

Chapter Reports:

IEEE CPMT Polish Chapter

Submitted by Artur Wymyslowski, Secretary of Poland CPMT chapter

The IEEE CPMT Polish Chapter is located on territory of Poland and its main aim is to bring together different experts and users of electronic packaging for the common benefit. It is the Chapter of IEEE Poland Section. The website for the section can be accessed at www.ieee.pl/index.php?lang=en&MMenu=main.

The IEEE Components, Packaging and Manufacturing Technology (CPMT) Society is the leading international forum for scientists and engineers engaged in the research, design and development of revolutionary advances in microsystems packaging and manufacture. The CPMT Society can help with technical excellence, professional development and international networking opportunities, through its journals, conferences and workshops, committee activities, local chapter events, educational programs and awards.

IEEE CPMT Polish chapter was started in 2007 in Wroclaw, which is located in the south-west part of Poland. Currently the chapter consists of 10 active members from different background and experience.

The current chapter board consists of three persons:

- President: dr hab. eng. Jan Felba prof.
- Vice-president: dr eng. Ryszard Kisiel
- Secretary: dr hab. eng. Artur Wymyslowski

IEEE CPMT-Poland chapter organizes annually a number of events devoted to:

1. Conference organization
2. Lectures and seminars
3. Courses

On 6th of March 2008 an agreement between CPMT-Poland chapter and IMAPS Poland-chapter was signed on bilateral cooperation. The main goal of the signed agreement is to:

1. expand the knowledge on microelectronics
2. support the achievements of the both parties
3. organize annually the common scientific-technical Conference



Picture of agreement signing event between officers of CPMT-Poland Chapter and IMAPS-Poland Chapter

On the 21-24th of September 2008 there will be organized a scientific conference *IMAPS-CPMT poland conference*. The conference will take place at *Warszawa-Pultusk*.

The organizing institutes:

1. IMAPS-Poland chapter (<http://www.imaps.org.pl/about/english.php>)
2. CPMT-Poland chapter (cpmt-poland.info/)
3. Institute of Electronic Materials Technology (www.imio.pw.edu.pl/en/main.html)
4. Warsaw University of Technology (eng.pw.edu.pl/)
5. Committee on Electronics Telecommunication of Polish Academy of Science (keit.pan.pl/)

The conference topics include:

1. Hybrid and Semiconductor Technology
2. Design Methods and Computer Simulations
3. Electronics Materials and Components
4. Microcircuits Applications
5. Thick-Film and Thin-Film Sensors
6. Packaging and PCB
7. Quality and Reliability Evaluation
8. Thermal Management
9. Optoelectronics and Photovoltaics
10. Education in Electronics

For more information about the conference, access imaps2008.imio.pw.edu.pl/.

In order to contact the IEEE CPMT - Polish chapter, please use the following address:

IEEE CPMT - Polish Chapter
Wroclaw University of Technology
(www.pwr.wroc.pl/en_main.xml)
Faculty of Microsystem Electronics and Photonics
(wemif.net/?c=a&s=0&lng=en)
ul. Grabiszynska 97
53-439 Wroclaw
Poland

or use one of the following e-mail addresses:

- President: dr hab. eng. Jan Felba, prof. - jan.felba@pwr.wroc.pl
- Vice-president: dr eng. Ryszard Kisiel - r.kisiel@imio.pw.edu.pl
- Secretary: dr eng. Artur Wymyslowski - artur.wymyslowski@pwr.wroc.pl

IEEE CPMT Society Phoenix Chapter Update

Submitted by Mr. Victor Prokofiev,
IEEE Phoenix CPMT Chair 2007

In the year 2007 IEEE Phoenix CPMT chapter was very rich on events and other activities. The chapter provided very diverse learning opportunities to all engineers in the Phoenix area, which is a very important for member professional development. During the year the chapter held twelve technical presentations, organized one "Backend Wafer Processing Technologies" tutorial, and co-sponsored "Emerging Device and Packaging Technologies" workshop with IEEE WAD (Waves and Devices) Phoenix Chapter. After investing a lot of effort in organizing these events the chapter officers were pleased to learn as more than 400 people

found time in their busy life and attended the chapter events. In addition to that, the chapter also provided technical seminar attendees with free refreshments and hot meal. In order to keep pool of engineering talents sound, the chapter continues to sponsor scholarship program for IEEE Student Members within IEEE Phoenix Region. Special thanks to all IEEE CPMT Phoenix Chapter officers for volunteering, Freescale Semiconductor Corporation for providing Chapter with meeting rooms, and all other people who supported our activities!

