

Mysuru Palace



# ASIAEM 2017

ASIAN ELECTROMAGNETICS CONFERENCE

Sheraton Grand Hotel Bengaluru, India

July 23-27, 2017

**Organizers:**



**SUMMA**  
FOUNDATION

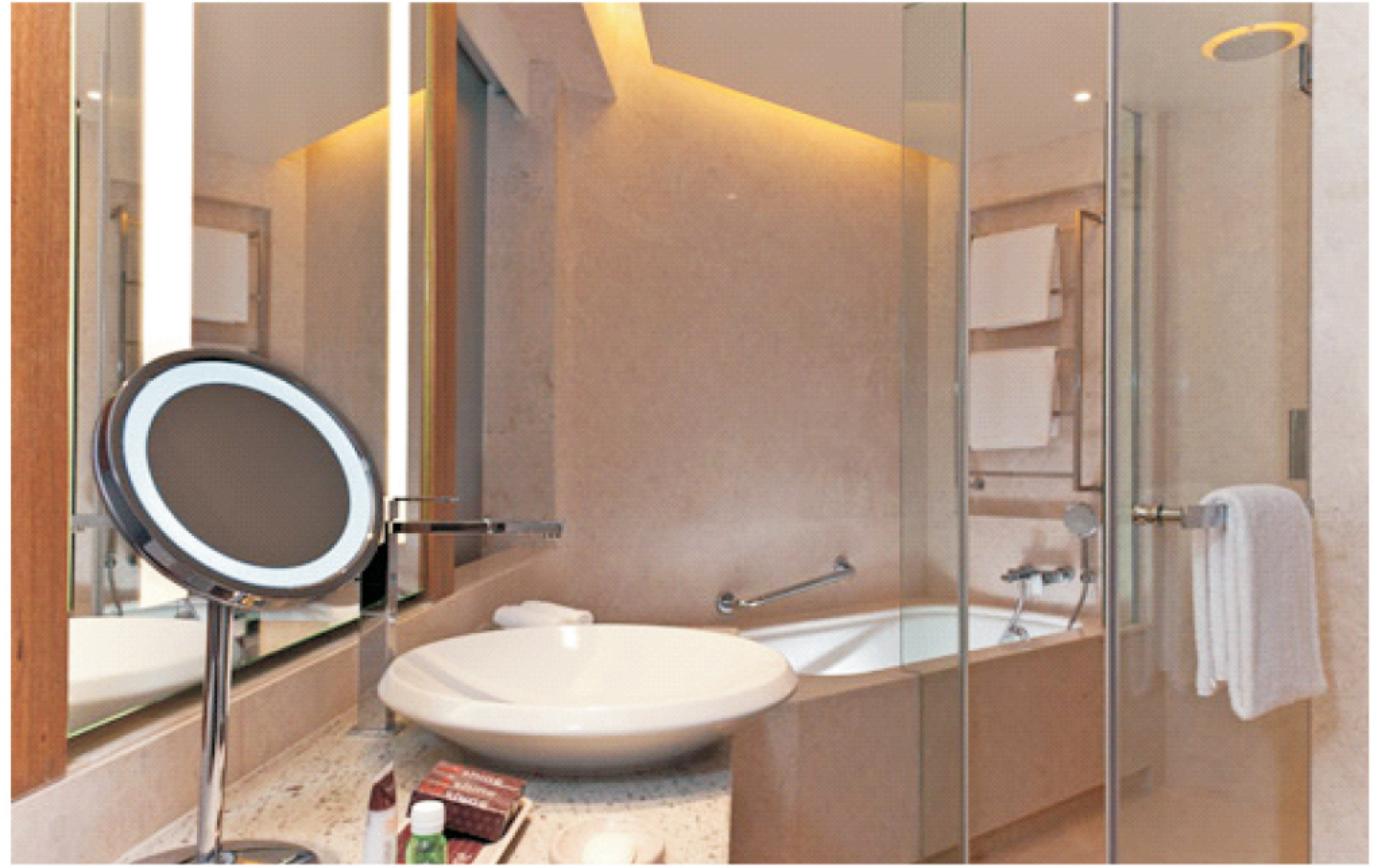


Society of EMC Engineers (India)



State Key Laboratory of Electrical Insulation and Power  
Equipment, Xi'an Jiaotong University





## Conference Venue – Sheraton Hotel Brigade Gateway, Bengaluru, India





## Welcome by General Chairs



We are happy to invite you to participate in ASIAEM 2017 in Bengaluru, India. Bengaluru is home to India's Defense establishments and its Space Research Organization. Many multi-national companies such as Infosys, Yahoo, Google and Microsoft are located here. When one of the General Chairs (DVG) was growing up here in the 1960s, Bengaluru was called the "Garden City of India". Now it is nicknamed the "Silicon Valley of India".

Dr. D. V. Giri, Chair

The AMEREM/EUROEM meetings have a rich history behind them. In 1978, the late Dr. Carl Baum organized the first Nuclear Electromagnetic Pulse Meeting or the NEM in Albuquerque, NM with support from his SUMMA Foundation. This first meeting brought together scientists/engineers from the U.S. and Western Europe. At some point, the NEM was renamed as the High-Power Electromagnetics Meeting or HPEM. When this meeting was held in 1994 in Bordeaux, France, it was renamed EUROEM and subsequently, the meetings in North America have been called AMEREM. These meetings have been held in every even year since 1978. With regards to Ultra-wideband/Short Pulse or UWB/SP, the first two meetings were held in Brooklyn Polytechnic, in New York. After these initial meetings Prof. Leo Felsen asked Carl Baum to include them in AMEREM/EUROEM and presentations in these meetings have been turned into full-length papers resulting in the publication of 10 books, titled Ultra-Wideband, Short Pulse Electromagnetics. In recent times, these books have been published by Springer.

For the first time, this meeting came to the Asian Continent and was held in Jeju, Republic of Korea in 2015. Please visit <http://ece-research.unm.edu/summa//notes/Memos.html> for more information on the history of AMEREM / EUROEM / ASIAEM MEETINGS.



Given the success of ASIAEM 2015, we have organized ASIAEM 2017 in India. We now welcome you to ASIAEM-2017. We hope you will enjoy the technical program and enjoy your visit to India.

Dr. D. C. Pande, Co-Chair



## Welcome by the Technical Program Committee (TPC)

Dear Members of the HPEM Community:

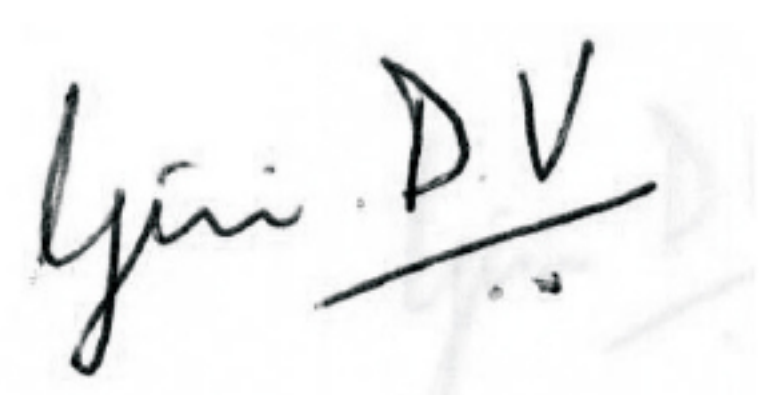
On behalf of the Technical Program Committee (TPC), it is a pleasure to welcome you to ASIAEM 2017 in Bengaluru, India which has been called the “Silicon Valley of India”.

We have planned an exciting technical program consisting of both oral and poster presentations. In addition, we have exhibitors presenting their products and services. HPEM (High-Power Electromagnetics) is an all-encompassing term consisting of lightning, HEMP, IEMI and electromagnetic systems producing high-power EM fields in narrowband, mesoband, sub-hyperband and hyperband. To cover this vast technical area, we formed 14 Technical Committees (TCs) in HPEM, UWB, UXO and a Poster Session (note that while UWB and UXO EM fields are part of HPEM, we have separate TCs for historical reasons). This time around, the three Special Session (SS) organizers deserve a debt of gratitude for assembling high-quality presentations in diverse areas. Each of these TCs and SSs has a Chair and Co-Chair soliciting submissions and organizing sessions. We are grateful to each one of them. We received 137 abstract submissions from 14 countries. Authors from Asian nations, especially the host nation of India and China have contributed significantly. The quantity and the quality of submissions is indeed impressive considering the number of symposia in related areas this year and that we are organizing ASIAEM for the second time. This success has been possible because of the efforts of the Chairs and Co-Chairs of TCs and SSs.

It was no easy task to cycle through the review process and organize the papers into coherent technical sessions. The on-line review process worked well, and we are thankful to all of the reviewers. The TPC, the Symposium Chairs and the Organizing Committee worked well together to serve up an exciting technical program. We have introduced both an Early Career award and the Best Student Paper award, as per tradition. These recognitions will take place during the Banquet on Wednesday, July 26, 2017. We also plan to collect some selected papers from AMEREM 2014, ASIAEM 2015, EUROEM 2016 and ASIAEM 2017 to publish as UWB SP 11.

We do hope you will find this to be a rewarding and useful program. Please do plan to take some time out to enjoy the Indian cuisine and the many other visitor offerings.

Then you should begin to think about AMEREM 2018 in Santa Barbara, California!



