

# S M S

## Smart Materials and Surfaces

### B A N G K O K 2 0 1 4

Conference And Exhibition  
26 - 28 August 2014

Sheraton Grande Sukhumvit Hotel - Bangkok-Thailand

## Introduction

**Smart Materials and Surfaces (SMS), Bangkok 2014** is a three-day event targeting researchers interested in the design, modification, characterization and applications of Novel Smart & Active Surfaces and Materials. The goal of conference is to provide a global platform for researchers and engineers coming from academia and industry to present their research results and activities in the field of Intelligent Materials science and engineering. The conference will provide opportunities for the delegates to exchange face-to-face their novel ideas and experiences with the international experts during plenary & invited talks, oral presentations and poster sessions.

## Topics

The **Smart Materials & Surfaces conference** represents a powerful and unique opportunity to interact with a range of researchers all interested in creating and applying modified surfaces and materials. Sessions will include (but not restricted to):

### Development and Characterization of Multifunctional and Smart Materials/ Surfaces/ Coatings

- Material/coating design, formulation, processing and characterisation.
- Design and Theory of Smart Surfaces
- New manufacturing technologies
- Interface and interaction science
- Hybrid/ composite materials design and optimisation
- Biological and bio-inspired composite materials/coatings
- Novel nano and microdevices
- Nanocomposite, Bionanocomposite, etc
- Nanostructured, nanoporous, etc
- Piezoelectric, ferroelectric, electroactive, electromagnetic, self-healing, heating, sensing, etc. materials.

### Characterisation/ Properties of Active Materials/ Surfaces/ Coatings

- Micro- and nano-characterization of mechanical and electromechanical properties
- Damage, fatigue, aging, and fracture mechanics of smart devices
- Design optimization
- Mechanics of nano-devices
- Continuum models for nonlinear multi-field coupled behavior
- Micromechanical and thermodynamical modeling approaches
- Nano-scale effects and atomistic modeling techniques
- Advanced mathematical methods, finite element formulations and implementation

- Modeling, Simulation and Control of Adaptive Systems
- Integrated System Design and Implementation
- Structural Health Monitoring

### Smart Materials/ Coatings Applications

- Energy harvesting and storage
- MEMS and NEMS devices and applications
- Biomedical, Prosthetic and Implant Materials, Biosensors,
- Food and pharmaceutical packaging
- Automotive, aerospace, textile, construction, etc.

### Conference Chairs



**Prof. Ashutosh Tiwari**  
Biosensors and  
Bioelectronics Centre,  
Linköping University, **Sweden**



**Dr. Naveed Anwar** (Conference  
co-chair)  
Executive Director/CEO, AIT  
Consulting Affiliated Faculty,  
Structural Engineering Director,  
ACECOMS, Asian Institute of  
Technology, **Thailand**



**Prof. Joydeep Dutta**  
Chair in Nanotechnology Water  
Research Center ,Sultan Qaboos  
University, **Oman/ Asian Institute of  
Technology, Thailand**

### Conference Plenary/ Keynote Speakers



**Prof. Elias Siores**  
Provost, Bolton  
University, United  
Kingdom



**Prof. Mikael Syväjärvi**  
Graphensic AB and  
Linköping University,  
Sweden



**Prof. Hendrik C Swart**  
Department of Physics,  
University of the Free  
State, South Africa



**Prof. Suresh  
Valiyaveetil**  
Department of  
Chemistry National  
University of Singapore,  
Singapore



**Prof. Enrico Traversa**  
King Abdullah University  
of Science and  
Technology (KAUST),  
Saudi Arabia



**Prof. Husam N.  
Alshareef**  
Program Chair in the  
Materials Science &  
Engineering program  
at KAUST, Saudi  
Arabia