IEEE CPMT Society Student Branch at Georgia Institute of Technology

Submitted by Mr. Dean Sutter, Director, Business Operations and Infrastructure, Microsystems Packaging Research Center, Georgia Institute of Technology
dsutter@ece.gatech.edu

The IEEE CPMT Student Chapter at Georgia Institute of Technology (GIT) was the first CPMT Student Chapter formed. It was formed in May 2001 with the support of Professor R. Tummala, Director of the Microsystems Packaging Research Center (PRC), and Professor M. Swaminathan, Deputy Director of the PRC who also serves as the Chapter Faculty Advisor.

The GT Student Chapter leaders are Jin Liu (President), Nevin Altunyurt (Vice President), and Dhanya Athreya (Secretary / Treasurer).



Jin Liu



Nevin Altunyurt



Dhanya Athreya

The Chapter co-organizes with the PRC Student Council. The Chapter's charter is to promote the awareness of the various electronics packaging education and research at GIT, while at the same time; it provides a center of gravity for social activities for students in the electronics packaging field.

Based on the broad spectrum of technologies needed to realize electronic packages, the Chapter student body is quite interdisciplinary in its composition. Areas of study and research include electrical and mechanical design, material development, characterization, and synthesis; substrates with high density wiring and microvias, embedded passives components, RF, MEMs, interconnects, optics, thermal management, reliability, and electrical test to name a few. As a result, a majority of the students are from the School of Electrical and Computer Engineering. However, there are many students from the School of Materials Science and Engineering, the School of Mechanical Engineering, as well as the School of Chemical Engineering. Additionally, students are involved with other research centers on the campus such as the Microelectronics Research Center (MiRC), the

Interconnect Focus Center (IFC), the Georgia Electronic Design Center (GEDC).



Dr. Sitaraman (ME) and Student Interns from Dresden Germany

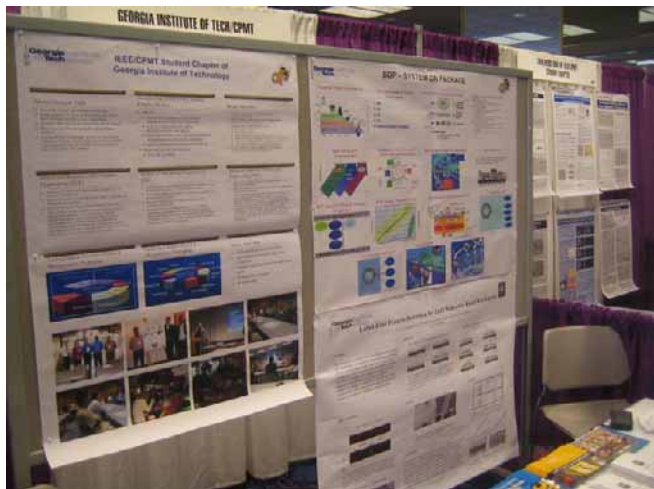


Students and Industry attendees at PRC 3DASSM Workshop

ECTC has been a primary vehicle for the Chapter students to get visibility externally of GIT and GIT typically has a strong presence. This year at ECTC 2008, GIT presented 27 papers, had 11 student posters, this in addition to having a student booth for the 2nd consecutive year. Additionally, Mr. Tapabrata Bandyopadhyay has been announced as the winner of the 2008 IEEE-CPMT Ph.D. Student Fellowship.