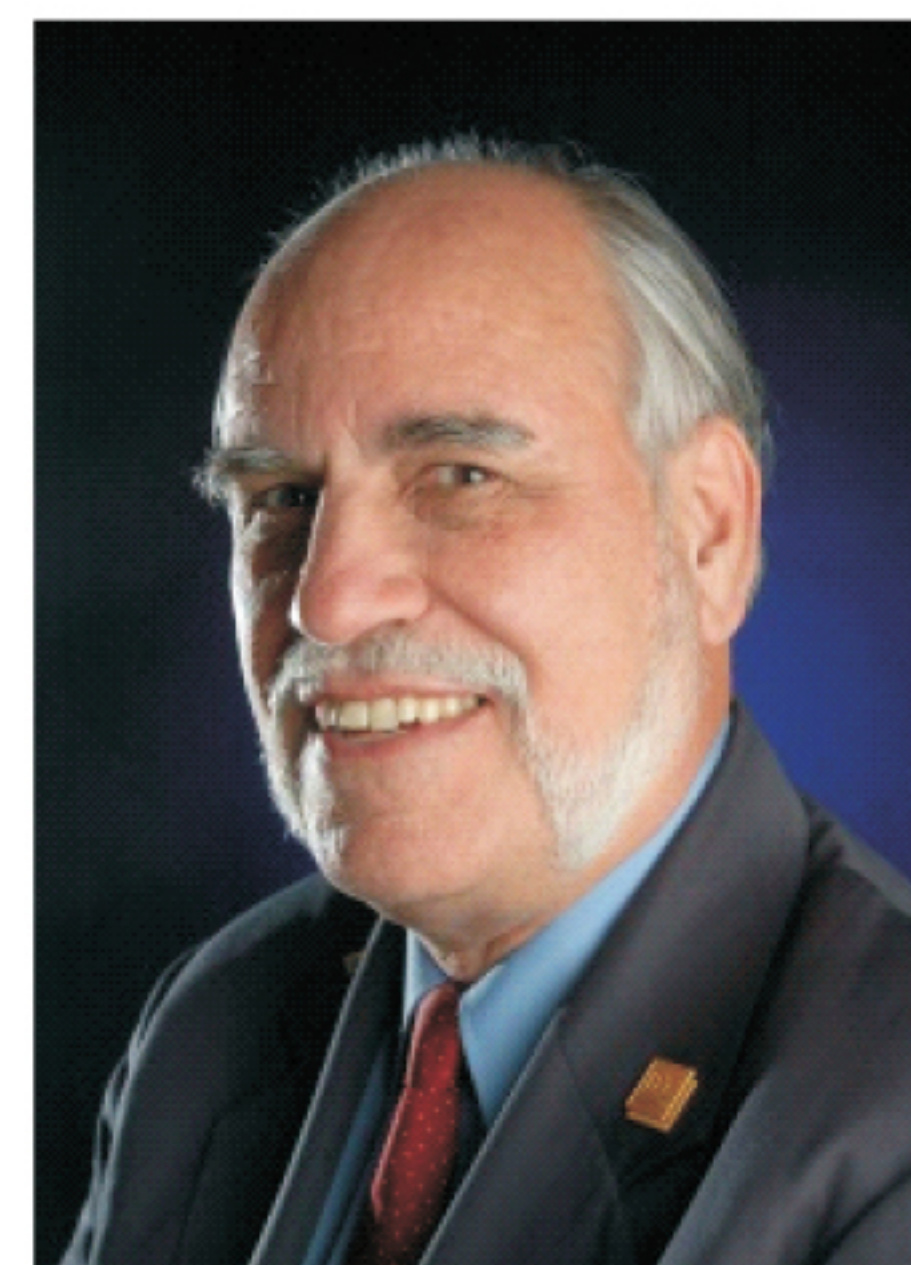
Dr. D. V. Giri

Chair, TPC



Dr. William Radasky

Vice Chair, TPC






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The image is a composite graphic for Montena Technology SA. On the left is a large red vertical rectangle containing the Montena logo, which consists of a stylized red starburst shape made of small white dots. To the right of the logo, the word "montena" is written in a bold, black, lowercase sans-serif font. Below the logo and name, the tagline "The impulse to your progress" is written in a smaller, black, lowercase sans-serif font. At the bottom of this red rectangle, the text "montena technology", "Switzerland", and "montena.com" is listed in a small, white, lowercase sans-serif font. To the right of the red rectangle are two photographs. The top photograph shows a large, open-air industrial facility with a complex metal structure and a clear blue sky. The bottom photograph shows a similar facility with a large, white, angled metal structure in the foreground. In the upper right corner of the bottom photograph, the text "High Power Electromagnetic sources" is written in a black, sans-serif font. Below this text, the words "NEMP", "HEMP", and "UWB" are stacked vertically in a large, bold, red, sans-serif font. The word "montena" is also visible on the side of the white structure in the bottom photograph.

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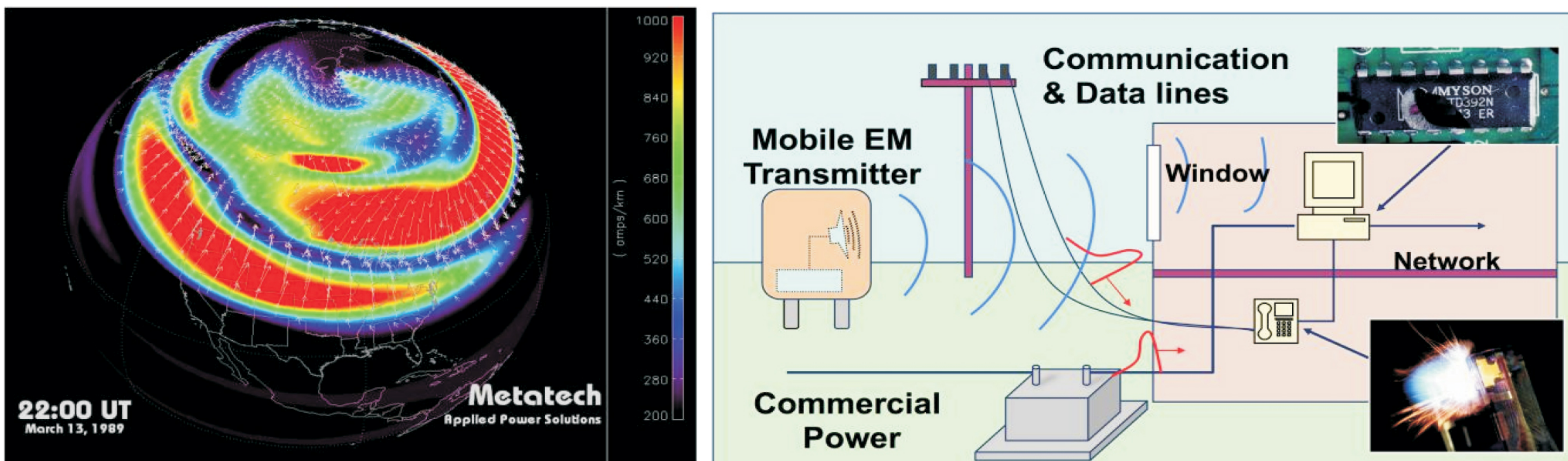


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Metatech Corporation is a Small Business with offices in Goleta, California and Albuquerque, New Mexico. Many of our scientists and engineers have 30-40 years experience developing solutions to problems in all areas of electromagnetic environmental effects.

**Summary of Experience, Services and Products Available from Metatech:**

- Development of IEC HEMP and IEMI standards for protecting civil facilities from high power EM environments.
- Development of IEEE and Cigré IEMI standards and guides for protecting computer equipment and substation electronics from IEMI, respectively.
- Susceptibility testing of low-voltage equipment to HPEM threats including HEMP, IEMI and harmonics produced by geomagnetic storms.
- Susceptibility assessments and protection recommendations for existing buildings and electronics to cover the threats of HEMP and IEMI.
- Consulting support for the design and construction of high-frequency EM shielded buildings (HEMP and IEMI) for the critical infrastructures.
- Evaluations of the susceptibility of regional and national high voltage power grids to severe geomagnetic storms.

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# Program at a Glance

Day/Date	Time	Grand Room1(Capacity 150)	Ball Room2(Capacity 150)	Grand Room2(Capacity 150)	Ball Room1(Capacity 150)	Neptune(Capacity 55)	Jupiter(Capacity 50)	Total papers
Monday July 24 7 Papers	AM1	Welcome Session in Grand Ball Room (=Grand Ball Room 1+ Grand Ball Room 2) Coffee Break from 11:00-11:30						
	AM2	Opening of Exhibition Walk Thru by Invitees + Lunch till 14:20						
	PM1	Vacant	Vacant			TC 14 (4 Papers) 152, 228, 230, 118	SS 03 (3 Papers) 147, 153, 243	7
	PM2	Poster Session for Best Student and Best Early Career Award Papers						
Tuesday July 25 61 Papers	AM1	TC 06-1(4 Papers) 163,178,166,174	TC13-1 (4 Papers) 187,196,127,231	TC 12&TC10(4 Papers) 214,229,235,139	TC 01-1 (4 Papers) 111,149,216,238			16
	AM2	TC 06-2(4 Papers) 103,227,142,233	TC 13-2 (4 Papers) 176,119,161,148	TC 07 (4 Papers) 167,108,198,184	TC 01-2 (4 Papers) 179,239,234,219			16
	PM1	TC 06-3(2 Papers) 172,224	TC 03-1(4 Papers) 202,190,204,199	TC 07 (4 Papers) 151,104,131,208	TC 01-3 (4 Papers) 185,194,106,203			14
	PM2	SS 02 (4 Papers) 136,157,158,212	TC 03-2(4 Papers) 162,215,223,109	TC 07 (3 Papers) 193,117,150	TC 01-4 (4 Papers) 205,126,240,241			15
Total Oral Papers on Monday and Tuesday								68

Day/Date	Time	Grand Room1(Capacity 150)	Ball Room2(Capacity 150)	Grand Room2(Capacity 150)	Ball Room1(Capacity 150)	Neptune(Capacity 55)	Jupiter(Capacity 50)	Total papers
Wednesday July 26 27 Papers	AM1	Plenary Session in Grand Ball Room (= Grand Ball Room 1+Grand Ball Room 2) ID (135,130,180,123)						4
	AM2	Plenary Session in Grand Ball Room (= Grand Ball Room 1+Grand Ball Room 2) ID (128,244,132)						3
	PM1	Plenary Session in Grand Ball Room (= Grand Ball Room 1+Grand Ball Room 2) ID (114,159,164,237)						4
	PM2	Poster Session ID (101,102,120,129), (137,140,141,154), (155,170,171,181), (183,192,197,207)						16
Thursday July 27 42 Papers	AM1	TC 08(3 Papers) 116,191,236	TC 09 (4 Papers) 156,173,210,209	TC 11(4 Papers) 145,220,221,107	TC 01-5 (4 Papers) 115,144,242,222			15
	AM2	TC 04-2(4 Papers) 218,160,113,175	TC 09 (3 Papers) 213,217,225	SS 01 (2 Papers) 195,186	TC 01-6 (3 Papers) 112,200,201			12
	PM1	TC 04-2(5 Papers) 105,143,177,189,211	TC 05(5 Papers) 182,124,125,121,226	TC 02 (5 Papers) 206,138,110,188,165	Vacant			15
	PM2	Vacant	Vacant	Vacant	Vacant			0
Total 27 Papers (11 Plenary + 16 Poster) on Wednesday								69
Total 42 Oral Papers on Thursday – End of Conference								