**Dr. Pussana Hirunsit**  
National Nanotechnology  
Center (NANOTEC),  
Thailand



**Prof Krishna Bisetty**  
Durban University of  
Technology, South  
Africa

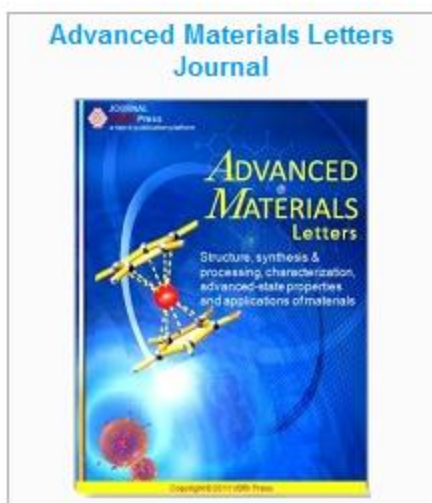
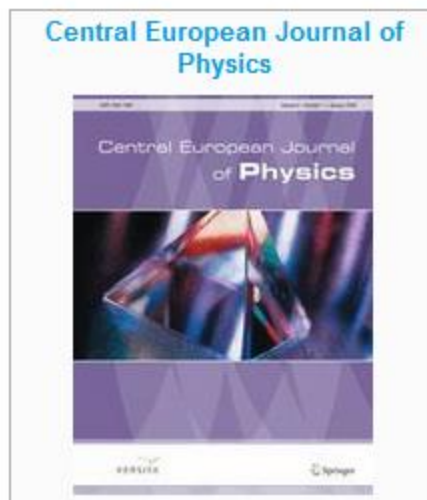
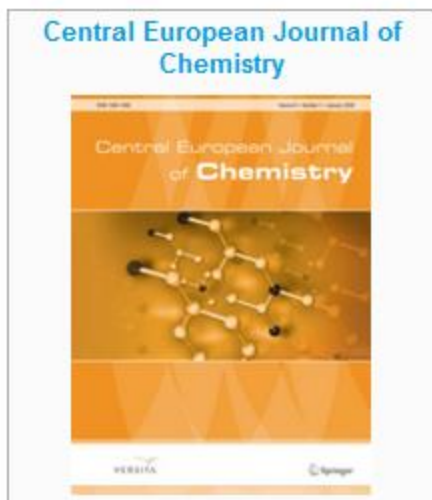
## Steering Committee

The International Advisory Board of the conference is composed of the following doctors and researchers:

- **Prof. Chad A Ulven**, North Dakota State University, **USA**
- **Prof. Rolf E Hummel**, University of Florida, **USA**
- **Prof. Meiping Zhao**, Peking University, **China**
- **Prof. Jean-Pierre Aimé**, CNRS - Université Bordeaux, **France**
- **Prof. Xiaolin Wang**, University of Wollongong, **Australia**
- **Prof. Roy Quinlan**, University of Durham, **UK**
- **Prof. Atul N. Parik**, University of California-Davis, **USA**
- **Prof. Anis Nurashikin Nordin**, International Islamic University, **Malaysia**
- **Prof. Tetsuji Yamaoka**, National Cardiovascular Center Research Institute, **Japan**
- **Prof. David Ginley**, National Renewable Energy Laboratory, **USA**
- **Prof. B. B. Prasad**, Banaras Hindu University, **India**
- **Prof. Ashok Vijh**, Institut de Recherche d'Hydro-Québec, **Canada**
- **Prof. Kostya (Ken) Ostrikov**, CSIRO Materials Science and Engineering, **Australia**
- **Prof. Jianwen Jiang**, National University of Singapore, **Singapore**
- **Prof. Chong Su Cho**, Seoul National University, **South Korea**
- **Prof. Alessandro Gandini**, University of São Paulo, **Brazil**
- **Prof. Manju Misra**, University of Guelph, **Canada**
- **Prof. S. K. Shukla**, University of Delhi, **India**
- **Prof. Masoud A. Mehrgardi**, University of Isfahan, **Iran**
- **Prof. Li-Chyong Chen**, National Taiwan University, **Taiwan**
- **Prof. Arben Merkoçi**, Catalan Institute of Nanotechnology, CIN2 (ICN-CSIC), **Spain**
- **Prof. Mikael Syväjärvi**, Graphensic AB and Linköping University, **Sweden**
- **Prof. Ben Zhong Tang**, The Hong Kong University of Science & Technology, **Hong Kong**
- **Prof. Sivakumar Manickam**, The University of Nottingham Malaysia Campus, **Malaysia**
- **Prof. Katsuyuki Kida**, Kyushu University, **Japan**
- **Prof. Beate Strehnitz**, Helmholtz Centre for Environmental Research, **Germany**
- **Prof. G. C. Psarras**, University of Patras, **Greece**
- **Prof. Tomasz Ganicz**, Centre of Molecular and Macromolecular Studies, Lodz, **Poland**
- **Prof. Shiquan Liu**, University of Jinan, Jinan, **China**
- **Prof. Anatolii D. Pomogailo**, Russian Academy of Sciences, **Russia**
- **Prof. Stoyko Fakirov**, University of Auckland, **New Zealand**
- **Prof. H. C. Swart**, University of the Free State, **Republic of South Africa**
- **Prof. Gehanne Abdel Samie Awad**, Ain shams University, **Egypt**
- **Prof. Gamal A-H Mostafa**, King Saud University, **Kingdom of Saudi Arabia**
- **Prof. S. J. Dhoble**, RTM Nagpur University, **India**
- **Prof. Ashutosh Sharma**, Indian Institute of Technology Kanpur, **India**
- **Prof. Maamar Benkraouda**, United Arab Emirates University, **United Arab Emirates**
- **Prof. Pang Suh Cem**, Universiti Malaysia Sarawak, **Malaysia**
- **Dr. Yogendra K. Mishra**, Institute for Materials Science, CAU Kiel, **Germany**
- **Dr Paritud Bhandhubanyong**, Panyapiwat Institute of Management (PIM), **Thailand**,
- **Prof. Joydeep Dutta** Chair in Nanotechnology Water Research Center ,Sultan Qaboos University, **Oman**,
- **Prof. Mallick Kaushik** Department of Chemistry, Johannesburg University, **South Africa**
- **Dr. Malika Ardhaoui**, University College Dublin, Ireland / Chimie-Paritech – **France**
- **Prof. Adnane Abdelghani**, National Institute of Applied Science and Technology, Tunis - **Tunisia**,
- **Prof. Dr. Osman Adiguzel**, Professor - Firat University, Elazig - **Turkey**,
- **Dr. Jerome Pulpytel**, Lecturer- University of Pierre and Marie Curie, **France**,
- **Dr. Ghozlene Mekhloufi**, Lecturer- Faculté de Pharmacie/ Université Paris Sud, **France**,
- **Dr. Ajay**, Associate Professor- IIT Roorkee, **India**,
- **Prof Barhdadi Abdelfattah**, Professor- Ecole Normale Supérieure, University Med-V, **Morocco**,
- **Dr Abdulrahman Albadri**, King Abdulaziz city for science and technology, **Saudi Arabia**,
- **Dr. Mohamed Bououdina**, College of Science Central Labs, University of Bahrain, **Bahrain**,

