

# Components, Packaging, and Manufacturing



# IEEE

## Technology Society

### Newsletter



*The Global Society for Microelectronics Systems Packaging*



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[www.enh.ieee.org/soc/cpmt/newsletter](http://www.enh.ieee.org/soc/cpmt/newsletter)

### President's Column



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Greetings

### The World Cup

We live in interesting times. Many of you who have stayed up until the wee hours of the morning to watch the 2006 World Cup soccer matches can testify to the dynamism and energy of these exciting games. It is clear that from the sheer skill, teamwork, and physical conditions, that the final eight teams have all played superbly. The differences between these frontrunner teams are razor thin. They have all been expertly trained and meticulously prepared for their chance at World Cup Championship glory. They were exciting games indeed.

### A Time of Change

We live in a time of change. The CPMT Society is changing to reflect the global nature of the CPMT professionals in industry and academia. And our value propositions are changing to help members and professionals meet challenges arising from the industry's increasing globalization. What are these challenges? Let me give you my personal view. As technical professionals, we practice our trade with our intellectual capital, i.e., our technical knowledge, learned from formal education in schools, universities and later on, "on the job", whether research, development, or manufacturing. We learn that engineering is a team sport. We learn to think and act in a multi-disciplinary fashion. We regularly build up this intellectual capital when new technologies are introduced, or when we take on new responsibilities.

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### The CPMT Society Rolls Out the Red Carpet for its 2006 Award Winners

Lights! Cameras! Action! A Hollywood theme set the stage for this year's CPMT Society Awards luncheon, held during the 56<sup>th</sup> Electronics Components and Technology Conference (ECTC) in sunny San Diego, California. Almost 800 attendees were on hand to celebrate individuals who personify the goals of the Society as well as the profession itself.

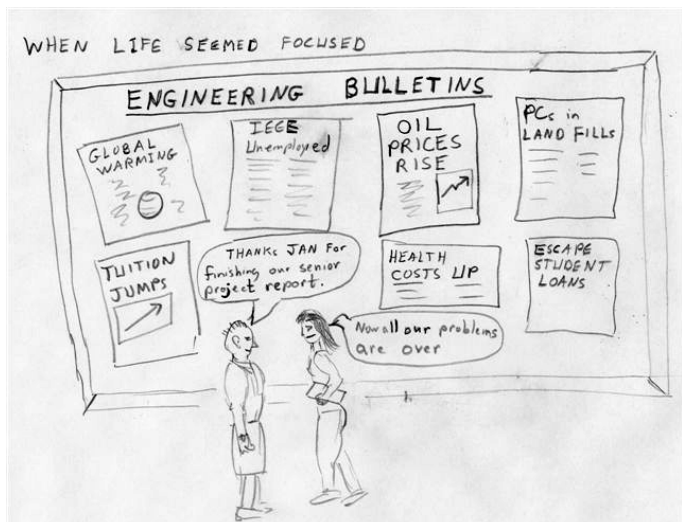
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... Dave Palmer

packaging, was presented by Debendra Mallik. The winning student was Lingbo Zhu of Georgia Institute of Technology for “*In-situ Opening Aligned Carbon Nanotube Films/Arrays for Multichannel Ballistic Transport in Electrical Interconnects.*”



Torsten Wipiejewski, ECTC 2006 Program Chair, Presiding over ECTC Program Chair Luncheon



Andrew Skipor of Motorola Inc. presenting Motorola Packaging Fellowship to Arindam Goswami, Univ of Maryland.



Debendra Mallik of Intel Corporation presenting Intel Best Student Paper Award to Lingbo Zhu of Georgia Institute of Technology

The 57th ECTC will be held from May 29 to June 1, 2007 at John Ascuaga’s Nugget in Reno, Nevada. Abstract and course proposal submissions are due by October 15, 2006 and can be submitted on line at [www.ectc.net](http://www.ectc.net) starting in mid-August. For additional information, contact the 2007 Program Chair, Rao Bonda, Freescale Semiconductor, Inc., +1-480-413-4511, [rao.bonda@freescale.com](mailto:rao.bonda@freescale.com).

## ***The CPMT Society 2006 Award Winners (continued from Page 1)***

Lights! Camera! Action! A Hollywood theme set the stage for this year’s CPMT Society Awards luncheon, held during the 56<sup>th</sup> Electronics Components and Technology Conference (ECTC) in sunny San Diego, California. Almost 800 attendees were on hand to celebrate individuals who personify the goals of the Society as well as the profession itself.