## Committee

Given Name	Family Name	T C	Short Title	Organization
D. V. Bill	Giri Prather	1 1	HPEM-Source, Antennas, Facilities HPEM-Source, Antennas, Facilities	Pro-Tech, US Air Force Research Laboratory, US
Jean-Philippe Lars-Ole Sergey Farhad	Parmantier Fichte Tkachenko Rachidi	2 2 2 2	HPEM-Coupling/Structure/Cables HPEM-Coupling/Structure/Cables HPEM-Analytic and Numerical Modeling HPEM-Lightning EM Effects/Measurement	ONERA, France Helmut-Schmidt University, Germany University of Magdeburg, Germany EPFL, Switzerland
Lihua Anthony Martin	Shi Wraight Schaarschmidt	3 3 3	HPEM-Meas. Techniques HPEM-Meas. Techniques HPEM-Meas. Techniques	E3OE Laboratory, China Ministry of Defense, UK Bundeswehr Research Institute for Protective Technologies and NBC-Protection, Germany
Bill Richard	Radasky Hoad	4 4	HPEM-IEMI Threats/Effects/Protection HPEM-IEMI Threats/Effects/Protection	Metatech Corp., US QinetiQ, UK
Armin  Yanzhao  Mats	Kaelin  Xie  Backstrom	5  5  5	HPEM-System Level Protection and Testing HPEM-System Level Protection and Testing HPEM-System Level Protection and Testing	EMProtec, Switzerland  Xi'an Jiaotong University, China  Saab Group, Sweden
Farhad Marcos	Rachidi Rubinstein	6 6	HPEM-Lightning EM Effects/Measurement HPEM-Lightning EM Effects/Measurement	EPFL, Switzerland HEIG-VD, Switzerland
Sergey Shengquan	Trachenko Zheng	7 7	HPEM-Analytic and Numerical Modeling HPEM-Analytic and Numerical Modeling	University of Magdeburg, Germany Science and Technology on EMC Laboratory, China
Lars-Ole  D. V.  Koichi	Fichte  Giri  Ito	8  8  8	HPEM-Bioeffects/Medical Applications of EM HPEM-Bioeffects/Medical Applications of EM HPEM-Bioeffects/Medical Applications of EM	Helmut-Schmidt Univ., Germany  Pro-Tech, US  Chiba University, Japan
D. V. Everett	Giri Farr	9 9	UWB-Ant. Design/Radiation UWB-Ant. Design/Radiation	Pro-Tech, US Farr Research, US
Debalina	Ghosh	10	UWB-Radar Systems/Signal Processing/Security	Indian Institute of Technology Bhubaneswar, India
Vladimir	Koshelev	11	UWB-Target Detection/Imaging	HCEI, Russia
Felix	Vega	12	UXO-Landmine/IED Detection and Neutralization	National University of Columbia, Columbia
Xiong  Yanzhao  Bill	Wu  Xie  Radasky	13  13  13	HPEM-EM Transients in UHV/EHV Trans Lines &Substations HPEM-EM Transients in UHV/EHV Trans Lines &Substations HPEM-EM Transients in UHV/EHV Trans Lines &Substations	State Grid, China  Xi'an Jiaotong University, China  Metatech Corp., US
Chaouki Lars-Ole Sergey	Kasmi Fichte Tkachenko	14 14 14	Statistical Methods in HPEM Statistical Methods in HPEM HPEM-Analytic and Numerical Modeling	French Network and Information Security Agency, France Helmut-Schmidt University, Germany University of Magdeburg, Germany

### SPECIAL SESSIONS

Given Name	Family Name	Session	Title	Organization
Amitabha	Bhattacharya	SS - 01	Ground Penetrating Radar	Indian Institute of Technology, Kharagpur, India
Subrata	Maiti	SS - 01	Ground Penetrating Radar	National Institute of Technology, Rourkela, India
Edl	Schamiloglu	SS - 02	Meta Materials for High-Power Applications	University of New Mexico, US
Amitabha	Bhattacharya	SS - 02	Meta Materials for High-Power Applications	Indian Institute of Technology, Kharagpur, India
Richard	Hoad	SS - 03	EMC of Air and Space Systems	QinetiQ, UK
V. K.	Hariharan	SS - 03	EMC of Air and Space Systems	Indian Space Research Organization, India



# ASIAEM 2017

## ASIAN ELECTROMAGNETIC CONFERENCE

Sheraton Grand Hotel Bengaluru, India  
July 23-27, 2017

### Conference Chair

D. V. Giri (Pro-Tech and Univ. of New Mexico, USA)

### Conference Co-Chair:

D. C. Pande (EMC Society, India)

### Technical Program Committee:

TPC Chair: D. V. Giri (Pro-Tech)

TPC Vice Chair: William Radasky (Metatech)

### Advisors:

R. Hoad (QinetiQ)

Yanzhao Xie (Xi'an Jiaotong Univ.)

Edl Schamiloglu (Univ. of New Mexico)

### Exhibition Committee Chair:

Cdr. Sanjay Singh (Retired) (ETS-Lindgren, India)

### OpenConf Software:

Managed by: J. Gaudet (Univ. of New Mexico, NM, USA)

### Awards Committee Chair:

Felix Vega (National Univ. of Bogota, Colombia)

### Organizing Committee Chair (India):

**Dhiraj K. Singh (LRDE, Bengaluru, India)**

**Event Manager: Kris Narayan**

### International Scientific Committee

Mats Backstrom

A. Bhattacharya

Jin Soo Choi

Everett Farr

Lars Ole Fichte

Robert Gardner

D. V. Giri

J. Guo

Richard Hoad

Jean-Philippe Parmantier

Farhad Rachidi

William Radasky

Shiva S. Rai

R. K. Rajawat

M. Rubinstein

Frank Sabath

Archana Sharma

Dhiraj K. Singh

Manjit Singh

Tae-Heon Jang

Armin Kaelin

Sudhir Kamath

Chaouki Kasmi

Nicolas Mora

Markus Nyffeler

Janet O'Neill

D. C. Pande

Koichi Ito

Joy Thomas

Felix Vega

Yanzhao Xie

Peter Zwamborn

Paul Smith

B. Subbarao

P. K. Jain

William Prather

Sanjay Singh



## Dates of ASIAEM 2017: 23 – 27 July 2017

### Sunday July 23, 2017

Registration: 3:00-7:00 PM

Neptune Room, Sheraton Hotel

Followed by

### Welcome Reception: 7:00 - 9:00 PM



**High View Lounge, 31st Floor of World Trade Center Building  
(across the street from the Sheraton Hotel)**

We are pleased to invite you to join us for the ASIAEM 2017 Symposium.

ASIAEM 2017 provides a forum for the international scientific and engineering community in High-Power Electromagnetics.

An attractive program of the highest standard, including speakers from many countries, will await you. We look forward to seeing you in Sheraton Grand Bangalore Hotel at Brigade Gateway, Brigade Gateway Hotel in Bengaluru, India.

### **Location of Conference**

Sheraton Grand Bangalore Hotel at Brigade Gateway, 26/1 Dr. Rajkumar Road, Bengaluru, Karnataka State, India. [www.sheratongrandbangalore.com](http://www.sheratongrandbangalore.com)



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Karnataka State Assembly – Vidhana Soudha, Bengaluru

## Venues for Conference Events

**Sunday 23 July 2017:**

Registration 3 PM to 7 PM Neptune Room; Sheraton Hotel

**Sunday 23 July 2017 Evening:**

Welcome Reception:

High-View Lounge, 31<sup>st</sup> Floor, World Trade Center Building, across the street from the Sheraton Hotel

**Wednesday 26 July 2017 Evening:**

Banquet

Grand Ball Room, Sheraton Hotel

**All Technical Sessions (Oral and Poster) and the Exhibition will be held at the Sheraton Hotel**



## Opening Ceremony Grand Ball Room, Sheraton Hotel Monday 24<sup>th</sup> July 2017

09:00 – 09:05 Lighting of the Ceremonial Lamp by Chief Guest, Sri. Kiran Kumar

09:05 – 09:15 Symposium Chair Welcome address  
***D.V. Giri, Pro-Tech and University of New Mexico, USA***

09:15 – 09:25 Symposium Chair Welcome address  
***D. C. Pande, EMC Society of India, Bengaluru, India***

09:25 – 09:35 Technical Program Committee Chair, Welcome address  
***D.V. Giri, Pro-Tech and University of New Mexico, USA***

09:35 – 09:45 AMEREM 2018  
***William Radasky, General Chair of AMEREM 2018***

09:45 – 09:50 Introduction of Keynote Speaker by ***D. V. Giri***

09:50 – 11:00 ***Keynote Speech, Sri. Kiran Kumar, Chairman, ISRO,  
“Historical Sketch of India’s Space Activities  
TERLS to MoM and Beyond”***

11:00 – 11:30 Coffee Break

11:30 – 12:20 ***D. V. Giri, “120<sup>th</sup> Anniversary of the Discovery of the Electron”***

12:20 – 13:20 Walk through of Exhibitors Stalls by Invitees

Lunch till 14:20

## Monday – 24 July 2017 [Sessions after Lunch]

**Room :** Neptune

**Session:** TC 14 Statistical Methods in HPEM

**Chairs:** Dr. C. Kasmi and Dr. S. Tkachenko

ID	Time	Title
152	14:20 – 14:40	Developing a Statistical Topological Approach using Wave-chaos for Electromagnetic Effects (STUWEE) <i>Ghadeh Hadi, Sameer Hemmady, and Edl Schamiloglu</i>
228	14:40 – 15:00	Evaluation of HEMP Tests by Binary Regression Models <i>Lars Ole Fichte, Marcus Stiemer, Chaouki Kasmi</i>
230	15:00 – 15:20	High Frequency Coupling with Stochastic Transmission Line in Rectangular Resonator <i>S. Tkachenko, J. Nitsch, R. Vick, R Rambousky</i>
118	15:20 – 15:40	Probabilistic Assessment of Braid Hardening with Limited Amount of Information <i>S. Lalléchère, S. Girard, P. Bonnet, F. Paladian, Chaouki Kasmi, Lars-Ole Fichte</i>



**Room :** Jupiter

**Session:** SS 03 EMC of Air and Space Systems

**Chairs:** Dr. R. Hoad and Dr. V. K. Hariharan

ID	Time	Title
147	14:20 – 14:40	ACHIEVING ELECTROMAGNETIC COMPATIBILITY IN INSAT-3DR SPACECRAFT <i>Anju Damodaran, C. Anitha, Goutam Kumar Gupta, Bhooma G., NandishS.T., MohammedAli A., V.K. Hariharan, M. Nageswara Rao</i>
153	14:40 – 15:00	EMI/EMC & ESD Control Techniques in 'NAVIC' Spacecraft (IRNSS) Series <i>Aras Kumar R, Pal RK, Rajnish Yadav, Pallavi Y, Amit K, Pramod V.Belgaonkar, V.K.Hariharan, M.Nageshwar Rao</i>
243	15:00 – 15:20	Challenges Associated with the Development and Operation of a High Power Reverberation Chamber <i>G D M Barber, T Hague</i>
	15:40 – 16:00	<b>Coffee / Tea break in Pre-Function Area</b>

**POSTER SESSION for BEST STUDENT & BEST EARLY CAREER AWARD PAPERS in Pre-Function Area**

ID	Time	Title
193	16:00 – 17:20	HEMP radiated environment distribution simulated by Monte Carlo method <i>Ning Dong, Yan-zhao Xie</i>
208		Study of an Helical Flux Compression Generator Used for Driving a High Power Microwave Source <i>Ashish Sharma, M. Joy Thomas</i>
196		A Full-Scale Experimental Test of Electromagnetic Time Reversal Applied to Locate Faults in Power Lines <i>Zhaoyang Wang, Shaoyin He, Qi Li, Buying Liu, Reza Razzaghi, Mario Paolone, Yanzhao Xie, and Farhad Rachidi</i>
163		Issues Related with use of FDTD in Return-stroke Modeling <i>Rupam Pal, Udaya Kumar</i>
202		Development of Multi-channel Waveform Recorder for Transient Electrical Signals Measurement <i>Kong Xu, Xie Yan-Zhao</i>
223		High Power Millimeter Wave Pulse Measurement Using Cross-waveguide Resistive Sensor <i>Anil Allampalli, Amitabha Bhattacharya</i>
214		Feasibility Study of Using Finite Rate of Innovation Signal for Detection of Landmines <i>Vijayakumar Solaiselvam, Joy Thomas M</i>
203		The Criteria to Evaluate the Performance of High-Power UWB Antennas <i>Shaofei Wang, Yanzhao Xie</i>
187		Characteristic Analysis of Conducted and Radiated Switching Transients of GIS <i>ZHANG Hong-ye, XIE Yan-zhao</i>
238		Overview of X-band Relativistic Triaxial Klystron Amplifier Research at the National University of Defense Technology <i>Jinchuan Ju, Wei Zhang, Xingjun Ge, Lishan Zhao, Huihuang Zhong, and Jun Zhang</i>
182		Challenges in Designing and Testing of EMP Data Line Filter <i>Aswin R</i>