## Publishing

- Short Conference Papers (2 Pages maximum including the reference list) were published online in the SETCOR Conference Proceedings
- Depending on their importance , Originality , quality , relevance and other editorial considerations , eligible research journal papers were submitted and evaluated to be published in one of the following Journals



## Networking sessions

5 Networking coffee breaks have been organized as well as 2 poster sessions in order to offer the opportunity to the participants to discuss the latest trends and discoveries in the areas of smart materials and surfaces and the collaboration opportunities between their host laboratories and companies.

It was an excellent event for students to meet and discuss with lead researchers. The conference provided an unprecedented opportunity to discover innovation and new business opportunities. It's among the most important events in the region and it's opened to the participation of private companies and a unique venue for companies to promote equipment and technology.



SMS Bangkok 2014 Networking and Posters Sessions

## Medals/Awards Ceremony

During the event closing ceremony the IAAM Smart Materials Medals were announced as follow:

### IAAM Smart Materials Medal – 2014

- **Professor Elias Siores**, Bolton University, United Kingdom
- **Professor Enrico Traversa**, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia

After the evaluation of the oral and poster presentation, the conference committee announced the attribution of the following awards:

### IAAM Scientist Award – 2014

- **Professor Mikael Syväjärv**, Graphensic AB and Linköping University, Sweden
- **Professor Hendrik C. Swart**, University of the Free State, South Africa

### IAAM Young Scientist Award - 2014

- **Dr. Atsushi Hozumi**, National Institute of Advanced Industrial Science and Technology (AIST), Shimoshidami, Japan
- **Dr. Mohammad R. Alenezi**, Collage of Technological Studies, Public Authority for Applied Education and Training, Kuwait
- **Ms. Shilpi Chaudhary**, Lund University, Sweden
- **Dr. Raju Kumar Gupta**, Indian Institute of Technology Kanpur, Kanpur, India



SMS Bangkok 2014 Awarded Professors and researchers

## Exhibitors and Media partners



## Conference Program

The conference included 12 plenary and keynote lectures and 40 talks. Two poster sessions were also held. SMS Bangkok 2014 attracted more than including the more than 145 participants from different countries (UK, Sweden, Spain, , Norway, Denmark, France, Poland, USA, Mexico, India, Republic of Korea Thailand, Singapore, Malaysia, Taiwan, China, Indonesia, Saudi Arabia, Oman, Iran, Kuwait, Russia, South Africa, Algeria, Australia, etc). The three days event program was as follow:

