



2012 Asia-Pacific EMC Symposium in Singapore

By Er-Ping Li, Technical Program Committee Chair

The 2012 Asia-Pacific International Electromagnetic Compatibility Symposium and Technical Exhibition was held on May 21-24 at Resorts World Sentosa (RWS) Singapore. It perpetuated a proud tradition that began in 2006 with the first EMC Zurich Symposium in Singapore. That seminal conference combined many scattered EMC events and initiatives in the region to form a major Asia-Pacific EMC (APEMC) Symposium. It was followed by the highly successful APEMC 2008 in Singapore, APEMC 2010 in Beijing, and APEMC 2011 on Jeju Island, Korea. These Symposiums covered the entire scope of electromagnetic compatibility and extended to the emerging technologies associated with EMC.

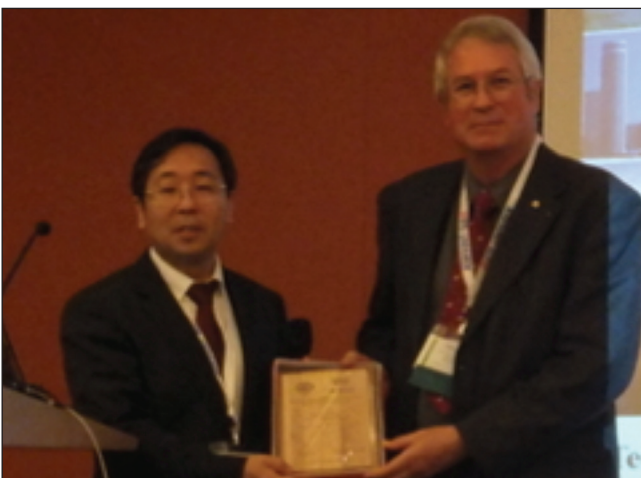
With the aid of Singapore's organizing team, the conference was a resounding success with improved quality over the conferences held in previous years. The venue was carefully chosen for providing some of the best convention facilities to accommodate the technical sessions, workshops, special events and exhibits. In addition, RWS provided world-class accommodations, spectacular attractions, entertainment, and fine dining that definitely impressed our overseas delegates.

Despite the continuing economic dark clouds in the world, the Symposium was attended by 414 delegates from 32 countries making it a truly global conference. Attendance polls showed an increase in the number of delegates from the Asia-Pacific region.

The Symposium started with informative workshop and tutorial sessions on May 21. Thirty-seven specialists presented in 11 workshop and tutorial sessions covering various aspects of EMC and the latest developments, including Lightning EMC, Semiconductor Device, PCB EMC, and System and Transportation EMC. These events alone were well attended with over 200 participants and provided some groundwork for the three days of regular EMC technical sessions to follow.

The opening ceremony took place on the morning of May 22. The General Chair, Professor Wolfgang Hoefer, gave his welcome address for the Symposium, complimenting the technical and organizing committees for a job well done, the paper authors, and sponsors for their great efforts and contributions in making the Symposium a success. Following Professor Hoefer's speech, Ghery Pettit, the President of IEEE EMC Society, addressed the attendees. He emphasized that the IEEE EMC Society has been a technical co-sponsor for the APEMC Symposium since its founding. Over the years, APEMC and the IEEE EMC Society have strengthened this collaboration which not only contributes to the great success of APEMC, but also raises the awareness of the IEEE EMC Society in the Asia Pacific region.

The Technical Program Committee (TPC) Chair, Professor Er-Ping Li, gave an outline of the paper submissions. He noted that the general organization of APEMC focuses on high quality technical papers and their presentations by speakers from all over the world; at the same time, APEMC also provides a forum for speakers from other Asia countries or regions who are unable to participate in the symposiums held in North America and Europe. For APEMC 2012, a total of 324 papers were received including two topical meetings, namely "Power System and Smart Grid EMC" organized by Dr. Kang-Sang Lock from Singapore and Dr. Wah Hoon Siew from the UK and "EMC of IC and System-on-Chip" organized by Dr. Sonia Ben Dhia from France and Professor Fabian Vargas from Brazil. Professor Er-Ping Li advised the review process and acceptance of the technical papers was rigorous. Of the 324 papers submitted, 151 regular submissions were selected as oral presentations and 36 as poster presentations. In addition, the two topical meetings selected 46 papers for presentations. The Symposium featured two plenary sessions: one was held in conjunction with the opening ceremony on May 22, and the other was held on the morning of May 23. Four parallel technical sessions were running on each day.



Dr. Er-Ping Li presented the plaque of appreciation to Ghery Pettit, President of the IEEE EMC Society, after his welcome address.



Professor Ingo Wolff gave a keynote speech at APEMC 2012 in Singapore.



Professor Joung-ho Kim from KAIST, Korea, gave a keynote speech at the APEMC 2012 opening session.



