’07 was the final financial bottom line (income minus expenses). The final official accounting showed a balance of -$73. This small deficit was absorbed by Univ of Arizona EPD as part of the administration agreement (profits were to be kept by ASME, and losses absorbed by Arizona EPD). There were several reasons that a surplus was not achieved. Most dominant was the loss of purchasing power of the US dollar during the 2 years before the conference. This caused the majority of the food and audio-visual expenses to be much higher than anticipated (it also caused the hotel rate for attendees to go up). As food costs were the majority of expenses for the conference ($187K out of $348K), the slip of the dollar by over 33% was a disaster. There were several smaller effects on the bottom line deficit/surplus including a low level of tutorial income, overestimating food amounts, and a high cost of printing and shipping the final program due to the necessity of last minute arrangements.

In summary, InterPACK ’07 was a great technical success with high attendance and a vibrant program with great benefits provided for attendees. Financially, the conference was break even with the major reason being the slip in the purchasing power of the US dollar.

InterPACK ‘09

A planning meeting was held for InterPACK ’09 at the Westin Bayshore Hotel in Vancouver on July 11, 2007. The feedback received included a high level support for continuing the initiatives/improvements in the areas of student posters, exhibits, panels, and track keynotes. There was general consensus that the tutorial attendance and usability of the webtool must be improved. On the topic of site selection, there are two major opinions: San Francisco (Bay Area) and Hawaii. In the two straw polls taken at InterPACK ’07, San Francisco was the winner by a 2-1 margin.

The leadership of InterPACK ’09 was appointed by the EPPD Executive Committee and will consist of Jeffrey C. Suhling (Auburn University) as General Chair, and Sandeep Tonapi (GE) as Program Chair. In addition, Professor Masaru Ishizuka (Toyama Prefectural University) was appointed by JSME as the Co-General Chair Far East.

During August 2007, several hotels were contacted/considered in San Francisco, San Jose, and Hawaii. The ASME Heat Transfer Division SHTC (Summer Heat Transfer Conference) was willing to co-locate with InterPACK ’09 if the conferences were held in the San Francisco Bay Area. After much thought, the final decision was to co-locate in San Francisco during the week of July 19-23, 2009. We have agreed to again use University of Arizona EPD as the conference administrators, and they have signed a contract with the Westin St Francis hotel to serve as the venue for the conference.

9.

10. JEP report by Editor Bahgat Sammakia

- Total page allocation maintained at 500 pages/year
- Paper acceptance from Accomplishments for rate has been reduced 50% to 44% for 2006-2007 papers. Paper review cycle time was 15.9 weeks (total). Time to publish (from submittal) at 73.4 weeks.
- AE’s nominations accepted by ASME through June 2010 – (1 new, 12 renewals)
- Added Kuoning Chiang as Guest Editor (MEMS)
- Added Mohamed-Nabil Sabry as Guest Editor (For ThETA 1

Conference papers)
• 2006/7 JEP AE of Year award (G. Lorenzini) and 2006/7 JEP Best Paper of Year award (TBD) selected
• Provided monthly JEP status reporting to ASME (12 reports)-includes Excel spread sheet status current & backlog.

- JEP Impact Factor increased to .487 (+14%) over past year
- Four issues of JEP published (2006/2007)- 521 pages total
- September 2006- 3 Tech Brief 15 TP , Tech. 125 pgs
- December 2006- 22 TP, 2 Tech. Brief (186 pgs)
- March 2007- 14 TP, 1 Tech. Brief , 2 Book Review (111 pgs)
- June 2007- 12 TP , 1 Tech. Brief (99 pgs)
- Published September 2007 issue- 19TP, 1 Tech Brief (150 pages)
- Included invited 3 ITherm'06 papers
- JEP Total Review Process Time for 2007 was 15.9 weeks
- JEP Time to Publish (submittal to publish) for 2007 was 73.4 weeks
- Special future JEP issues:THeTA 1'06 (11 papers papers-Dec 2008)

11. New Business
    a. K-16 clock award 2008 will be chaired by Dr Bahgat Sammakia and will be presented in Itherm 2008
    b. Membership to be up to date and reminder that K-16 members can not be voting member in other K-committees (expect the educational committee)

Next K-16 Committee Meeting
2008 ITherm
May 28-31
Orlando, FL

Meeting Adjournment