## Tuesday – 25 July 2017 [Sessions before Lunch]

**Room :** Grand Ballroom 1  
**Session:** TC 06 - 1 Lightning modeling & observations  
**Chairs:** Dr. F. Rachidi and Dr. M. Rubinstein

ID	Time	Title
163	09:00 – 09:20	Issues Related with use of FDTD in Return-stroke Modeling <i>Rupam Pal, Udaya Kumar</i>
178	09:20 – 09:40	Channel Current Predicted by a Self Consistent Return Stroke Model for Different Leader Charge Models <i>Sukesh A, Udaya Kumar</i>
166	09:40 – 10:00	A Study of Upward Flashes Initiated at the Säntis Tower <i>R. Daher, M. Azadifar, A. Smorgonskiy, Jacques Zuber, M. Rubinstein, G. Diendorfer, F. Rachidi</i>
174	10:00 – 10:20	Lightning strike to tower side of Tokyo Skytree <i>Toru Miki, Mikihisa Saito, Takatoshi Shindo, Hideki Motoyama, Masaru Ishii</i>
--	10:20 – 10:40	<b>Coffee/Tea Break</b>

**Session:** TC 06 – 2 Lightning interaction with grounding systems and buried  
**Chairs:** Dr. F. Rachidi and Dr. M. Rubinstein

103	10:40 – 11:00	Effect of a Shield Wire on Lightning-Induced Currents on a Buried Cable due to a Direct Strike <i>H. Tanaka, Y. Tian, Y. Baba, C. F. Barbosa, T. Tsuboi, S. Okabe</i>
227	11:00 – 11:20	Impact Characteristics of Single Extended Grounding Electrode <i>Liu Xing, Guo Jie</i>
142	11:20 – 11:40	Experimental Characterization of the Grounding Impedance of Wind Turbines <i>D. Gazzana, A. Smorgonskiy, N. Mora, M. Rubinstein, F. Rachidi</i>
233	11:40 – 12:00	Simulation Analysis of Tower Grounding Impedance under Impulse Current <i>Wei Qi, Guo Jie</i>

**Room :** Grand Ballroom 2  
**Session:** TC 13 - 1 EM Issues in Power Systems  
**Chairs:** Dr. Y. Xie and Dr. W. Radasky

ID	Time	Title
187	09:00 – 09:20	Characteristic Analysis of Conducted and Radiated Switching Transients of GIS <i>ZHANG Hong-ye, XIE Yan-zhao</i>
196	09:20 – 09:40	A Full-Scale Experimental Test of Electromagnetic Time Reversal Applied to Locate Faults in Power Lines <i>Zhaoyang Wang, Shaoyin He, Qi Li, Buying Liu, Reza Razzaghi, Mario Paolone, Yanzhao Xie, and Farhad Rachidi</i>
127	09:40 – 10:00	Transient Electric Field Computation on Polymer Insulators Mounted in EHV Lines <i>Gowrishankar S, Sunitha K</i>
231	10:00 – 10:20	Noninvasive Method to Diagnose Early Insulation Fault during Circuit Breaker Test by Radiated E-Field Measurement <i>Kong Xu, Xie Yan-Zhao, Sun Li-qiong</i>
--	10:20 – 10:40	<b>Coffee/Tea Break</b>

**Session:** TC 13 -2 Geomagnetic Issues and Protection  
**Chairs:** Dr. Y. Xie and Dr. W. Radasky

ID	Time	Title
176	10:40 – 11:00	Review of Geomagnetic Storm Environments – 2017 <i>W. A. Radasky</i>
119	11:00 - 11:20	Geomagnetic Sudden Impulse Disturbance Signals Collection and Evaluation <i>E. B. Savage, W. A. Radasky, J. L. Gilbert</i>
161	11:20 – 11:40	Further Analysis of Shoreline Edge Effects for Stratified Grounds <i>James Gilbert</i>
148	11:40 – 12:00	Issues for Power Grid Substation High-Level EM Protection <i>E. B. Savage, W. A. Radasky</i>



## Tuesday – 25 July 2017 [Sessions before Lunch]

**Room :** Neptune

**Session:** TC 12 & TC 10 UXO-Landmine/IED Detection and Neutralization & UWB Radar Systems/ Signal Processing and Security

**Chairs:** Dr. F. Vega and Dr. Joy Thomas

ID	Time	Title
214	09:00 – 09:20	Study of Finite Rate of Innovation Signal for Detection of Landmines <i>Vijayakumar Solaiselvam, Joy Thomas M</i>
229	09:20 – 09:40	A Review of the Existing Techniques for Complex Natural Resonance Extraction <i>Andrés Gallego, Felix Vega, Sebastian Eslava</i>
235	09:40 – 10:00	Statistical Analysis of the Radar Cross Section of Colombian Improvised Explosives Devices <i>D Martinez, F Vega, C Baer, J Sachs, R Bustamante</i>
139	10:00 – 10:20	Denosing Video Signals by Reducing EMI/EMC Noise from Video Interfaces <i>Himanshu Makkar, O.S. Lamba</i>
--	10:20 – 10:40	<b>Coffee/Tea Break</b>

**Session:** TC 07 (4 Papers)

**Chairs:**

ID	Time	Title
167	10:40 – 11:00	Enforcing Delayed Causality Through Spectrum Extrapolation <i>J. Becerra, F. Vega, F. Rachidi</i>
108	11:00 – 11:20	Isotropic Shielding Properties of Loaded Apertures <i>Ronny Gunnarsson, Bengt Vallhagen, Mats Bäckström</i>
198	11:20 – 11:40	Circuit Approximation of the Reflection Coefficients for the Asymptotic Approach and the SEM Method <i>S. Tkachenko, F. Middelstaedt, J. Nitsch, R. Vick, F. Rachidi</i>
184	11:40 – 12:00	Limit for the circuit model for Rogowski Coil <i>Santosh Janaki Raman and Udaya Kumar, Sridhara B</i>

**Room :** Jupiter

**Session:** TC 01 – 1 HPM TWT Sources (4 Papers)

**Chairs:** Dr. D. V. Giri , Mr. W. Prather and Prof. V. Koshelev

ID	Time	Title
111	09:00 – 09:20	Laser Induced Microwave Oscillations <i>Arindum Mukherjee, B N Biswas, N R Das</i>
149	09:20 – 09:40	W-band Optics for Matching Beams with Astigmatism and Tilt (WOMBAT) <i>Sameer D. Hemmady, Brad W. Hoff</i>
216	09:40 – 10:00	Establishment of India's Largest Outdoor RS105 Test Facility as per MILSTD 461F/G <i>B. Venkata Ramana, P. Siva Kumar, B Subbarao</i>
238	10:00 – 10:20	Overview of X-band Relativistic Triaxial Klystron Amplifier Research at the National University of Defense Technology <i>Jinchuan Ju, Wei Zhang, Xingjun Ge, Lishan Zhao, Huihuang Zhong, and Jun Zhang</i>
--	10:20 – 10:40	<b>Coffee/Tea Break</b>

**Session:** TC 01 – 2 HPM MILO and Magnetron Sources (4 Papers)

**Chairs:** Dr. D. V. Giri, Mr. W. Prather and V. Koshelev

ID	Time	Title
179	10:40 – 11:00	Development of a Mesoband Immunity Test Source and Method <i>R. Hoad, B. Petit, T. Rees and G. Eastwood</i>
239	11:00 – 11:20	Investigation of a compact mesoband high power microwave source <i>Yuwei Wang, Dongqun Chen, Jiande Zhang, Jinchuan Ju, Xingjun Ge and Lishan Zhao</i>
234	11:20 – 11:40	HYBRID T/R MODULE FOR PHASED ARRAY ANTENNA APPLICATION <i>Muthukumar M, D.Ramakrishna, V.M.Pandharipande</i>
219	11:40 – 12:00	A Critique of the Bandwidth Definition for a Pulsed EM Based Detection System <i>Vijayakumar Solaiselvam, M. Joy Thomas</i>



## Tuesday – 25 July 2017 [Sessions after Lunch]

**Room :** Grand Ballroom 1

**Session:** TC 06 – 3 Lightning effects and diagnostics

**Chairs:** Dr. F. Rachidi and Dr. M. Rubinstein

ID	Time	Title
172	14:00 – 14:20	The Performance and Test Methods for Lightning Direct Effect of Optical Ground Wires <i>Sun Jinru, Yao Xueling, Xu Wenjun, Chen Jingliang</i>
224	14:20 – 14:40	Lightning Thunderstorm Activity Diagnostics <i>A.A. Serkov, S.A. Nikitin</i>
--	14:40 – 15:00	
--	15:00 – 15:20	
--	15:20 – 15:40	<b>Coffee/Tea Break</b>

**Session:** SS 02 Meta Materials for High-Power Applications

**Chairs:** Dr. E. Schamiloglu and Dr. A. Bhattacharya

ID	Time	Title
136	15:40 – 16:00	Experimental Hot Tests of a Metamaterial SWS High Power Microwave Source <i>Edl Schamiloglu, Sarita Prasad, Sabahattin Yurt, and Mikhail Fuks</i>
157	16:00 – 16:20	A Triple Band Pass Frequency Selective Surface For Augmentation In The Performance Of Wimax And Wlan <i>Darakshanda Noor</i>
158	16:20 – 16:40	Hetero Structured 2D-Photonic Crystal Ring Resonator based Optical Wavelength Division De-multiplexer <i>Anila Dhingra, O. S. Lamba</i>
212	16:40 – 17:00	Ultra-Thin Wide Band Metamaterial Absorber <i>Prakash Kumar Panda, Debalina Ghosh, R. Vasudeva Reddy</i>

**Room :** Grand Ballroom 2

**Session:** TC 03 -1 HPEM-Meas. Techniques (1)

**Chairs:** Dr. M. Schaarschmidt and Dr. S. Satav

ID	Time	Title
202	14:00 – 14:20	Development of Multi-channel Waveform Recorder <i>Kong Xu, Xie Yan-Zhao</i>
190	14:20 – 14:40	Fast Rise-time, Transient High Voltage Divider <i>Sandeep Satav, V. M. Pandharipande</i>
204	14:40 – 15:00	Cone Antenna Design for D-dot Sensor Calibration <i>Tae Heon Jang, Je Hun Lee</i>
199	15:00 – 15:20	Research on calibration accuracy of D-Dot sensor <i>Jiang Yunsheng, Meng Cui</i>
--	15:20 – 15:40	<b>Coffee/Tea Break</b>