Attendees are shown at the May 22 opening session of APEMC 2012 in Singapore.

Two keynote speeches marked the highlight of the opening ceremony following the opening address. The first keynote speech was by Professor Ingo Wolff, President of the Information Technology Society (ITG/VDE), Germany, President/CEO of IMST GmbH, Kamp-Lintfort, Germany, who spoke on "ICT (Information Communication Technology) Meets Energy." He stressed that the energy information networks and systems have to provide all the data necessary for metering and controlling the current and future energy grid. Professor Joung-ho Kim, Chair of the Department of Electrical and Computer Engineering at the Korea Advanced Institute of Science and Technology (KAIST), provided the second keynote speech titled "Through Silicon Via (TSV) Design and Measurement for Terabit data-bandwidth of 3D IC."

It should be highlighted that a memorial session for the late Professor Ruediger Vahldieck was held the morning of May 24. Professor Vahldieck was the co-founder of APEMC. He made a dedicated contribution towards the success of APEMC. The session was opened by Dr. Er-Ping Li who provided background information on the relationship of Professor Vahldieck with Singapore. Several of his former colleagues and friends spoke during the session, including Professor Peter Russer, Professor Ingo Wolff, Pro-

fessor Ke Wu, Professor Fumeaux, and Professor Mrozowski. The session was concluded by the General Chair, Professor Hoefler. The memorial session was also attended by Professor Vahldieck's wife Zorka and his daughter Masha.

Three Best Student Papers were selected from 67 student paper submissions. In addition to the oral presentations, the short listed students were required to present their papers in the poster session and were judged by a jury panel. The first prize was awarded to Martin Schmidt for his paper "Interaction between Passive Common Mode Noise Cancellation and Conservative Passive Filtering." The second prize was awarded to Wei Luo from Shanghai Jiaotong University for his paper "Efficient Analysis of Transient Responses of Some Antenna Arrays in the Presence of High-Power Electromagnetic Pulses (HP-EMP)." The third prize was awarded to Mr. Linbiao Wang from Nanyang Technological University, Singapore, for his paper "Tri-Band Frequency Selective Band-Stop Shield using Screen Printing Technique."

The Best Symposium Papers were selected from over 200 accepted regular papers. These were given to Jonghoon Kim, Hongseok



The APEMC 2012 organising committee is shown with the two keynote speakers, from left Zhao Huapeng, Chua Eng Kee, Wolfgang Hoefler, Joung-ho Kim, Ingo Wolff, Er-Ping Li, James Drewniak, En-Xiao Liu, Xingchang Wei, and Mark Tan.



CALL FOR PAPERS

2013 IEEE International Symposium on Electromagnetic Compatibility

WINDS OF CHANGE

August 5 - 9, 2013 • Denver, Colorado



INFORMATION for Authors

The IEEE EMC Society seeks original, unpublished papers covering all aspects of EMC and in technologies that are affected by EMC (including but not limited to shielding, ESD, automotive, broadcast, military, wireless, smart grid, and power transmission.)

Join your colleagues in Denver where you can share your insight, ask questions, learn from the experts/innovators, and see new products at the 2013 IEEE International Symposium on Electromagnetic Compatibility. Your published paper will be seen by thousands in the EMC community and across the wide array of disciplines that look to the IEEE EMC Society for technical guidance as well as being uploaded to IEEE Xplore with unlimited exposure.

PAPER TOPICS of Interest

Topics include and are not limited to the following technical areas.

TC-1 EMC Management

- EMC Personnel Accreditation
- Laboratory Accreditation
- EMC Education
- EMC Legal Issues

TC-2 EMC Measurements

- Test Instrumentation
- Measurement Techniques
- Emissions and Immunity
- Standards and Regulations
- Test Facilities

TC-3 EM Environment

- EM Signal Environment
- Atmospheric Noise
- Man-Made Noise

TC-4 EM Interference

- Shielding, Gasketing & Filtering
- Cables and Connectors
- Coupling
- System EMC Analysis
- Grounding
- PCB Issues

TC-5 High Power Electromagnetics

- ESD & Transients
- EMP, IEMI & Lightning
- Information Leakage
- Electric Power EMC

TC-6 Spectrum Management

- Spectrum Management
- Spectrum Monitoring

TC-7 Low Frequency EMC

- Power Quality and Conducted EMC
- Renewables
- Electric Vehicles
- Energy Efficient Technologies
- Smart Grid Applications

TC-9 Computational Electromagnetics

- Computer Modeling
- Model Validation
- Statistical Analysis

TC-10 Signal Integrity

- Packaging
- Model Parameter Determination
- Device Modeling
- Crosstalk

TC-11 Nanotechnology & Advanced Materials

- Nanomaterials
- Nanostructures
- Carbon Nanotubes
- Nanofibers
- Smart Materials