Tuesday 26 <sup>th</sup> August 2014		
Smart Materials and Surfaces: Fabrication, Characterization & Properties		
7.30 - 9.00	Registration - Welcome coffee	
9.00 - 9.30	Opening Ceremony Chairs: Prof. Ashutosh Tiwari, Sweden and Dr. Naveed Anwar, Thailand	
Keynote talk 9.30 - 10.15	Prof Elias Siores - Provost, Bolton University, <b>United Kingdom</b> Smart functional materials for energy harvesting: from laboratory to commercialisation (E. Siores, N. Soin, T. H. Shah and S. C. Anand)	Prof Elias Siores
10.15-10.45	Coffee break- Poster Session I Chairs : Prof. Ashutosh Tiwari, Sweden and Dr. Naveed Anwar, Thailand	
Keynote talk 10.45-11.30	H.N. Alshareef, M.A. Khan and A.J. Caraveo-Frescas Materials Science & Engineering, King Abdullah University of Science & Technology, Thuwal, <b>Kingdom of Saudi Arabia</b> Flexible Memory Devices Using Functional Polymers	Prof Husam Alshareef
11.30-11.45	A.S. Dhaliwal, Y. Ali and R.G. Sonkawad Department of Physics, Sant Longowal Institute of Engineering & Technology ((Deemed University) Longowal (Sangrur) -Punjab and Inter University Accelerator Centre, New Delhi, <b>India</b> Galvanostatic fabrication of pTS doped PANI- PPy fiber composite film	Prof Amarjit Dhaliwal
11.45-12.00	A. Yousif, H. C. Swart, O. M. Ntwaeaborwa Department of Physics, University of the Free State, Bloemfontein, <b>South Africa</b> The role of particulates on the structure and optical properties of Y <sub>3</sub> (Al,Ga) <sub>5</sub> O <sub>12</sub> :Tb films deposited by PLD.	Dr Abdelrahman Mohammed Yousif
12.00-12.15	E.A.B. Hughes, R. Wise and L.M. Grover University of Birmingham, School of Chemical Engineering, Birmingham and TWI Ltd, Granta Park, Cambridge, <b>United Kingdom</b> Formulation of covalently linked PEEK/HA composite	Mr Erik Hughes
12.15-12.30	N.Paleeya, N. Khemasiri, D. S-T Phromyothin, M. Horprathum, S.Porntheeraphat, J.Nukeaw and S. Pratontep National Electronics and Computer Technology Center, Thailand Science Park and College of Nanotechnology, King Mongkut's Institute of Technology, <b>Thailand</b> Silicon Nitride Protective Coating by Gas-timing RF Magnetron Sputtering Deposition	Dr Sirapat Pratontep
12.30-14.00	Lunch break- Poster Session I	
Smart Materials and Surfaces for Energy and Environment		
Chairs : Prof. Husam Alshareef, Kingdom of Saudi Arabia and Prof. Elias Siores, United Kingdom		
Keynote talk 14.00-14.45	Prof Joydeep Dutta - Chair in Nanotechnology, Water Research Center, Sultan Qaboos University, <b>Sultanate of Oman</b> Nanotechnology for water treatment and desalination	Prof Joydeep Dutta
14.45-15.15	B. Petter Jelle, T. Gao and A. Gustavsen SINTEF Building and Infrastructure, Department of Materials and Structures, Norwegian University of Science and Technology (NTNU), Department of Civil and Transport Engineering and Norwegian University of Science and Technology (NTNU), Department of Architectural Design, History and Technology, <b>Norway</b> . Electrochromic Materials and their Characterization by Solar Radiation Glazing Factors for Smart Window Applications	Prof Bjorn Petter Jelle
15.15-15.45 Invited talk	P. Hirunsit , W. Soodsawang and J. Limtrakul National Nanotechnology Center (NANOTEC), National Science and Technology Development Agency (NSTDA), Department of Chemistry and NANOTEC Center for Nanoscale Materials Design for Green	Dr Pussana Hirunsit

	Nanotechnology, Faculty of Science, Kasetsart University and PTT Group Frontier Research Center, PTT Public Company Limited, Bangkok, <b>Thailand</b> .	
	Reactivity Trend of CO <sub>2</sub> Electroreduction on Copper Alloys from First Principles	
15.45-16:00	Y. Singhvi, I. V. N. Tejasvini and <b>G. Manik</b> Department of Polymer and Process Engineering, IIT Roorkee (Saharanpur Campus), Saharanpur, <b>India</b> Molecular Simulations of Anti-stain Polymeric Coatings	<b>Dr Gaurav Manik</b>
16.00-16.15	<b>Coffee break- Poster Session I</b>	
16:15-16:30	<b>K. Koyvanich</b> , N. Muensit and P. Smithmaitrie Center of Excellence in Nanotechnology for Energy (CENE), Physics Department, Faculty of Science and Department of Mechanical Engineering, Faculty of Engineering, Prince of Songkla University (PSU), HatYai, Songkla, <b>Thailand</b> . A Microscale Piezoelectric Harvester for Mechanical Energy from Fluid Flow	<b>Mr Krit Koyvanich</b>
16.30-16.45	<b>O. Abbes</b> , A. Portavoce, C. Girardeaux, A. Spiesser, and V. Le Thanh GREMI CNRS-Université d'Orléans, Aix-Marseille Université, CNRS, IM2NP-UMR 6242 and Aix-Marseille Université, CNRS, CINaM-UMR 7325, Marseille, <b>France</b> Formation of magnetic phases by reactive diffusion between Mn and Ge for Spintronic Applications	<b>Mr Omar Abbes</b>
16.45-17.00	<b>N. Belkadi</b> , B. Dulmet and T. Baron FEMTO-ST Institute, Time and Frequency Dpt., Besançon, <b>France</b> . Development of Through Silicon Stacking Technology for Capacitive Acoustical MEMS Resonators	<b>Dr Nesrine Belkadi</b>
17.00-17.15	N. Jaiswala, S. Upadhyayb, D. Kumarc and <b>O. Parkashd</b> Department of Ceramic Engineering and Department of Physics, Indian Institute of Technology- Banaras Hindu University, <b>India</b> Oxide Ion Conduction in La <sup>2+</sup> and Sr <sup>2+</sup> Co-Doped Ceria/(Li-Na) <sub>2</sub> CO <sub>3</sub> Multifunctional Nanocomposite electrolyte	<b>Prof Om Parkash</b>
17.15-17.30	<b>G. R. Dhokane</b> Department of Physics, Arts, Science & Commerce College, Chikhaldara, Maharashtra- <b>India</b> Study of Electrical Conductivity of Polypyridine-PVAc Composite Thin-Film doped with Ni(NO <sub>3</sub> ) <sub>2</sub>	<b>Dr Gopal. R. Dhokane</b>
17.30-17.45	<b>M. R. Alenezi</b> , T. H. Alzanki, A. S. Alshammari, S.J. Henley and S. R. P. Silva College of Technological Studies, <b>Kuwait</b> , Nanoelectronics Center, Advanced Technology Institute, University of Surrey, <b>United Kingdom</b> and Department of Physics, College of Science, University of Hail, <b>Kingdom of Saudi Arabia</b> On-Chip Fabrication of High performance Nanostructured Photoetectors	<b>Dr Mohammad R. Alenezi</b>
17.45-18.00	V. Yordsri, <b>W. Wongwiriyan</b> and C. Thanachayanont College of Nanotechnology, King Mongkut's Institute of Technology Ladkrabang/ Nanotec-KMITL Center of Excellence on Nanoelectronic Device/ Thailand Center of Excellence in Physics/ National Metal and Materials Technology Center, <b>Thailand</b> Facile growth of carbon nanotube electrode from electroplated Ni catalyst for supercapacitors	<b>Dr Winadda Wongwiriyan</b>