**Session:** TC 03 -2 HPEM-Meas. Techniques (2)

**Chairs:** Dr. M. Schaarschmidt and Dr. S. Satav

ID	Time	Title
162	15:40 – 16:00	Insertion Loss Free Measuring Antenna <i>L. Duvillaret, G. Gaborit</i>
215	16:00 – 16:20	Improved Large Mode Area Low Confinement Loss Photonic Crystal Fiber With Flattened Dispersion <i>Sandhya Sharma, O.S. Lamba</i>
223	16:20 – 16:40	High Power Millimeter Wave Pulse Measurement Using Cross-waveguide Resistive Sensor <i>Anil Allampalli, Amitabha Bhattacharya</i>
109	16:40 – 17:00	Innovative Shielding Effectiveness Measurement System <i>Joly Jean-Christophe, Ribièrre-Tharaud Nicolas</i>



## Tuesday – 25 July 2017 [Sessions after Lunch]

**Room :** Neptune

**Session:** TC 07 – 1 EM coupling to Elements

**Chairs:** Dr. Tkachenko and Dr. S. Zheng, Dr. S. Hemmady

ID	Time	Title
151	14:00 – 14:20	Developing Predictive Models for Erroneous Software Behavior due to Electromagnetic Interference <i>Sameer Hemmady and Thomas M. Antonsen</i>
104	14:20 – 14:40	Software and hardware assessment of FDTD simulations <i>L. Labarbe, B. Pecqueux</i>
131	14:40 – 15:00	NASCAP/GEO CHARGING ANALYSIS OF GSAT-11 <i>Anju Damodaran, Gomathi D., Manvi Gupta, Vivek R. Srivastava, V. Lakshminarayana, P.K. Poddar, V. K. Hariharan, M. Nageswara Rao</i>
208	15:00 – 15:20	Study of an Helical Flux Compression Generator Used for Driving a High Power Microwave Source <i>Ashish Sharma, M. Joy Thomas</i>
--	15:20 – 15:40	<b>Coffee / Tea Break</b>

**Session:** TC 07 – 2 EM coupling to complex systems

**Chairs:** Dr. Tkachenko and Dr. S. Zheng, Dr. S. Hemmady

ID	Time	Title
193	15:40 – 16:00	HEMP radiated environment distribution simulated by Monte Carlo method <i>Ning Dong, Yan-zhao Xie</i>
117	16:00 – 16:20	Simulation of EMP generation in high power laser facilities <i>Hanbing Jin, Cui Meng</i>
150	16:20 – 16:40	Developing Predictive Scaling Laws for Large Signal RF Response of Elemental MOSFET Devices <i>Desmond Awungayi, Nishay Sule, Payman Zarkesh-Ha, Edl Schamiloglu, Sameer Hemmady</i>
--	16:40 – 17:00	

**Room :** Jupiter

**Session:** TC 01 - 3 HPM MILO, BWO and Gyrotrons (4 Papers)

**Chairs:** Dr. D. V. Giri, Mr. W. Prather and V. Koshelev

ID	Time	Title
185	14:00 – 14:20	Far Field Boundary Characterization of Half Impulse Radiating Antenna (HIRA) <i>Rakesh Kichouliya and Sandeep M Satav, Divya Divi</i>
194	14:20 – 14:40	Half Impulse Radiating Antenna for High Voltage UWB System <i>S. K. Singh, S. Mitra, K. Senthil, R. Chaurasia, Archana Sharma</i>
106	14:40 – 15:00	Radiation of High-Power Ultrawideband Pulses with Synthesized Spectrum <i>V.I. Koshelev, A.M. Efremov, V.V. Plisko, E.A. Sevostyanov</i>
203	15:00 – 15:20	The Criteria to Evaluate the Performance of High-Power UWB Antennas <i>Shaofei Wang, Yanzhao Xie</i>
--	15:20 – 15:40	<b>Coffee / Tea Break</b>

**Session:** TC 01 - 4 UWB Radiation (4 Papers)

**Chairs:** Dr. D. V. Giri, Mr. W. Prather and V. Koshelev

ID	Time	Title
205	15:40 – 16:00	Particle-in-Cell Simulation of S-Band 500 MW Relativistic Backward Wave Oscillator <i>Sanjay Kumar Gupta, S.Umamaheswara Reddy</i>
126	16:00 – 16:20	Computation of Beam-Wave Interaction in Medium Power Gyrotron <i>N Nayek and T. Tiwari</i>
240	16:20 – 16:40	A Gigawatt-class, Repetitively Pulsed, Vacuum-sealed High-power Microwave Source <i>Tao Xun, Han-wu Yang, Yu-wei Wang, Jian-de Zhang</i>
241	16:40 – 17:00	A High-efficiency Long-pulse Relativistic Backward-wave Oscillator with Coaxial Extractor <i>Xingjun Ge, Jinchuan Ju, Lishan Zhao, Jun Zhang, Jianhua Yang</i>



## Wednesday – 26 July 2017

### PLENARY SESSION (08:30 – 15:30) Grand Ball Room

Co-Chairpersons: Dr. W. Radasky, Prof. A. Bhattacharya and Dr. Subrata Maiti

### POSTER SESSION (16:00 – 17:30) Pre-Function Area

Time Slot	Speaker	Topic
08:30-09:00	Prof. Edl Schamiloglu	High-Power Microwave Sources – Quo Vadis?
09:00-09:30	Prof. Lars-Ole Fichte	EM Reverberation Chambers (with Statistics)
09:30-10:00	Dr. D. C. Pande	HPEM Activities in India
10:00-10:30	Dr. Armin Kaelin	Challenges in HPEM Protections
10:30-11:00	Coffee Break	
11:00-11:30	Dr. Chaouki Kasmi	“SMART” IEMI and RF DEW: emerging threats for information security
11:30-12:00	Dr. Robert Gardner	Simulation of Upset from Low-level IEMI
12:00-12:30	Prof. Meng Cui	Research on HPEM in High Laser Facility
12:30-13:30	Lunch Break	
13:30-14:00	Dr. J-P Parmantier	EM Topology-decades of evolution
14:00-14:30	Prof. J. Venkataraman	The Metamaterial Revolution
14:30-15:00	Prof. Jane Lehr	Switches for HPEM Applications
15:00-15:30	Dr. S. N. Joshi	Indian Initiatives on Development of Gyrotrons
15:30-16:00	Coffee Break	
16:00-17:30	Poster Session (Pre-Function Area)	
19:00-23:00	Awards Banquet	

#### NOTE:

Tickets may still be available for the Awards Banquet

Please enquire with Dr. D. V. Giri: ([Giri@DVGiri.com](mailto:Giri@DVGiri.com))

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## Thursday – 27 July 2017 [Sessions before Lunch]

**Room :** Grand Ballroom 1

**Session:** TC 08 HPEM-Bioeffects/Medical Applications of EM

**Chairs:** Dr. L. Fichte and Dr. K. Ito and Dr. X. Yao

ID	Time	Title
116	09:00 – 09:20	Analyzing HF & LF RadHaz Scenarios with 3D EM Simulation <i>Rijin Saseendran</i>
191	09:20 – 09:40	Effects of millisecond pulsed electromagnetic field on C6 cell's viability and apoptosis, <i>Yao Xueling, Xu Wenjun, Sun Jinru, Le Yangjing, Chen Jingliang, Lu Xiaoyun</i>
236	09:40 – 10:00	Exfoliated Human Cells Response to Microwaves and Magnetic Field Exposure, <i>Kuznetsov K.A., Shckorbatov Y.G. and V.N. Karazin</i>
--	10:00 – 10:20 10:20 – 10:40	<b>Coffee / Tea Break</b>

**Session:** TC 04 - 1 HEMP/IEMI Environments, Coupling and Standards

**Chairs:** Dr. W. Radasky and Dr. R. Hoad

ID	Time	Title
218	10:40 – 11:00	Electric Field Levels on Ground after High Altitude EMP <i>Carl Friedrich Rädcl, Michael Hagel, Lars Ole Fichte, Sebastian Lange, Frank Sabath, Marcus Stierner</i>
160	11:00 – 11:20	Variation of E1 HEMP and IEMI Coupling to Cables <i>James Gilbert, William Radasky</i>
113	11:20 – 11:40	2017 Update on HEMP and IEMI Standards <i>R. Hoad, W.A. Radsaky</i>
175	11:40 – 12:00	Improvements Needed for MIL-STD-188-125-1 <i>William A. Radasky, Sergio N. Longoria</i>

## Thursday – 27 July 2017 [Sessions before Lunch]

**Room :** Grand Ballroom 2

**Session:** TC 09 - 1 Patch and Wearable UWB Antennas

**Chairs:** Dr. D. Singh , Dr. D. V. Giri and Dr. E. Farr

ID	Time	Title
156	09:00 – 09:20	A Parametric Analysis A CPW Fed Novel Shaped Microstrip Patch Antenna <i>Paresh Jain, O.S Lamba</i>
173	09:20 – 09:40	Design and Analysis of Circular Slot Microstrip Patch Antenna with FR-4 Substrate <i>Payal Jindal, Sudheer Sharma, Onkar Lamba</i>
210	09:40 – 10:00	Simulation Analysis of Circular Polarization using Single Microstrip Patch Antenna <i>Swapnil Narke, C Bhattacharya</i>
209	10:00 – 10:20	Modified Ground Plane for High-gain UWB Wearable Antennas <i>Shilpi Ruchi Kerketta, Debalina Ghosh, P. K. Sahu</i>
--	10:20 – 10:40	<b>Coffee / Tea Break</b>

**Session:** TC 09 - 2

**Chairs:** Dr. D. K. Singh , Dr. D. V. Giri and Dr. E. Farr

ID	Time	Title
213	10:40 – 11:00	Ubiquitous nature of Asymptotic Conical Dipole Profile for Ultrawideband Antenna Design <i>Dhiraj K. Singh</i>
217	11:00 – 11:20	Size reduction of log periodic antenna using folded arm structure <i>NILESH KUMAR MANKER</i>
225	11:20 – 11:40	UWB Pulse Generator Using Step Recovery Diode <i>J.Prajapati, C. Prabhakar, M.S. Ansari, A. Chatterjee, R. S. Kshetrimayum, and R. Bhattacharjee</i>
--	11:40 – 12:00	



**Room :** Jupiter

**Session:** TC 01 – 5 Mesoband Sources and Detection (4 Papers)

**Chairs:** Dr. D. V. Giri, Mr. W. Prather and V. Koshelev

ID	Time	Title
115	09:00 – 09:20	Thermal Simulation of High Power SBand Tunable Magnetron <i>S.K. Vyas, T. Tiwari</i>
144	09:20 – 09:40	Study of GW Range L-band Relativistic Magnetron using PIC <i>Srinivas Nekkanti, M. Joy Thomas</i>
242	09:40 – 10:00	Experimental investigation of S-band magnetically insulated transmission line oscillator (MILO) <i>V Nallasamy, C Narasimhamurthy, U Shanmuganathan, Saket Khandekar, Srinivas Nekkanti, B Vijay Kumar and SUM Reddy</i>
222	10:00 – 10:20	Wideband High-Power Microwave Module on the Basis of Two RF-Outputs Magnetron <i>G.I. Churyumov, A.I. Ekezly</i>
	10:20 – 10:40	<b>Coffee / Tea Break</b>