SC1 Smart Grid EMC

SC3 Transportation System EMC

EMC 2013

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Danny Odum - ETS-Lindgren
Dan.odum@ets-lindgren.com

Vice Chairman

Richard Georgerian - Intertek
richardg@ieee.org

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Marti Wallen - Volunteer
marti_wallen@comcast.net

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Chris Holloway - NIST
christopher.holloway@nist.gov

Publications Chair

John Rohrbaugh - Northrop Grumman
john.rohrbaugh@ngc.com

Marketing Chair

Alee Langford - Northwest EMC
alangford@nwemc.com

Conference Manager

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john.vanella@conferencedirect.com

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Bwallen@ieee.org

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Janet.O'Neil@ets-lindgren.com

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Rhonda Rodriguez - Co-Chair
ETS-Lindgren
rhonda.rodriguez@ets-lindgren.com

John Stadille - Co-Chair

jstadille@arescorporation.com

Local Arrangements

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michael.kanda@intertek.com

Tours & Hospitality

Patti and Dave Traver
davidtraver@comcast.net

Author Submission Schedule

Preliminary Full Paper Manuscript:

November 1, 2012 - January 29, 2013

Late papers will not be accepted.

See website for more details

www.emc2013.org

AUTHOR SUBMISSION SCHEDULE

- **Preliminary Full Paper Manuscript:**
November 1, 2012 -
January 29, 2013
Late papers will not be accepted.
- **Acceptance Notification:**
March 11, 2013
- **Final Paper and Workshop/Tutorial Material Due:**
April 30, 2013

PAPER FORMATS

- **Traditional Oral Presentation:**
Presentation for those interested in presenting to large groups with limited potential for interactions with attendees. Six-page paper maximum, 20-minute presentation.
- **Poster Paper:**
Presentation for those interested in direct interaction with individuals or small groups.

STUDENT PAPER CONTEST

Graduate and undergraduate authors are eligible for the Best Student Paper contest. Students must be the primary authors of their papers and should indicate that they want to be considered for the contest when submitting the preliminary manuscripts. Each student's professor will be asked to certify that the paper is primarily the work of the student. A Student Design Contest is also being held. Obtain the design kit, rules, and award details from the website: www.emcs.org.

GUIDELINES FOR AUTHORS & SUBMITTAL PROCEDURES

Prospective authors must submit electronically.**

- **A Preliminary Manuscript (5500 words approximately) with up to 6 pages filled with diagrams, figures, or charts (hand-drawn illustrations accepted).**
- **Presentation format (traditional oral or open forum).**

** Preliminary Manuscripts and Final papers are to be submitted through a website after November 1, 2012.

Check back with the symposium website (www.emc2013.org) for updates on the paper submission process.

During the electronic submission process, a unique author code will be created for tracking purposes. Submissions will be reviewed anonymously by the EMC Society Technical Committees so **please do not include author names or affiliations on the Preliminary Manuscript.**

Failure to do so may result in rejection.

PAPER ACCEPTANCE PROCEDURES & CRITERIA

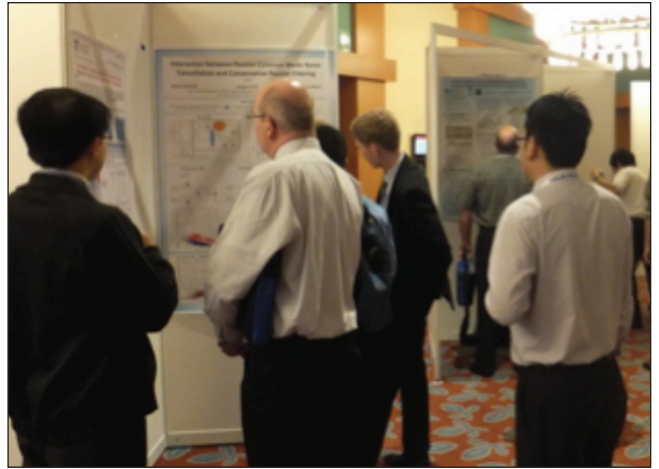
Paper acceptance will be based on the following criteria:

- **Importance of Topic:** Does it have direct significance to the EMC community?
- **Technical Sophistication and Depth:** Does it present information that is a significant contribution, advancement, application, or refinement of the state of the art? Does it expose the reader to a higher knowledge level than currently available from other sources? Is it clear that the work has been substantially completed or is the submission an interim progress report on a long term project?
- **Readability, Clarity, and Presentation:** Is the value of the submission clearly defined? Is the material written in clear and concise English with topics presented in an organized and logical manner?
- **Novelty and Originality:** Does it propose a new and unique concept or expand on an existing premise from a unique point of view? Does it present new information on an EMC issue that is still in developmental stage?