Mr. Bandyopadhyay's paper, "Microwave Design & Characterization of a Novel Nano-Cu based Ultra-fine Pitch Chip to Package Interconnect" presented, for the first time, the RF/Microwave design, modeling, parametric optimization and characterization of interconnect transitions for a Nano-Cu based chip-to-package interconnect system for microelectronics packaging applications. His work demonstrated lower electrical parasitics and transition losses (for Chip-on-Chip and Chip-on-Package configurations) using Nano-Cu interconnects, as compared to conventional Solder bumps and Gold stud bumps. Congratulations goes out to the co-authors Gaurav Mehrotra, Georgia Tech, Dr. Mahadevan K. Iyer, Infineon Technologies, Dr. P.M. Raj, Georgia Tech, and Profes-

sors Madhavan Swaminathan and Rao R. Tummala, Georgia Tech. Mr. Bandyopadhyay will receive a one-year Fellowship of \$10,000 towards his Ph.D. studies in 2008 and 2009 and is eligible for up to \$300 towards his travel expenses that are not paid from another source. Congratulations Tapobrata and team!



Student Chapter Booth @ ECTC Conference

To improve promotion of packaging technology awareness, the Chapter established several different lecture series. These included; a student lecture series, a student research promotion program, and a distinguished lecture series.

Several distinguished speakers from industry have been invited to give seminars in the year 2007~2008 to expose the students with the state of the art development in packaging field from the industry. The topics include 3D IC Integration by Dr. Philip Garrou, Electrostatic Protection of Semiconductor Devices by Dr. Duvvury of TI, and Integration of 3D Stacked DRAM and Logic Devices by Mr. Motohashi of NEC. The seminar series greatly broadens the scope of students' packaging knowledge from an industry perspective and it helps students to keep up with the technology developments in industry.



PRC students Nithya Sankaran, Tapobrata Bandyopadhyay, and Guarav Mehrotra tending the PRC booth at ECTC



Student Poster Session



Student Research Opportunities Meeting



Students Participate in Industry Workshop



Dr. Duvvury's seminar on electrostatic protection of semiconductor devices in 2007



Dr. Philip Garrou's seminar in 2007

Social events are also an important part of student chapter's activities at GT. Last spring the Chapter invited the faculty, the research staff as well as the students from across the schools to a spring picnic. During the picnic, students had the opportunities to talk with the faculty members as well as the research staff about things they are interested, from research to the life at school. It was a great experience, especially for those who just entered the field of packaging.



Audience at Dr. Philip Garrou's seminar in 2007



Spring picnic held at Georgia Tech

IEEE CPMT Society Newsletter
Send inputs, suggestions, and
articles by email to
nsltr-input@cpmt.org

..... Editor



Spring picnic held at Georgia Tech

News from the IEEE CPMT SBC Politehnica University of Bucharest

Submitted by Alexandra Iulia Potop, Press Officer IEEE CPMT Student Branch Chapter of Politehnica University of Bucharest, Romania—alexa.potop@cetti.ro

University Politehnica of Bucharest, the Faculty of Electronics, Telecommunications and Information Technology, and the Electronics, Telecommunications and Computer Science University of Pitesti organized with great success, between 10 – 12th of April, the 17th edition of The Interconnection Techniques in Electronics professional student contest TIE 2008.

The central objective of the contest was emphasizing the participants' knowledge in the field of computer aided design of electronic modules.

Based on its organizational structure, including public evaluation of technical solutions found by students, the contest promotes, in a total fair-play spirit, competition and professionalism among the participants interested in the area of microsystems and electronic modules packaging.

The poster of the TIE 2008 contest

This year the contest, hosted by the University from Pitesti, gathered nearby 40 students from ten Romanian Universities: "Gh. Asachi" Technical University – Iasi, "Politehnica" University – Timisoara, Technical University – Cluj-Napoca, University – Pitesti, North University – Baia Mare, "Stefan cel Mare" University – Suceava, Politehnica University – Bucharest, "Lucian Blaga" University – Sibiu, "Transilvania" University – Brasov, "Dunarea de Jos" University – Galati.