**Session:** TC 01 – 6 HPM Amplifiers, Sources and Facilities (3 Papers)

**Chairs:** Dr. D. V. Giri, Mr. W. Prather and V. Koshelev

ID	Time	Title
112	10:40 – 11:00	Design of a broadband 0.22THz 100W Planar Travelling Wave Tube <i>Vishnu Srivastava</i>
200	11:00 – 11:20	Four Beam Folded Waveguide Slow Wave Structure for Millimeter Wave TWTs <i>Swagata Ray, Latha Christie</i>
201	11:20 – 11:40	Design and Simulation of an Ultra Wideband Slow Wave Structure for a Millimetre Wave TWT <i>SanjuktaNej, Latha Christie</i>
--	11:40 – 12:00	

**Room :** Neptune

**Session:** TC 11 UWB-Target Detection/Imaging

**Chairs:** Dr. V. Koshelev and Dr. D. K. Singh

ID	Time	Title
145	09:00 – 09:20	Comparison of Target discrimination using Epulse in time and frequency domain <i>Naveena M, Dhiraj Kumar Singh</i>
220	09:20 – 09:40	Image Focusing of Stepped Frequency Ultra Wideband Radar using Time Reversal Technique <i>Paramananda Jena, Debalina Ghosh, A. Vengadarajan</i>
221	09:40 – 10:00	EM Modelling of Ultra Wideband Time Reversal <i>Paramananda Jena, Debalina Ghosh, A.Vengadarajan</i>
107	10:00 – 10:20	Dual Polarized Steering Transceiver for Object Detection through the Wall <i>V.I. Koshelev, E.V. Balzovsky, Yu. I. Buyanov, E.S. Nekrasov</i>
--	10:20 – 10:40	<b>Coffee / Tea Break</b>

**Session:** SS 01 Ground Penetrating Radar

**Chairs:** Dr. A. Bhattacharya and Dr. S. Maiti

ID	Time	Title
195	10:40 – 11:00	Design of antenna systems with Tx/Rx Isolation for Handheld GPR <i>Preeti Dongaonkar</i>
186	11:00 – 11:20	Numerical Evaluation of an Analytical GPR Model <i>Indulata Sahu, Sonu Dasi and Subrata Maiti</i>
--	11:20 – 11:40	
--	11:40 – 12:00	



## Thursday – 27 July 2017 [Sessions after Lunch]

**Room :** Grand Ballroom 1

**Session:** TC 04 - 2 Radiated and Conducted HPEM Equipment Testing

**Chairs:** Dr. W. Radasky and Dr. R. Hoad

ID	Time	Title
105	14:00 – 14:20	Evaluation of equipment power input susceptibility <i>L. Labarbe, J-M. Lopez</i>
143	14:20 – 14:40	Behavior Of Gas Discharge Tubes Under Mesoband and Narrowband HPEM Signal Conditions <i>Matthias Kreitlow, Armin Kaelin, Markus Nyffeler, Pierre Bertholet</i>
177	14:40 – 15:00	A Key Aspect in Estimating the Effects of Ultrashort EMP on Electronic Devices <i>Yury V. Parfenov, Leonid N. Zdoukhov, Vladimir M. Chepelev, Boris A. Titov, William A. Radasky</i>
189	15:00 – 15:20	Development of Compact, Wide Band (WB), High Power Electromagnetic (HPEM) System Electronic Vulnerability Study (EVS) <i>M. Ratna Raju, Sandeep M. Satav, D. Ratan Sanjay</i>
211	15:20 – 15:40	Studies of Vulnerabilities on Electronics Gadgets against HPM <i>Senthil Kumar D, Shanmuganathan, Saket Khandekar, Srinivas Nekkenti, Manik Das, Laloo Alex, and Sum Reddy</i>

**Coffee / Tea Break**

**Room :** Grand Ballroom 2

**Session:** TC 05 HPEM-System Level Protection and Testing

**Chairs:** Dr. A. Kaelin and Dr. M. Backstrom

ID	Time	Title
182	14:00 – 14:20	Challenges in Designing and Testing of EMP Ethernet (RJ45) Filter <i>Aswin R</i>
124	14:20 – 14:40	HEMP/IEMI Filter Design and Confirmation of Performance <i>Sergio N. Longoria</i>
125	14:40 – 15:00	Protection of Points of Entry (PoE) for Defense and Commercial Structures against HPEM <i>Sergio N. Longoria</i>
121	15:00 – 15:20	Vulnerability assessment of GNSS antennas to various threats <i>Ribièrre-Tharaud N., Pirotais O., Joly J.-C., Rouquand A. CEA,</i>
226	15:20 – 15:40	Research on the Coupling Processes of Transmission Lines and Network with Diffused Field within Reverberation Chamber <i>Qingguo Wang, Rui Jia, Zhaoming Qu, Erwei Cheng</i>

**Coffee / Tea Break**

**Room :** Neptune

**Session:** TC 02 HPEM-Coupling/Structures/Cables

**Chairs:** Dr. J-P. Parmantier and Dr. S. Tkachenko

ID	Time	Title
206	14:00 – 14:20	Estimating time-dependent radiation impedance of software instructions with applications to the Random Coupling Model <i>Joe M. Chen, Ghadeh Hadi, Rusmir Bilalic, David Dietz, Sameer Hemmady, Salvador Portillo, Manel Martinez-Ramon, Edl Schamiloglu</i>
138	14:20 – 14:40	Revisiting the Calculation of the Early-Time HEMP Conducted Environment <i>N. Moraç, G. Lugrin, J. Becerra, P. Bertholet, M. Nyffeler, B. Daout, F. Rachidi</i>
110	14:40 – 15:00	HEMP Coupling to RF and LAN Cables



188	15:00 – 15:20	<i>Rakesh Kichouliya and Sandeep M satav</i> Characterization of Attenuation of various Civil Structures for High Intensity Transient EM Field
165	15:20 – 15:40	<i>M. Ratna Raju, D. Ratan Sanjay, Sandeep M. Satav</i> Modelling EM-coupling on a Massively Composite Aircraft <i>J-P. Parmantier, I Junqua, S. Bertuol, T. Volpert, Walid Dyab, Ahmed Sakr, Ke Wu, C. Girard, G. Prin, A. Guidoni, G. Samarone, F. Moupfouma, W. Tse, K. Nuyten and A. Blommers</i> <b>Coffee / Tea Break</b>

## Poster Session

Wednesday July 26

16:00-17:30

- P1-1 Modification of Impulse-Radiating Antenna Waveforms to Obtain Damped Sinusoidal waveforms (101)**  
D. V. Giri, F. M. Tesche
- P1-2 Malfunction analysis of CMOS IC according to gate output when HPM occur (102)**  
J. W. Park, C. S. Huh, C. S. Seo, S. W. Lee
- P1-3 A Performance Compensation Method for Distorted Spaceborne Phased Array Antennas (120)**  
Congsi Wang, Yan Wang, Wei Wang
- P1-4 Effect Analysis of an EMP at NPPs (129)**  
Song Hae Ye, Ho Sun Ryu
- P1-5 Characterization and Analysis of sensitivity parameters for IEMI effects (137)**  
Yong Li
- P1-6 Study and Parametric Analysis of High Frequency Radiations in Communication Network in an Urban Environment (140)**  
Antim Bala Sharma, O. S. Lamba
- P1-7 Race Track Coil Based Deperming Protocol using Cage System (141)**  
Sonal Jain, Ratan Singh, Rizwan Ahmed, Faruk Kazi
- P1-8 Aircraft EM Testing in the 21st Century -- What we have now that we didn't have then (154)**  
William D. Prather [Withdrawn]
- P1-9 Malfunction of Electronic Equipment by Repetitive Ultra-Wideband Pulse (155)**  
Jongwon Lee and Jin Soo Choi
- P1-10 Electromagnetic Simulation of an Integrated Antenna-Source with Directional Antenna Beam Patterns (170)**  
Kiho Kim, Jiheon Ryu, Jeonghyeon Kuk, Jin Soo Choi
- P1-11 Study of the Active Energy Coupling Circuit of Gas Discharge Tube (171)**  
Sun Wei, Han Pei, Sun Jinru, Chen Jingliang



**P1-12 UWB HPEM Simulator in accordance with IEC 61000-4-36 (181)**

Jin-Ho Shin, Young-Kyung Jeong, Dong-Gi Youn, Tae-Heon Jang

**P1-13 Research on Lightning Electromagnetic Environment of Electric Multiple Unit (183)**

Li Mingxiao, Zhang Hongye

**P1-14 The Simulation and Experiment Research for Lightning Direct Effect of CFRP Subjected to Current Component A (192)**

Yao Xueling, Guo Canyang, Sun Jinru, Xu Wenjun, Chen jingliang

**P1-15 Research on High-Voltage GTEM cell for E1 pulse (197)**

Jeong-Ju Bang, Tae-Heon Jang, D.V. Giri

**P1-16 Review on Test Parameters and Tolerances of E1 HEMP Simulator (207)**

Tae Heon Jang, Je Hun Lee





## American Electromagnetics Symposium 2018 (August 27-31, 2018)



The next AMEREM symposium will be held in Santa Barbara, California, USA. AMEREM 2018 will continue the AMEREM/EUROEM/ASIAEM tradition of bringing together the:

- ✓ 23<sup>rd</sup> High-Power Electromagnetics Conference
- ✓ 16<sup>th</sup> Ultra-Wideband, Short-Pulse Electromagnetics Conference
- ✓ 16<sup>th</sup> Unexploded Ordnance Detection and Range Remediation Conference

It's our great pleasure to invite you to join us for AMEREM 2018 Symposium. It provides a forum within the international scientific and engineering community in High-Power Electromagnetics. Internationally renowned experts from many countries are expected to participate.

**AWARDS** Summa Foundation will announce the awards for the best HPEM notes published over the previous 2 years, and newly elected HPEM Fellows will be recognized.

### IMPORTANT DATES

Proposals for Special Sessions	19 February 2018
Paper submission	26 March 2018
Notification of Acceptance	26 April 2018
Deadline for Author Registration	02 July 2018

### ORGANIZERS



Conference website:  
[www.amerem2018.org](http://www.amerem2018.org)  
(under construction)

For additional info, please  
contact: W. A. Radasky  
Email: wradasky@aol.com

### General Information

This conference is sponsored by SUMMA Foundation. The working language of the conference is English. There will be a technical exhibition and a Welcome Reception. A Gala Beach Barbeque Dinner will also be arranged at Goleta Beach.

### Conference Location

The conference will be held at the University of California at Santa Barbara (UCSB), which has become one of the most highly rated public universities, especially for its programs in Marine Science and Engineering. UCSB runs many technical conferences during the summer and the conference facilities are excellent for conferences of our size.

### Paper Submission

We will only require a single page extended abstract in a US Letter size paper with 2-column format. Paper submissions and reviews will be handled on-line using OpenConf software. Every paper will be reviewed by two independent reviewers and advocated by TC/SS Chairs.

### Sponsorship Opportunities

We welcome sponsors for AMEREM 2018. Sponsors will be recognized by logos added to the AMEREM 2018 website with a link to their company website, a company advertisement in the abstract book and a complementary exhibit booth during the conference.