Technical Program Chair
Christopher Holloway
christopher.holloway@nist.gov



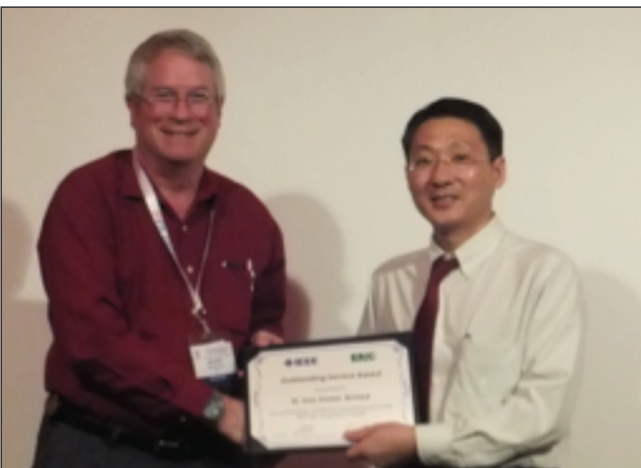
Several engineers attended the technical session presented by Dr. Bill Radasky.



The poster sessions attracted much attention at APEMC 2012.



Speakers and family gather following the memorial session for Professor Vahldieck. Shown from left are Ke Wu from the University de Montreal; Wolfgang Hoefer from A*STAR Singapore; Peter Russer from Technical University of Munich; Michal Mrozowski from Gdansk University of Technology, Poland; Masha Vahldieck, daughter of Professor Vahldieck; Zorka Vahldieck, wife of Professor Vahldieck; Joannes Russer from Technical University of Munich; Ingo Wolff from IMST GmbH, Germany; Er-Ping Li, Symposium President; and Christophe Fumeaux from University of Adelaide, Australia.



The President of the IEEE EMC Society, Gherly Pettit (left), presented the Outstanding Service Award to Dr. Richard Gao, former Chair of the IEEE EMC Singapore Chapter.



Dr. Er-Ping Li (right) presented the certificate of appreciation to Mr. Chow Wee Sing of ST Electronics, Singapore in recognition of their sponsorship to APEMC.

Kim, Mijoo Kim, Seungyoung Ahn, Jiseong Kim, and Joungho Kim for the paper "Analysis of EMF Noise from the Receiving Coil Topologies for Wireless Power Transfer"; De-Cao Yang and Xing-Chang Wei for the paper "Impedance Calculation of Power and Ground Planes using Image Method"; and Thomas Kaufmann and Christophe Fumeaux for the paper "A Scattered Field Formulation of the Time-Domain Radial Point Interpolation Method using Radial Perfectly Matched Layers."

The Symposium awards banquet took place on May 23 at the City Centre, Marina Mandarin Hotel. During the banquet, awards were presented to the Best Student Papers and the Best Symposium Papers. The Plaque of Appreciation was given to Professor Jinliang He for his services as Symposium President of APEMC 2010 and to Professor Joungho Kim for his services as TPC Chair for APEMC 2011. Plaques of Appreciation were presented to the two Symposium sponsors CST and ST Electronics Ltd. The organizing committee received a Certificate of Appreciation from the General Chair, Professor Hofer. A number of service awards were presented by the President of IEEE EMC Society to past and present IEEE EMC Singapore Chapter committee members.

The APEMC 2013 will take place in Melbourne, Australia (www.apemc2013.org) over May 20-23.



The IEEE EMC Society membership booth at APEMC in Singapore was staffed by Takeo Yoshino (left), a member of the IEEE EMC Society Board of Directors. Franz Schlagenhauer, Chair for APEMC 2013, stopped by for a visit.

On behalf of the organising committee, we welcome you all to attend next year's APEMC Symposium!

For further information, please contact:
Dr. Er-Ping Li
Email: erpingli@ieee.org



2013 ASIA-PACIFIC EMC Symposium

May 20-23, 2013, Melbourne, Australia
www.apemc2013.org



EMC Society
of Australia

The 2013 Asia-Pacific International Symposium and Exhibition on EMC will be hosted in Melbourne, Australia. The symposium will cover the entire scope of electromagnetic compatibility and include emerging technologies. It will comprise regular sessions and poster presentations, workshops and tutorials, an industry forum, and a trade exhibition.

Prospective authors are invited to submit **original papers on their latest research results.**

Proposals are also solicited for **topical meetings, workshops and tutorials.**

Important Dates

Deadline for preliminary paper submissions	30 November 2012
Notification of acceptance	31 January 2013
Final paper submission (through: apemc2013.org)	15 March 2013

All submissions must be electronic. Font embedding must be IEEE Xplore compatible. No hardcopies shall be accepted. Details are given on the symposium website: apemc2013.org

