

Best Paper in the 2006 issues of the Transactions on Components and Packaging Technology:

Paper Title: "On-Chip High-Speed Localized Cooling Using Superlattice Microrefrigerators", Volume 29, Issue 2, June 2006.

Authors: Yan Zhang, James Christofferson and Ali Shakouri, UC-Santa Cruz; Gehong Zeng and John Bowers, UC-Santa Barbara; and Edward Croke, HRL Laboratories LLC

Abstract: In this paper, we addressed heating problems in integrated circuits (ICs) and proposed a thin-film thermionic cooling solution using Si/SiGe superlattice microrefrigerators. We compared our technology with the current most common solution, thermoelectric coolers, by strengthening the advantages of its compatible fabrication process as ICs for easy integration, small footprint in the order of $\sim 100 \times 100 \mu\text{m}^2$, high cooling power density, $600\text{W}/\text{cm}^2$ and fast transient response less than 40 μs . The thermoreflectance imaging also demonstrated its localized cooling. All these features combined together to make these microrefrigerators a very promising application for on-chip temperature control, removing hot spots inside IC.

The award was presented by Paul Wesling, VP-Publications, to James Christofferson. It consists of a certificate, plus US \$2,000 divided between the authors.

Best Paper in the 2006 issues of the Transactions on Advanced Packaging:

Paper: "Novel Method for Simultaneous Formation of Wires and Vias of a Printed Circuit Board using Nanoporous Body", Volume 29, Issue 2, May 2006.

Authors: Koji Asakawa, Shigeru Mataka, Yasuyuki Hotta and Toshiro Hiraoka, Toshiba Research and Development Center

Abstract: A new type of a flexible printed circuit board with landless vias is developed using a novel method called interconnection via nanoporous structure (INPS). This method can make wires and vias of the printed circuit board simultaneously by a single photo-exposure process. A new photo-induced selective plating method was used to impregnate a nanoporous substrate with copper, and a new photomask was designed, which constitutes of a completely vacant large hole for via and aggregation patterns of very fine holes for wire. Because of the simple process, the INPS board is characterized by landless vias and very fine circuit. Owing to the structure, it is also characterized by flexibility and detachable wires.

The award consists of a certificate, plus US\$2,000 divided between the authors. The award was presented by Paul Wesling, CPMT Society VP – Publications, to a representative from Toshiba who received the award on behalf of the authors.

Best ECTC Papers from 56th ECTC 2006:

The Electronic Components and Technology Conference executive committee have also announced the "Best of Conference" and "Conference Outstanding" papers selected from the preceding 56th ECTC 2006. The authors of the Best Session Paper share a check for US \$2500 and the authors of

the Best Poster Paper share a check for US \$1500. The winning authors also receive a personalized certificate commemorating their achievement. The winning authors for Conference Outstanding Paper receive a personalized certificate commemorating their achievement and will share a check for US \$1000.

Best of Conference Papers from 56th ECTC 2006 were:

Best Session Paper (Session 20, Paper 7)

Paper Title: Interface Failure in Lead Free Solder Joint

Authors: Robert Darveaux^{1,2}, Corey Reichman^{1,2}, Nokibul Islam¹ - ¹Amkor Technology, Inc., ²Arizona State University

Best Poster Paper (Session 38, Paper 9)

Paper Title: Flex-Circuit Chip-to-Chip Interconnects

Authors: Henning Braunisch, James E. Jaussi, Jason A. Mix, Mark B. Trobough, Bryce D. Horine, Victor Prokofiev, Daoqiang Lu, Rajashree Baskaran, Pascal C.H. Meier, Dong-Ho Han, Kent E. Mallory, Michael W. Leddige - Intel Corporation

Conference Outstanding Papers from 56th ECTC 2006 are:

Outstanding Session Paper (Session 3, Paper 3)

Paper Title: Thin Electroless Cu/OSP on Electroless Ni as a Novel Surface Finish for Flip Chip Solder Joints

Authors: Young-Doo Jeon, Yong-Bin Lee, Young-Sik Choi – Samsung

Outstanding Poster Paper (Session 37, Paper 3)

Paper Title: A Novel Synthesis Method for Designing Electromagnetic Band Gap (EBG) Structures in Packaged Mixed Signal Systems

Authors: Tae Hong Kim¹, Daehyun Chung², Ege Engin¹, Wansuk Yun¹, Yoshitaka Toyota³, Madhavan Swaminathan¹ – ¹Georgia Institute of Technology, ²Korea Advanced Institute of Science and Technology, ³Okayama University

These papers and other CPMT Transactions and ECTC papers can be reviewed by accessing ieeexplore.ieee.org.

15th Motorola – IEEE CPMT Society Graduate Student Fellowship for Research on Electronic Packaging

Submitted by Dr. Rao Bonda, Program Chair, 57th ECTC 2007

The IEEE CPMT Society announced the 15th Motorola-IEEE CPMT Society Graduate Student Fellowship for Research on Electronic Packaging at 57th ECTC 2007 held in Reno, Nevada. The purpose of the Fellowship is to promote graduate-level study and research in electronic packaging. An annual award will be made to a student enrolled full-time in a graduate curriculum leading to a Ph.D. and whose major field of study is in electronic packaging. For the purpose of this award, electronic packaging research is defined as the fundamental study of the design, analysis, characterization, manufacturing, thermal management, or reliability of electronic interconnect assemblies including semiconductor / photonic devices and printed wiring board technologies. The award is based on a student paper competition held at ECTC for the abstracts submitted by the students indicating a desire to be considered for Motorola Fellowship.