The opening ceremony took place in a very warm atmosphere with more than 70 attendees. Greetings to the participants were offered by Alexandru Borcea, ARIES Program Manager (Romanian Association for Industry, Electronics and Software), Prof. Ph. D. Gheorghe Serban, Vice Rector, Prof. Ph. D. Gheorghe Barbu, the rector of the University of Pitesti and Prof. Ph. D. Paul Svasta, from University Politehnica of Bucharest and the Chairman of the Steering Committee of TIE.

Prof. Gheorghe Barbu pointed out that the contest is useful for both teaching stuff and students. It gathers the best students in the field and it's a great opportunity for them to evaluate by themselves their level of knowledge, to accommodate with the competition and also to find out the latest news in this field.



The Professor said he would also like to hear opinions from the students in order to develop an open talk between all involved persons.



Opening ceremony - From left to right: Alexandru Borcea, ARIES, Prof. Ph. D. Gheorghe Serban, ViceRector, Prof. Gheorghe Barbu, Ph. D, the Rector of the University of Pitesti and Prof. Ph. D. Paul Svasta, IEEE-CPMT SBC Advisor

Mr. Alexandru Borcea was present at every edition of the contest and mentioned that TIE aligns the universities and the business domain, assuring the competitiveness of the industry. The diploma received at the end of the contest is on its way to become a certificate.

This year featured new events on the contest schedule: two workshops based on *Traceability in Electronic Packaging and the Nowadays Solutions for Electronic Modules Development*.

For the participants, and especially for the winners, it is a good occasion to keep in touch with trends and a way to get informed about their future career. Students can now decide if what they learn is what companies ask for.

The first Workshop, presented by Mr. Traian Cuhu, Key Account & Distribution Manager Romania & Bulgaria, at Brady Corporation, having as moderator Mr. Alexandru Borcea, had as topics “*Traceability, an Important Key in Electronic Manufacturing*” and draws the steps to follow in manufacturing a ticket for a big variety of products.

The term “traceability” means the steps one should follow in manufacturing the product. Prof. Paul Svasta stated that “a company cannot exist without traceability”.

The second Workshop, presented by Radu Serban Ionescu, Ph.D., from the RadioConsult Company and chaired by Prof. Mariana Jurian, Ph. D., had as topic: “*Nowadays Solutions in Electronic Modules Design*”.

Dr. Ionescu discussed the problem of planning and manufacturing the components used to create the radio equipment defined through a program or virtually (Software Radio). His presentation ended with an invitation made to the universities who want to improve their lectures and lab platforms to have access at additional material.

And of course, a contest couldn't be without participants and subjects.

The Technical Committee, chaired by Associate Professor Norocel Dragos Codreanu of Politehnica University of Bucharest, was deeply involved in development of the subject for the contest. The developing team gathered teaching staff from each participant university as well the previous winner of the contest, Cosmin Andrei Tamas. As a new comer, Associated Professor Gheorghe Pana Ph.D. from Brasov told us how important the direct involvement in the contest topics development was for him, saying he had a lot to learn from it.

From our SBC there were four participants, one of them (Radu Foti Coleca-SBC Vice-Chairman) obtaining a good result in the final.

The winners of TIE 2008 are students at “Politehnica” University of Timisoara from Professor Horia Carstea, and Assistant Professor Marius Rangu.

Students found the contest a little bit hard, but challenging, and await with great interest next year's edition, which will take place in Galati, hosted by the “Dunarea de Jos” University of Galati, as well as the new ideas (and opportunities) it will bring.



From right to left: Adam Gina, Valentin Nita, Leonard Teasca and Radu Foti Coleca from Politehnica University of Bucharest



The winners of the TIE 2008 contest - From left to right: Trifan Alexandru (third place) Osan Adrian (first place) and Negrea Catalin (second place)

Conference Reviews:

58th Electronic Components and Technology Conference (ECTC) Update

Submitted by Dr. Dave Palmer, Contributor,
IEEE CPMT Society Newsletter

Luncheon Speaker:

Title: The Global Semiconductor Industry Outlook

George M. Scalise, president of the Semiconductor Industry Association, gave the luncheon presentation at this year's ECTC. He used as his theme “creative destruction,” a concept from the works of Joseph Schumpeter. As an example, he pointed out that the transistor vastly improved electronics performance over tubes yet none of the successful tube companies made it big in transistors or ICs. He similarly sees the end of the CMOS era in about 10 years with some yet to be defined Nanotechnology taking over. How can a company make the creative leap without the concomitant destruction?