**Asian Electromagnetics Conference (ASIAEM) 2019**  
September 15-20, 2019 | Xi'an, China

ASIAEM 2019 will be held in Xi'an, China. ASIAEM 2019 will continue the AMEREM/EUROEM/ASIAEM tradition of bringing together the :

- 24<sup>th</sup> High-Power Electromagnetics Conference (HPEM 24)
- 17<sup>th</sup> Ultra-Wideband, Short-Pulse Electromagnetics Conference (UWB SP 17)
- 17<sup>th</sup> Unexploded Ordnance Detection and Range Remediation Conference (UXO 17)

It's our great pleasure to invite you to join us for ASIAEM 2019. It offers a forum within the international scientific and engineering community in High-Power Electromagnetics. Internationally renowned experts will await you in Xi'an. We're looking forward to seeing you in this historically famous city.

### Awards

Early Career Award, Best Paper Award, and Best Student Paper Award will be established to encourage outstanding investigators especially young investigators and students to make great contributions in the field of High-Power Electromagnetics.

### Important Dates

Open date for submission	30 <sup>th</sup> October 2018
Proposals for special sessions	20 <sup>th</sup> February 2019
Paper submission	22 <sup>nd</sup> April 2019
Notification of Acceptance	22 <sup>nd</sup> May 2019
Deadline for Author Registration	06 <sup>th</sup> July 2019

### Conference Email

[asiaem2019@mail.xjtu.edu.cn](mailto:asiaem2019@mail.xjtu.edu.cn)

### Organizer



Xi'an Jiaotong University, China

### Technical Sponsor



SUMMA Foundation

### Conference Chair

*Yanzhao Xie,*  
Xi'an Jiaotong University, China

### Technical Program Committee

TPC Chair:

*William Radasky*  
Metatech, USA

Advisors:

*D. V. Giri*  
Pro-Tech, USA

*Richard Hoad*  
QinetiQ, UK

TPC Co-Chair:

*Lihua Shi*  
E3OE Laboratory, China

*Edl Schamiloglu*  
University of New Mexico,  
USA

*Lars Ole Fichte*  
Helmut Schmidt University,  
Germany

### International Scientific Committee

<i>W.-J. Chen,</i>	<i>J.-S. Luo,</i>	<i>S.-H. Wang,</i>
<i>Y.-Z. Chen,</i>	<i>H.-G. Ma,</i>	<i>S.-Q. Zheng,</i>
<i>S.-T. Li,</i>	<i>C. Meng,</i>	<i>A. Wraight,</i>
<i>Y.-D. Li,</i>	<i>K. Mittal,</i>	<i>Janet O'Neill,</i>
<i>Kasmi Chaouki,</i>	<i>L. Palisek,</i>	<i>Jaimin Lee,</i>
<i>M. Bäckström,</i>	<i>W. Prather,</i>	<i>J.-G. Wang,</i>
<i>S. W. Choi,</i>	<i>F. Rachidi,</i>	<i>J. Lee,</i>
<i>J.-H. Deng,</i>	<i>J.-G. Rhee,</i>	<i>P. Smith,</i>
<i>E. Farr,</i>	<i>F. Sabath,</i>	<i>Dong-Ho Kim,</i>
<i>R. Gardner,</i>	<i>Y.-J. Yoon,</i>	<i>Shi Qiu,</i>
<i>J. Guo,</i>	<i>D. C. Pande,</i>	<i>P. Zwamborn,</i>
<i>T.-H. Jang,</i>	<i>M. Nyffeler,</i>	<i>Q. Liu,</i>
<i>S. B. Jeon,</i>	<i>M. Rubinstein,</i>	<i>Nicolas Mora,</i>
<i>A. Kaelin,</i>	<i>Chang-Su Huh,</i>	<i>F. Vega,</i>
<i>A. Wraight,</i>	<i>Woochul Park,</i>	<i>Dhiraj K. Singh,</i>
<i>Jin Soo Choi,</i>	<i>J.-P. Parmantier,</i>	<i>Jong-Gwan Yook</i>
<i>A. Bhattacharya,</i>		

For more information about ASIAEM 2019, please visit conference website: <http://www.asiaem.org>





## Scope

The Technical Program for ASIAEM 2019 is organized into 18 Technical committees (TCs), as shown below:

Technical Committee	Broad Area	Description
TC 1	HPEM	Sources, Antennas and Facilities (both wideband and narrowband)
TC 2	HPEM	Applications of Coupling to Structures and Cables
TC 3	HPEM	Measurement Techniques
TC 4	HPEM	IEMI Threats, Effects and Protection
TC 5	HPEM	System-level Protection and Testing
TC 6	HPEM	Lightning EM Effects
TC 7	HPEM	Numerical Models and Modeling
TC 8	HPEM	Bio-effects and Medical Applications of EM Fields
TC 9	UWB	Antenna Design, Radiation and Propagation
TC 10	UWB	Radar Systems ( Signal Processing and Security) Aspects
TC 11	UWB	Target Detection, Discrimination and Imaging
TC 12	UXO	Landmine and IED Detection
TC 13	HPEM	Electromagnetic Transients in UHV/EHV Transmission Lines and Substations
TC 14	HPEM	Design of Protective Devices and Test Methods
TC 15	HPEM	Evaluation of HEMP/IEMI Impacts on Critical Infrastructure
TC 16	HPEM	Explosive Devices Effects and Protection for HPEM
TC 17	HPEM	Statistical Methods in HPEM
TC 18	HPEM	HPEM Standards

## Special Sessions

In addition to the 18 TCs identified above, we plan to organize special sessions on topics of current interest. You are welcome to submit your proposals to the Technical Program Committee.

## General Information

The conference will be organized by Xi'an Jiaotong University in China. The working language of the conference is English. There will be a technical exhibition during the conference. Gala banquet and cocktail/welcome reception are being planned.

## Paper Submission

All paper submissions should follow the A4 size Two-Column Format. Each submission will be reviewed by a team of reviewers and can have 1-3 pages containing sufficient information to allow the International Scientific Committee to evaluate their contributions.

## Conference Location

As the hometown of Terra Cotta Warriors and Horses, Xi'an is one of the oldest cities in the world with a vivid and rich history and culture.

## Sponsorship Opportunities

Sponsors will be recognized by logos added to the ASIAEM 2019 website with a link to their company website, a half page and company advertisement in the abstract book and complementary exhibit booth during the conference.

## Contacts:

Liqiong Sun, Jun Guo  
Xi'an Jiaotong University, China  
[lqsun@mail.xjtu.edu.cn](mailto:lqsun@mail.xjtu.edu.cn), [junguo@mail.xjtu.edu.cn](mailto:junguo@mail.xjtu.edu.cn)



## **EUROEM 2020**

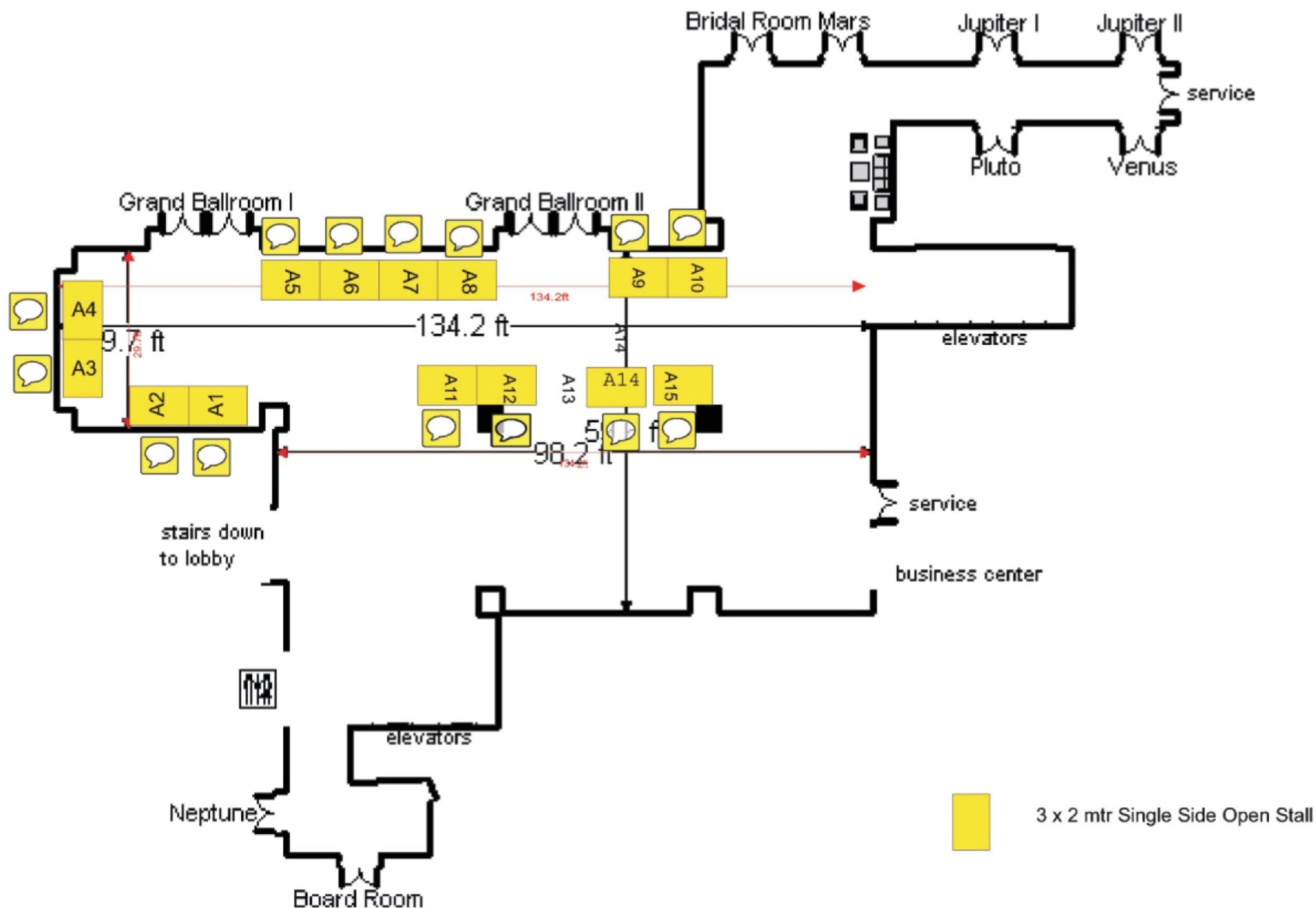
Summa Foundation, USA has approved EUROEM 2020 to be held in Hamburg, Germany. General chair will be Prof. Lars Ole Fichte and Dr. William Radasky will serve as the Technical Program Committee Chair.