Wednesday 27 <sup>th</sup> August 2014 Smart Materials and Surfaces for life science		
	<b>Chairs: Prof Elias Siores- United Kingdom and Suresh Valiyaveetil- Singapore</b>	
<b>Keynote talk 9.00-9.45</b>	<b>Prof Ashutosh Tiwari</b> Biosensors and Bioelectronics Centre, IFM- Linköping University, <b>Sweden</b> <b>Smart Bioengineered Nanosystems for Advanced Healthcare Devices</b>	<b>Prof Ashutosh Tiwari</b>
<b>Keynote talk 9.45-10.15</b>	B. Ayyappa, S. Kanchi, M.I. Sabela, and <b>K. Bisetty</b> Department of Chemistry, Durban University of Technology, Durban, <b>South Africa</b> Electrochemical biosensor based on Cyt-C/GO-AuNPs/ MWCNT modified GCE for determination of Rebaudioside-A	<b>Prof Krishna Bisetty</b>
10.15-10.45	<b>Coffee break- Poster Session II</b>	
<b>Keynote talk</b>	<b>Prof E. Traversa</b>	



10.45-11.15	Division of Physical Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal, <b>Kingdom of Saudi Arabia</b> Cerium Oxide Nanoparticles for Antioxidant Therapy Perspectives	<b>Prof Enrico Traversa</b>
11.15-11.30	<b>R. Devi</b> , C. Raman Suri and D.K. Sahoo Institute of Microbial Technology (CSIR), Chandigarh, <b>India</b> . An electrochemical polyamines biosensor for biogenic amines determination in biomedical applications based on zinc oxide nanoparticles–polypyrrole modified platinum electrode	<b>Dr Rooma Devi</b>
11.30-11.45	<b>S. K. Shukla</b> and A. Tiwari University of Delhi, <b>India</b> and Linköping University, Linköping, <b>Sweden</b> NiO encapsulated polyaniline nanostructure for Non-enzymatic glucose sensing	<b>Dr Saroj Shukla</b>
11.45-12.00	<b>C.H. Chia</b> , S.W. Chook and S. Zakaria Materials Science Program, School of Applied Physics, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Selangor, <b>Malaysia</b> Green approach for the preparation of regenerated cellulose-chitosan membrane containing silver nanoparticles	<b>Dr Chin Hua Chia</b>
12.00-12.15	K.Sharma, <b>V. Kumar</b> , B. S. Kaith, S. Kalia and H. C. Swart Department of Physics, University of the Free State, <b>South Africa</b> and Department of Chemistry, Shoolini University of Biotechnology and Management Sciences/ Department of Chemistry, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar/ Department of Chemistry, Bahra University, Wahnaghat (Shimla Hills), <b>India</b> Synthesis of conductive biodegradable hydrogels based on Gum ghatti and their use in colon-specific drug delivery	<b>Dr Vijay Kumar</b>
12.15-12.30	<b>J. M. Navarrete</b> and G. Martínez Faculty of Chemistry, National University of Mexico and National Coordination to Restore the Cultural Inheritance, National Institute of Anthropology and History, Mexico City, <b>Mexico</b> Jelly Added with Food Preservatives and Formaldehyde, used as Barrier against Underground Humidity and for Consolidation of Ancient raw Materials	<b>Prof Manuel Navarrete</b>
12.30-12.45	<b>M. Kurisawa</b> Institute of Bioengineering and Nanotechnology, <b>Singapore</b> . Enzyme-Mediated Injectable Hydrogels with Independent Tuning of Mechanical Strength and Gelation Rate for Biomedical Applications	<b>Dr Motoichi Kurisawa</b>
12.45-14.00	<b>Lunch Break- Poster session II</b>	
<b>Smart Materials and Surfaces for Energy and Environment</b>		
Keynote talk 14.00- 14.45	<b>Suresh Valiyaveetil</b> , Department of Chemistry, National University of Singapore <b>Developing new hybrid materials for sensors</b>	<b>Prof. Suresh Valiyaveetil</b>