He pointed out that during such a transition it will be necessary to:

- Commit to IP protection amongst the players
- Compete for investment funds

ted to be presenters. Commitment from a fourth speaker is shortly expected.

Summary Report on ITherm 2008

Yogendra Joshi, Program Chair

The ITherm 2008 conference was held at the Hilton at Walt Disney World Resort in Orlando, Florida during May 28-31, 2008. The Conference General Chair was Dr. Tom Lee from TSMC, Inc. and Program Chair was Prof. Yogendra Joshi from Georgia Institute of Technology. The conference was attended by approximately 260 registered attendees and included nearly 170 technical paper presentations.

The conference began on May 28 with a total of thirteen advanced short courses (4 hours each) and tutorials (2 hours each) presented by expert instructors in morning and afternoon sessions. In general, the short courses covered established topics of general interest, whereas the tutorials covered emerging themes. During May 29-May 31, the technical papers were presented in 38 sessions covering four Tracks: Thermal Management, Mechanics and Materials, Emerging Technologies, and Energy Efficient Electronics. The last of these, is a newly established topic of significant current interest. All papers in this Track were presented in the form of posters in a single dedicated session on May 30. In all, 18 technical sessions were held in Thermal Management, 8 in Mechanics and Materials, 6 in Emerging Technologies, and 6 in Energy Efficient Electronics.

In addition to the technical papers, there were three Keynote/Invited presentations. The opening Keynote titled, "Emerging Systems Packaging Technologies", was delivered on the morning of May 29 by Prof. R.R. Tummala from Georgia Institute of Technology. The ITherm Achievement Award Luncheon talk titled, "IBM, Mainframes, and Environmentals", was delivered by Dr. R.R. Schmidt from IBM. There were four panel sessions during the conference. These included: "Thermal Management Challenges for Military Electronics", "Cooling Challenges and Energy Efficiency in Low Form Factor Electronics", "Cyber Infrastructure Resources for Thermal Management", and "Energy Efficient Data Centers".

A key feature of the ITherm conference has historically been the link with the Electronics Components and Technology Conference (ECTC) through the joint Exhibits program. This year the distance between the two venues required the use of shuttle buses. Visits to the Exhibit were arranged for the evening reception on May 28, and during the afternoon of May 29. For ITherm 2010, the proximity of the two conference venues will make this linkage even stronger.

The Awards Luncheon was the

final event of the conference, held on May 31. At this event, Best Paper Awards to the authors of the highest rated paper from each of the four Tracks were presented. In addition, two papers from the Thermal Track and one from the Mechanics Track received the Outstanding Paper Awards.

SCV CPMT Chapter – Aaargh!

The theme of CPMT's luncheon at ECTC this year was "Pirates!" with the idea that there is treasure buried within the Society's services and networking. After returning to the Santa Clara Valley (CA), several of the ECTC attendees (along with others from the chapter's operating committee) celebrated by donning some of the booty brought back from the Conference.



SCV Chapter OpCom members (from left): Valerie Pilloud (treasurer), Allen Earman, (vice-chair), Paul Wesling (chapter advisor), Mudasir Ahmad (secretary), Janis Karklins (membership development), Bernie Siegal (SEMI-THERM liaison); front row: Ed Aoki (program co-chair), Sandra Winkler (program co-chair)

The SCV Chapter is holding their summer planning meeting/picnic at the home of Bernie Siegal in July to structure another active program for 2008-2009.

Call for Paper



9th VLSI Packaging Workshop in Japan

December 1 - 2, 2008
Kyoto, Japan
Abstracts Due
June 20, 2008