## Exhibitor Stalls and Names of Companies

#	Stall Number	Name of the Company	Contact Person	email address
01	A1	ETS Lindgren Engineering India Pvt. Ltd., India	Rajasekharan NK Sanjay Singh	Rajasekharan.K@ets-lindgren.com sanjay.singh@ets-lindgren.com
02	A2	Metatech Corporation, USA	Dr. William Radasky	wradasky@aol.com
03	A3	Kapteos, France	Lionel Duvillaret	lionel.duvillaret@kapteos.com
04	A4	APELC - Complus Systems Pvt. Ltd., India	Keshav	complus@complus.in
05	A5	PPM Test, United Kingdom	Joe	Joe.Petrie@ppm.co.uk
06	A6	montena technology SA, Switzerland	François Volery	Francois.Volery@montena.com
07	A7	SSD Polymers, India	Dr. Datta Prasad	ssdpolymers@outlook.com
08	A8	EMI Solutions Pvt. Ltd., India	PR Vijayan	pr_vijayan@emisindia.com
09	A9	CST India	Kannaiyan Pandurangan	Pandurangan.Kannaiyan@cst.com
10	A10	Microwave Vision Group, France	R. Madhavi	madhavi@measureindia.com
11	A11	Dalian Dongshin Microwave Absorbers Co., Ltd., China	Cindy	cindy@isorb.cn
12	A12	Zeonics Systech Defence & Aerospace Engineers Pvt. Ltd., India	Dr. ZH Sholapurwala	zeonicssys@gmail.com
13	A13	XXXXX	XXXX	XXXX
14	A14	Concept Shapers & Electronics Pvt. Ltd.	Mr Amit N Mahajan	<a href="mailto:amit@conshape.com">amit@conshape.com</a> , <a href="mailto:business@conshape.com">business@conshape.com</a>
15	A15	Rohde & Schwarz India Pvt. Ltd., India	Rahul Gautam	Rahul.Gautam@rohde-schwarz.com

### Pre-Function















**Symposium President**  
Er-Ping LI  
erpingli@ieee.org

**General Chair**  
En-Xiao LIU  
liuex@ieee.org

**General Co-Chair**  
Bruce Archambeault  
bruce.arch@ieee.org

**Technical Program Committee Chair**  
Jun FAN  
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**Technical Program Committee Co-Chair**  
Richard Xian-Ke GAO  
gaoxk@ieee.org

**Technical Paper Chairs**  
Xiaoning Ye  
Xing-Chang WEI

**Special Session Co-Chair**  
Bob Davis

**Workshop Chairs**  
John Maas  
Martin LEUNG  
Eng Leong TAN

**Special Program Chair**  
Chunfei Ye

**Finance Chairs**  
Vignesh Rajamani  
Si-Ping GAO

**Publication Chair**  
Hui Min LEE

**Publicity Chairs**  
Mike Violette  
Janet O'Neil  
Caroline CHAN

**Exhibition Chairs**  
Rhonda Rodriguez  
Chao-Fu WANG

**Registration Chair**  
Bonnie Brench

**Secretary**  
Allison LAW  
emc@cma.sg

# Call for Papers

The 2018 Joint IEEE International Symposium on Electromagnetic Compatibility & Asia-Pacific Symposium on Electromagnetic Compatibility (2018 Joint IEEE EMC & APEMC) will take place at the Suntec Convention and Exhibition Center in Singapore from 14 to 17 May 2018. The joint symposium combines the 60<sup>th</sup> IEEE International Symposium on EMC with the 9<sup>th</sup> APEMC Symposium. For the former, it is only the 4th time for it to be held outside the North America Continent in 60 years and the first time in Asia over the past three decades. For the latter, it is a homecoming to where the APEMC originated 10 years ago.

The symposium Technical Program Committee invites you to submit your original and unpublished papers in all aspects of electromagnetic compatibility (EMC) as well as signal and power Integrity (SI/PI), including but not limited to EMC/SI/PI design, modeling, management, measurements, and education.

All eligible papers (excluding abstract-reviewed papers) will be submitted for online publication at the IEEE Xplore, and authors will also be invited to submit extended versions of those papers for possible publication in a special issue of the IEEE Transactions on Electromagnetic Compatibility.

Plan ahead and join this unique symposium, meet international colleagues, present your latest research findings, share your insight and perspectives, ask questions, learn from experts and innovators, explore collaborations, visit exhibitions and see new products. Experience Singapore, where east meets west, and much more!

## Important Dates

- |   |   |
|---|---|
| <input type="checkbox"/> <b>Preliminary Full Paper Submission</b><br><i>(3 to 6 pages in PDF format;<br/>without author names &amp; affiliations)</i> | Start: 18 August 2017<br>End: <b>24 November 2017</b> |
| <input type="checkbox"/> <b>Paper Acceptance Notification</b>   | 16 January 2018                                       |
| <input type="checkbox"/> <b>Final Paper Due</b>   | 28 February 2018                                      |

Please visit symposium website for more information about

Topics of Interest

Embedded Conference  
on SIPI

Call for Special  
Sessions

Call for Workshops &  
Tutorials

Call for Abstract  
Reviewed Papers



Organized by



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## Embedded Conference on SIPI

As high-speed designs continue evolving, signal/power integrity and other EMC problems become tightly related to each other. The embedded conference on Signal and Power Integrity (SIPI), which is an integral part of the 2018 Joint IEEE EMC & APEMC Symposium, provides a unique opportunity for attendees to exchange ideas and share experiences relevant for today's high-speed designs. **Topics include but not limited to the TC-10 technical areas.**

**SIPI-TPC Chairs:** Zhiping YANG (zhipingyang@google.com) Er-Ping LI (erpingli@ieee.org)

## Call for Special Sessions

The symposium Technical Program Committee is seeking proposals for Special Sessions to be presented at the 2018 Joint IEEE EMC & APEMC Symposium. The proposals may cover any current or emerging areas of EMC, SIPI and related technologies.

Prospective organizers of a Special Session should send their proposals via email to Special Session Chairs: Richard Gao ([gaoxk@ieee.org](mailto:gaoxk@ieee.org)) and Bob Davis ([robert.h.davis@lmco.com](mailto:robert.h.davis@lmco.com)). Submissions must be in **Word or PDF format** following the **proposal template** that can be found at the symposium website ([www.apemc.org](http://www.apemc.org)).

### Special Session Proposal Schedule

- Proposals for Special Sessions: **18 August 2017 – 14 October 2017**
- Notification of acceptance: **07 November 2017**

### Special Session Paper Schedule

- Special Session Paper must be submitted by **23 December 2017**
- Notification of review feedback by **22 January 2018**
- Final versions of Special Session papers from all authors are due on **28 February 2018**.

## Call for Workshops & Tutorials

Prospective organizers of workshops and tutorials should send their proposals via email to John Maas ([johnmaas@us.ibm.com](mailto:johnmaas@us.ibm.com)) and Martin Leung ([martin.Leung@cst.com](mailto:martin.Leung@cst.com)). Submissions must be in **Word or PDF format** following the **proposal template** that can be found at the symposium website ([www.apemc.org](http://www.apemc.org)).

### Schedule for Workshop & Tutorial Proposal & Presentation Material

- Proposals to be submitted during **18 August 2017 – 14 October 2017**
- Notification of acceptance: **07 November 2017**
- Presentation materials from all presenters are due by **05 March 2018**.

## Call for Abstract Reviewed Papers

### Schedule for Abstract Reviewed Papers

- Abstract submissions (about 500 words): **18 August 2017 – 08 January 2018**
- Notification of acceptance: **29 January 2018**
- Final Paper Material (1 to 6 pages) due: **28 February 2018**

■ *The abstract reviewed papers will be invited for resubmission to a special issue of the IEEE EMC Magazine. When accepted and published, they will be archived in the IEEE Xplore.*





# ASIAEM 2017



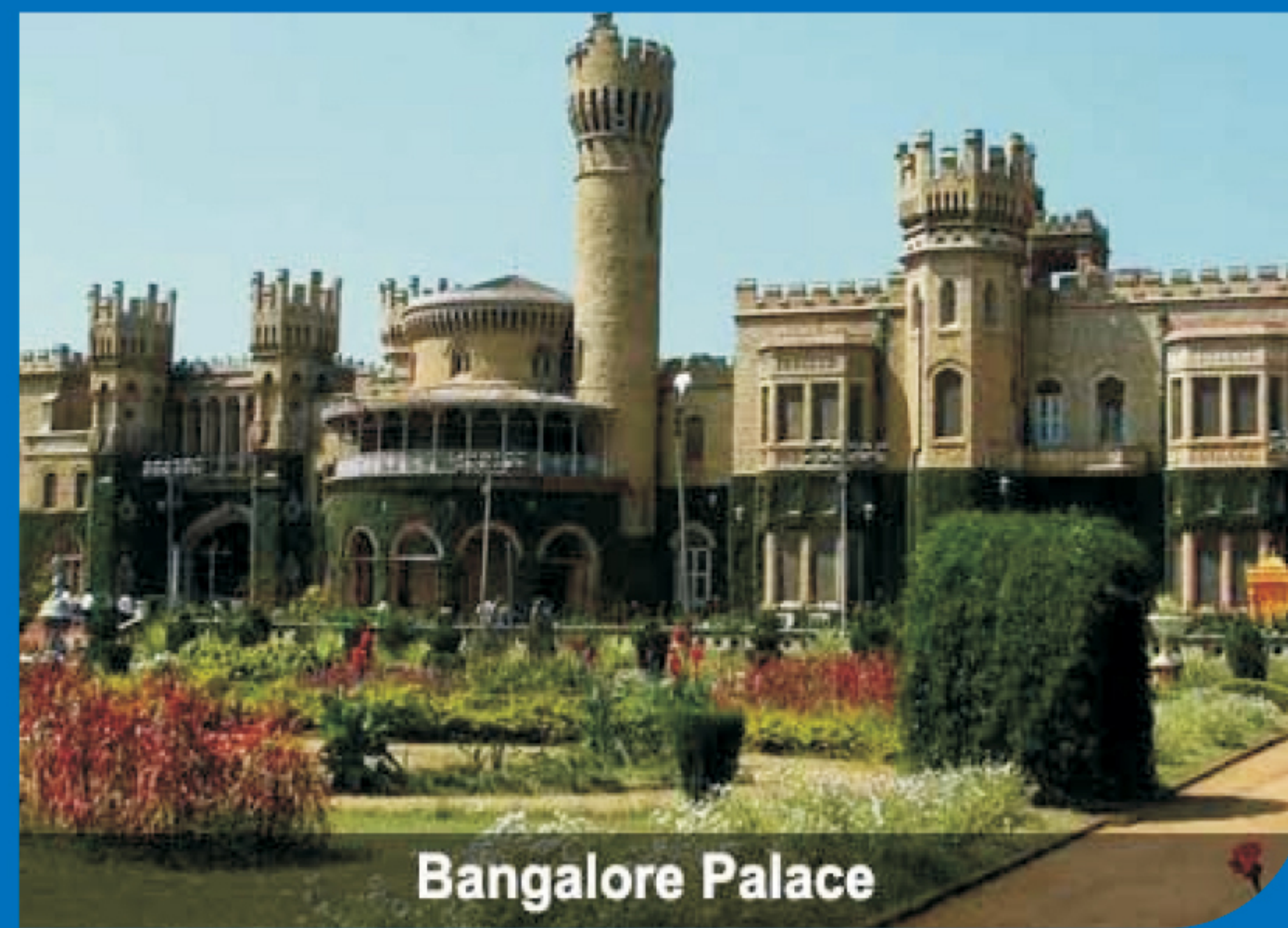
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