The guests were seated around tables that included “walk of fame” stars highlighting individuals who have made or continue make significant contributions to the electronics and packaging industry. The names of historical pioneers such as Jack Kilby and Gordon Moore were intermingled with today’s “stars” such as Yutaka Tsukada and Rao Tummala, demonstrating just how important people are to the profession and to the Society.

**William T. Chen**, President of the CPMT Society, opened the ceremony with a few words. “The collective work of our industry has contributed to a world driven by transistors and electronics. We have seen great improvements in transportation, medical applications, communications, and other life-affecting industries. These are very good things.” said Chen. “And we all stand on the shoulders of brilliant engineers and scientists who came before us, building on their discoveries to make our own research and breakthroughs possible,” he added.

Here is a recap of this year’s award winners:

### ***The 2006 IEEE Technical Field Award***

The *IEEE Components, Packaging and Manufacturing Technology Award* was presented to **C.P. Wong** (Georgia Institute of Technology, USA) for his contributions in advanced polymeric



materials science and processes for highly reliable electronic packages. IEEE-USA President (and former CPMT Society president) **Ralph W. Wyndrum, Jr.** presented the award. Wong’s extensive list of accomplishments includes 40 U.S. patents, over 450 published technical papers and numerous other CPMT Society awards. Wong thanked his personal mentors, including **Rao R. Tummala** (also a former CPMT Society president) who brought him to Georgia Tech, and his colleagues and students, whose support and collaboration were essential to his achievements. Always humble, Wong suggested that there were many in attendance equally deserving of the honor. Wong received a certificate, a bronze medal and an honorarium.

### The 2006 CPMT Society Awards

Chen and **N. Rao Bonda**, CPMT Society Awards chair, presented the awards to academics and industry leaders alike.



- **Ning-Cheng Lee** (Indium Corporation of America, USA) received the *Exceptional Technical Achievement Award* for his contributions to surface mount technology and electronic packaging assembly. Lee is the Vice President of Technology for the Indium Corporation of America. His pro-

found contributions to the electronics industry, particularly the SMT industry, span over two decades and his work has enabled the establishment of scientific reflow profiling optimized manufacturing performance. Lee's findings have received critical peer recognition, and his papers have become the seminal text for the SMT industry.

- **Jorma Kivilahti** (Helsinki University of Technology, Finland) was awarded the *Outstanding Sustained Technical Contribution Award* for his contributions to the devel-



opment of novel electronic and optical integration techniques and the reliability of electronic products. Kivilahti heads the laboratory of electronics production technology as well as the National Graduate School of Electronics Manufacturing, both in the Department of Electrical and

Communications Engineering at the Helsinki University of Technology. He has also made several distinguished technological and scientific contributions to increasing the understanding and control of the failure mechanisms behind the reliability of electronics. He has received the Order of the White Rose of Finland (Knight). Unable to attend the event, Kivilahti's award was accepted on his behalf by a former student, **Kari Kuloj-rvi**, Director, Mechanics and Miniaturization, Technology Platforms, Nokia, Finland.

- **Nasser Grayeli** (Intel Corporation, USA) received the *Electronics Manufacturing Technology Award* for his con-



tributions to electronic packaging and assembly technologies through his leadership in Intel Corporation and the International Electronic Manufacturing Initiative (iNEMI). Grayeli is Intel's Vice President, Technology Manufacturing Group Director, Assembly Technology Development. His contributions include establishing a technically

competent organization at Intel to develop electronic packaging and assembly technologies for use in the high volume manufacturing of microprocessor, chipset, wireless and communication products. He also contributed to the development of an electronic packaging certification and degree program and research center at Arizona State University



- **Connie Swager** and **John Segelken** (Consultants, USA) were awarded the *David Feldman Outstanding Contribution Award* for their exceptional and sustained leadership in the CPMT Society and the Electronic Components and Technology Conference (ECTC) in numerous roles. Swager worked at IBM for almost

20 years spanning semiconductor packaging engineering, procurement and supply chain management, marketing and e-business consulting. Segelken completed a 30-year career with Bell Labs spanning research, design and development, and supply chain management of electronic components. Both Swager and Segelken held several leadership positions in the CPMT Society and were elected Board of Governors. They are also both former General Chairs of ECTC.



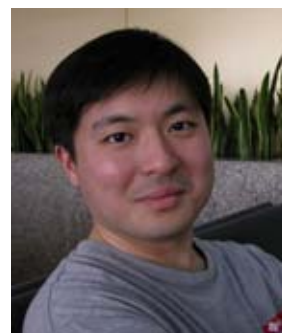
Many up-and-coming engineers were nominated for the *Outstanding Young Engineer Award*, but two exceptional candidates stood above the rest. So the Society honored them both.