<b>Chairs: Prof. Krishna Bisetty, South Africa and Enrico Traversa- Kingdom of S.A</b>		
14.45- 15.00 Invited talk	<b>R. K. Gupta</b> Department of Chemical Engineering, Indian Institute of Technology Kanpur, Kanpur, <b>India</b> Photoluminescent Carbon Nanoparticles from Bio-waste	<b>Dr Raju Kumar Gupta</b>
15.00- 15.15	<b>S. Chandra</b> and B. Behera Centre for applied Research in Electronics, Indian Institute of Technology Delhi, <b>India</b> . Nanostructured metal oxides: catalyst-free synthesis, characterization and integration with MEMS processing for gas sensor	<b>Prof Sudhir Chandra</b>
15.15-15.30	<b>E. Jankowska</b> , T. Jankowski, W. Zatorski and P. Sobiech Central Institute for Labour Protection - National Research Institute, Warsaw, <b>Poland</b> Influence of ventilation on transferring of the nano-sized particles from the fume cupboard to the room air	<b>Dr Elzbieta Jankowska</b>
15.30-15.45	<b>K. Sivashanmugan</b> , J-D Liao and C-K Yao Department of Materials Science and Engineering, Center for Micro/Nano Science and Technology, Nation-al Cheng Kung University, <b>Taiwan</b> . Smart Focused-Ion-Beam-fabricated Nanostructures for Improving Sur-face Enhanced Raman Scattering on Trace Detection of Single Molecules	<b>Mr Sivashanmugan Kundan</b>
15.45-16.00	M. Choudhary, S. S. Siwal and <b>K. Mallick</b> Department of Chemistry, University of Johannesburg, <b>South Africa</b> .	<b>Prof Kaushik Mallick</b>

	Oxidative polymerization of tryptophan: An evidence of PCET reaction mechanism	
<b>16.00-16.15</b>	<b>Coffee Break- Poster session II</b>	
<b>16.15-16.30</b>	<b>E. G. Gholami and M. Kadkhodaei</b> Department of Mechanical Engineering, Isfahan University of Technology, Isfahan, <b>Iran</b> Behaviors of Ferromagnetic Shape Memory Alloy Ni–Mn–Ga under Incomplete Biaxial Loadings	<b>Dr Mahmoud Kadkhodaei</b>
<b>16.30-16.45</b>	<b>M. R. Alenezi</b> Public Authority for Applied Education and Training, College of Technological Studies, <b>Kuwait</b> . Self-powered Piezoelectric ZnO Nanowire Gas Sensor	<b>Dr Mohammad R. Alenezi</b>
<b>16.45-17.00</b>	<b>K. Rudahl and S. E. Goldin</b> Department of Computer Engineering, King Mongkut's University of Technology, Thonburi, <b>Thailand</b> . A Smart Material for Imaging Highway Substructure Damage	<b>Prof Kurt Rudahl</b>
<b>17.00-17.15</b>	<b>G. Sthapit and S. Amaty</b> Director of Habitech Center and Architect of AIT Consulting, Asian Institute of Technology, <b>Thailand</b> Soil Cement Interlocking Block: An Alternative Solution to the Reduction of Impacts from Brick-making Industries.	<b>Ms. Sudiksha Amaty</b>
<b>17.15-17.30</b>	<b>Q. Hussain, A. Pimanmas and L. Lalin,</b> Sirindhorn International Institute of Technology, Thammasat University, <b>Thailand</b> . Strength and Ductility of SGFRP Confined Concrete	<b>Mr Lam Lalin</b>
<b>17.30-17.45</b>	<b>M. Dewan and S. Ram</b> Materials Science Centre, Indian Institute of Technology, Kharagpur, <b>India</b> A facile one-step method to produce nanocrystallites BiFeO <sub>3</sub> -Graphene composite: as a promising energy transfer material	<b>Ms Moumita Dewan</b>
<b>17:45-18:00</b>	<b>B. Evangeline and P. Abdul Azeem</b> Department of Physics, National Institute of Technology - <b>India</b> Synthesis and luminescent features of CaZrO <sub>3</sub> nanophosphors	<b>Dr. P. Abdul Azeem</b>