This year's winning paper at 57th ECTC 2007 was presented by Kiwon Lee and was titled "Ultrasonic Anisotropic Conductive Films (ACFs) Bonding of Flexible Substrates on Organic Rigid Boards at Room Temperature". Kiwon Lee's co-authors included

Hyoung Joon Kim, Il Kim and Kyung Wook Paik. Kiwon Lee and all are from Korea Advanced Institute of Science and Technology (KAIST). Dr. Lih-Tyng Hwang from Motorola, Inc. presented the award. The winning student author receives a three-year fellowship grant of \$21,000 at his university. For information regarding the Fellowship, please contact Dr. Andrew Skipor, Motorola Chair, at aas002@email.mot.com.



Intel Best Student Paper Award

Submitted by Dr. Rao Bonda, Prog. Chair, 57th ECTC 2007

Intel Corporation sponsored an award for the best paper submitted and presented by a student at the 57th ECTC 2007. To enter the Intel Best Student Paper Award competition, students have checked the "Intel Best Student Paper Award" box in the "Fellowship" section of the on-line abstract submission form. Students considered for the award, are all full time students for at least one semester after the conference conclusion. Only students that were lead authors, and presented the paper at 57th ECTC 2007 were considered. Finalists were determined by review of the completed manuscripts by the judging committee. Manuscripts were reviewed for relevance to the competition topics, technical content, and originality. Finalists were notified by email, and

each finalist submitted an affidavit from their faculty advisor certifying that the student meets the eligibility requirements.

This year's winning paper at 57th ECTC 2007 was presented by Jiongxin Lu of Georgia Institute of Technology and was titled "Tailored Dielectric Properties of High-k Polymer



Composites Via Nanoparticle Surface Modification for Embedded Passives Applications". Her advisor Dr. C.P. Wong is a co-author on the paper. Mr. Debendra Mallik from Intel Corp. presented the award. The student receives a check for \$2500 and a certificate.

Prof. José Schutt-Ainé Appointed Transactions on Advanced Packaging Editor-in-Chief

Submitted by Paul Wesling, CPMT Society VP - Publications



IEEE CPMT Society Board of Governors at June 2nd, 2007 Board Meeting, have nominated Dr. José Schutt-Ainé, Professor of Electrical and Computer Engineering, University of Illinois, Urbana-Champaign, as a second Editor-in-Chief for the Transactions on Advanced Packaging, to work alongside Prof. Ganesh Subbarayan, Profes-

sor of Mechanical Engineering, Purdue University, who continues as Editor-in-Chief. He is nominated for a four-year term commencing in March, 2007, which is renewable. This nomination adopts the model implemented in 2006 for the Transactions on Components and Packaging Technologies, in which the Transactions is divided topically, so that roughly half of the submissions can be handled by each of two Editors-in-Chief.

José's research focus is on signal integrity, electronic packaging, microwave theory and measurements, digital circuit modeling, integration of modeling and simulation tools, high-speed circuit design, and high-performance computation for simulation of packages. He has been active in the Technical Committee on Electrical Design, Modeling and Simulation, and in both the conference on Electrical Performance of Electronics Packaging (EPEP) and the Workshop on Signal Propagation on Interconnects (SPI).

José served as an Associate Editor for the IEEE Transactions on Circuits and Systems from 1997 to 1999, served as Guest Editor for a special section in IEEE Transactions on Advanced Packaging in 2004, and has been an Associate Editor for Transactions on Advanced Packaging since that time.

José E. Schutt-Ainé (M'82-SM'98) received the B.S. degree from MIT in 1981 and the M.S. and Ph.D. degrees from the University of Illinois at Urbana-Champaign (UIUC), in 1984 and 1988, respectively. From 1981 to 1983, he worked at the Microwave Technology Center, Hewlett-Packard, Santa Rosa, CA, as an Application Engineer for microwave amplifiers. During his graduate studies at UIUC, he held summer positions at GTE Network Systems, Northlake, IL, as a Signal Integrity Engineer. In 1996, he worked at Digital Equipment Corporation, Hudson, MA, as a Computer-Aided Design Consultant. He is currently a Professor of electrical and computer engineering at UIUC.

There was a consensus among the key researchers in this field that José would be their choice as Editor-in-Chief, and he has their confidence as he assumes this role. Please assist José as he assumes this new position, and continue to offer support to Ganesh as they work to further improve Transactions on Advanced Packaging.

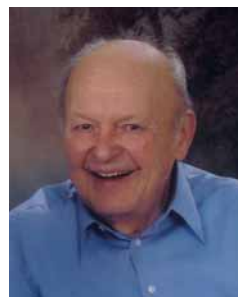
CPMT Society Officer Interviews:

Interview with Dr. Albert F. Puttlitz, Vice President (Education), IEEE CPMT Society

By Dr. Vasudeva P. Atluri, CPMT Newsletter Editor-in-Chief

Editor: Tell us a little about yourself, and your family

Al: I was born and lived in Kingston, New York until I left for college. I have an Associate Degree in Mechanical Technology from the State University of New York at Canton, New York (1956), a Bachelor of Science Degree in Mechanical Engineering from Rochester Institute of Technology, Rochester, New York (1959), and a Master of Science Degree in Engineering Mechanics from Michigan Technological University, Houghton, Michigan (1961).



I began my career with the IBM Federal Systems Division in Kingston, New York in 1956. I took three leaves of absence from IBM to pursue my Bachelors, Masters and Doctoral degrees. I received my Ph.D. degree in Engineering Mechanics from Michi-