- **Ravi Prasher** (Intel, USA) was honored for his contributions to thermal design and management of electronic packages, in-



cluding microchannel based cooling, nanofluidics, and thermal interface materials, and for supporting CPMT Society activities and journals. His nanotechnology work has resulted in a well-respected program at Intel. He holds 11 U.S. patents with an additional 21 pending. In addition to his work at Intel, he is an adjunct professor at Arizona State University where he co-developed a graduate level nanoscale thermal transport course.

- **Tek-Joo Goh** (Intel Asia-Pacific, China) was honored for his contributions to microelectronic packaging research and devel-



opment, and for supporting CPMT Society activities and journals. Goh is the operations/technical manager for Intel's Asia-Pacific research and development organization. He has led thermal and mechanical engineering teams in the Assembly Technology Development Group of Intel to enhance thermal/mechanical design, model-

ing, characterization and validation.

The *IEEE Transactions on Components and Packaging Technologies Best Paper Award* honors the most outstanding paper published in 2005. This year's winning paper, "Increasing the Accuracy of Structure Function Based Thermal Material Parameter Measurements" was published in the March 2005 issue. **Márta Rencz** accepted the award from **Paul Wesling**, CPMT's Vice President of Publications. The paper was authored by **Márta Rencz** and **András Poppe** (both with MicReD, Ltd., Budapest, Hungary) as well as **Ernő Kollár**, **Sándor Röss** and **Valdimir Székely** (all with the Department of Electron Devices, Budapest University of Technology and Economics, Budapest, Hungary).



Student chapters offer a sense of professional community at the university level. One student chapter put in many hours to coordinate campus meetings and activities that allow students to enhance their knowledge and hone their leadership skills.

The *Student Chapter of the Year Award* went to the **Chalmers University of Technology** (Gothenburg, Sweden). Chapter advisor **Johan Liu** and chapter treasurer, **Dimitar Kolev**, accepted the award. Additional chapter officers include **Yue Qu**, President, **Mohammad Kamruzaman Chowdhury**, Interim President, **Mohammad Najmzadeh**, Vice Chairman and **Björn Carlberg**, Secretary.



Finally, the Society took this opportunity to honor its 2005 IEEE Fellows who were in attendance at ECTC. **Ralph Wyndrum** presented certificates to:

- **William T. Chen** (ASE Group, USA) for contributions to packaging and assembly technology.
- **Paul Franzone** (North Carolina University, USA) for contributions to chip-package codesign.
- **Johan Liu** (Chalmers University of Technology, Sweden) for contributions to environmentally compatible electronic materials and processes.
- **Gary May** (Georgia Institute of Technology) for contributions to semiconductor manufacturing and engineering education.
- **Michael McShane** (Freescale Semiconductor, Inc., USA) for contributions to the advancement of semiconductor packaging.
- **Qi-jun Zhang** (Carleton University, Canada) for contributions to linear and nonlinear microwave modeling and circuit optimization.

If you know a colleague who deserves recognition, please visit [www.cpmt.org/awards](http://www.cpmt.org/awards) for more information and awards criteria.

## CALL FOR CANDIDATES

The CPMT Society is governed by a Board of Governors composed of officers, 18 elected members-at-large, and various committee chairs and representatives (see inside cover of this Newsletter for details.) Annually, Society members are asked to elect six members-at-large for a three-year term of office. Candidates for member-at-large are selected in two ways -- either by the Society Nominating Committee, or by petition. This year's election is the second in which members-at-large will be elected to achieve totals proportionate to the geographic distribution of CPMT members. This translates as follows:

Regions 1-6, 7 and 9 (US, Canada, South and Central America): elect 3 (for total of 12)

Region 8 (Europe, Africa, Middle East): elect 1 (for total of 3)

Region 10 (Asia/Pacific): elect 2 (for total of 3)

Voting members will elect members-at-large from within their Region only (that is, members in Region 8 will vote for members-at-large from Region 8, etc.)

If you are an IEEE and CPMT Society member in good standing and are interested in serving on the Board of Governors, you can become a candidate via petition by following the procedures below. Members of the Board of Governors must be willing to attend two annual Board meetings and participate actively in areas of their interest (publications, conferences, membership development, chapter development, etc.) The term of office for this election is 1 January 2007 through 31 December 2009.

- Prepare a petition that contains your name, member number, and statement of your qualifications for office.
- Provide lines for signatories. Each line should include space for a printed name, member number, and signature.
- Have the petition signed by a MINIMUM of 25 CPMT Society members in good standing (Student grade members are not eligible to sign.)

Membership status of all signatories will be validated. It is suggested that you gather more than 25 signatures in order to assure