<b>Thursday 28<sup>th</sup> August 2014</b>		
<b>Smart Materials and surfaces for Energy and Environment</b>		
<b>Chairs: Prof. Joydeep Dutta- Oman and Prof Ashutosh Tiwari- Sweden</b>		
<b>Keynote talk 9.00-9.45</b>	<b>M. Syväjärvi</b> Linköping University, Department of Physics, Chemistry and Biology and Graphensic AB, Mjärdevi Science Park, Linköping, <b>Sweden</b> <b>Advanced energy and environmental materials concepts from silicon carbide and graphene</b>	<b>Dr Mikael Syväjärvi</b>
<b>Keynote talk 9.45-10.15</b>	<b>H. C. Swart, Vinod Kumar, Vijay Kumar, S. Som, A. Pandey, J. J. Terblans, O. M. Ntwaeaborwa, E. Coetsee and R.E. Kroon</b> Department of Physics, University of the Free State, Bloemfontein, ZA9300, <b>South Africa</b> <b>Role of surface and deep-level defects on the emission and degradation of phosphor materials</b>	<b>Prof Hendrik C Swart</b>
<b>10.15-10.30</b>	<b>Coffee Break</b>	
<b>10.30-10.45</b>	<b>H. Guesmi, B. Zhu, C. Mottet, J. Creuze and B. Legrand</b> ICG, équipe MACS UMR 5253, Montpellier, CINAM UMR 7325, Campus de Luminy Marseille, ICMO, LEMHE Université Paris-Sud, Orsay and CEA, Service de Recherches de Métallurgie Physique, Saclay, <b>France</b> DFT-based Ising model for the simulation of Au-Pd structure under reaction conditions	<b>Dr Hazar Guesmi</b>
<b>10.45-11.00</b>	<b>S. Fujino and H. Ikeda</b> Kyushu university, Fukuoka, <b>Japan</b> Preparation of SiO <sub>2</sub> /PVA mesoporous and its sintered functional silica glass	<b>Prof Shigeru Fujino</b>
<b>11.00-11.15</b>	<b>T. Kida, H. Furuso, K. Kumamoto, M. Yuasa, and K. Shimano</b> Department of Energy and Material Sciences, Faculty of Engineering Sciences and Department of Molecular and Material Sciences, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, <b>Japan</b> Polyoxometallate-surfactant hybrid photocatalysts coupled with light antennas	<b>Prof Tetsuya Kida</b>

<b>11.15- 11.30</b>	J. Agrisuelas, R. Catalán, C. Delgado, J. J. García-Jareño, A. F. Roig and <b>F. Vicente</b> Department of Physical Chemistry. University of Valencia, Burjassot and Department of Analytical and Physical Chemistry. UJI, Avda. Sos Bainat, s/n.Castelló, <b>Spain.</b> Interfacial role of Cesium in Prussian Blue Films	<b>Prof Francisco Vicente</b>
<b>11.30-11.45</b>	<b>S. Chaudhary</b> , A. R. Head and J. Schnadt Division of Synchrotron Radiation Research, Lund University, <b>Sweden</b> X-ray Photoemission Spectroscopy Study of (3-mercaptopropyl)trimethoxysilane and n-propyltriethoxysilane on Rutile TiO <sub>2</sub> (110)	<b>Ms Shilpi Chaudhary</b>
<b>11.45-12.00</b>	<b>A. Hozumi</b> , D. F. Cheng, C. Urata and B. Masheder National Institute of Advanced Industrial Sci and Technology (AIST), Shimoshidami, <b>Japan.</b> Smooth Polydimethylsiloxane Brush Surfaces Showing Unusual Dynamic Dewetting Behavior	<b>Dr Atsushi Hozumi</b>
<b>12.00-12.15</b>	<b>Y. Wanna</b> , R. Puingam, J. Nukeaw, A. Chindaduang, G.Tumcharer, S. Porntheerapat and S. Pratontep College of Nanotechnology, King Mongkut's Institute of Technology Ladkrabang/ National Nanotechnology Center (NANOTEC), Thailand Science Park/ Thai Microelectronics Center (TMEC), <b>Thailand</b> and Nara Machinery Co., Ltd, <b>Japan.</b> Preparation and Characterization of PEG bis(amine) grafted SPION/PMMA nanocomposite	<b>Mr Yongyuth Wanna</b>
<b>12.15-12.30</b>	<b>N.S. Kokode</b> , V.R. Panse and S. J. Dhoble N.H.College,Bramhapuri,Gondwana University and Department of Physics, RTM Nagpur University, <b>India</b> Synthesis and Optical Characterization of Ca <sub>2</sub> PO <sub>4</sub> Cl:Tb <sup>3+</sup> and Mn <sup>2+</sup> Green Emitting phosphor for solid state lighting	<b>Dr Namdeo Shriram Kokode</b>
<b>12.30-12.45</b>	<b>T.Venkatappa Rao</b> , N.Rajeswara Rao, SVS Ramana Reddy and B.Sanjeeva Rao National Institute of Technology, Warangal, <b>India</b> Effect of electron beam on thermal, morphological and anti-oxidant properties of kraft lignin	<b>Dr. T.Venkatappa Rao</b>
<b>12.45-13.00</b>	<b>M. Gholampour</b> , A. Abdollah-zadeh, R. Poursalehi and L. Shekari Nanomaterials Group, Department of Materials Engineering, Tarbiat Modares University and Faculty of Energy Engineering and New Technologies, Shahid Beheshti University, <b>Iran</b> Porosity Effect on Stoichiometry of GaN Nanostructures by Plasma Enhanced Chemical Vapor Deposition	<b>Mr. Mahdi Gholampour</b>
<b>13.00-15.30</b>	<b>Lunch break and Awards Ceremony</b>	

**Posters sessions**

**Poster session I: 26<sup>th</sup> August 2014**

<b>Poster N°.</b>	<b>Abstract's details</b>	<b>Participant</b>
<b>1</b>	Visible-Light-Activated Photocatalytic Hydrogen Production by Hybridized TiO <sub>2</sub> with Tin(IV) Porphyrin Complexes Sung Hyun Kim, Gi-Seon Lee, Beom Hyeok Park, <b>Hee-Joon Kim</b> Department of Applied Chemistry, Kumoh National Institute of Technology, Gumi 730-701, <b>Republic of Korea</b>	<b>Prof Hee-Joon Kim</b>
<b>2</b>	Establishment of Optimized Metallic Contacts on Porous Silicon for Thermoelectric Applications <b>O. Abbes</b> , A. Melhem, K. Snabi, C. Leborgne and N. Semmar GREMI CNRS-Université d'Orléans, Orléans, <b>France</b>	<b>Mr Omar Abbes</b>
<b>3</b>	Photoresponse of Composites of Zinc Oxide and Poly(3-hexythiophene) under Selective UV and White-Light Illumination P. Pattamang, P. Piyakylawat, U. Asawapirom, S. Porntheeraphat, <b>K. Tantisantisom</b> J. Nukeaw and S. Pratontep College of Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, National Nanotechnology Center, National Science and Technology Development Agency Thailand Science Park, National Electronics and Computer Technology Center, National Science and Technology Development Agency Thailand Science Park and ThEP Center, CHE-Bangkok, <b>Thailand</b>	<b>Dr Kittipong Tantisantisom</b>

4	Optical and magnetic properties of doped ZnO: Experiment and Simulation <b>S. Jantrasee</b> , P. Moontragoon and S. Pinitsoontorn Materials Science and Nanotechnology Program, Faculty of Science and Department of Physics, Faculty of Science, Khon Kaen University and Nanotec-KKU Center of Excellence on Advanced Nanomaterials for Energy Production and Storage, <b>Thailand</b> .	<b>Mr Sakwiboon Jantrasee</b>
5	Newly designed $\pi$ -conjugated thiazolo [5,4-d]thiazole based oligomer for efficient small molecule organic solar cells <b>M. Nazim</b> , S. Ameen, H-K. Seo, M. Song, D-R. Park and H-S Shin Energy Materials & Surface Science Laboratory, Solar Energy Research Center, School of Chemical Engineering, Chonbuk National University, <b>Republic of Korea</b>	<b>Mr Mohammed Nazim</b>
6	Fully inorganic tin halides perovskite as light harvesting materials <b>S. Del Gobbo</b> , J. Eid, I. Gereige, S. Masala Solar and Photovoltaic Engineering Research Center (SPERC), King Abdullah University of Science and Technology (KAUST), Thuwal, <b>Saudi Arabia</b>	<b>Dr Silvano Del Gobbo</b>
7	Designing Hierarchical Nanostructures for Enhanced Gas Sensing Properties <b>M. R. Alenezi</b> Public Authority for Applied Education and Training, College of Technological Studies, <b>Kuwait</b> .	<b>Dr Mohammad R. Alenezi</b>
8	The optical and surface properties of Mg <sub>0.3</sub> Zn <sub>0.7</sub> O thin films deposited by PLD methods on the PES substrate <b>H. M. Lee</b> , S. H. Kim, J.H. Ock and N. Jang Division of Electrical and Electronics Engineering Korea Maritime and Ocean University, Busan, <b>Korea</b>	<b>Mr Hyun Min Lee</b>
9	Applicability of PEDOT:PSS Films for Highly Conductive Transparent Electrode by New Effective Dopant <b>Mi-im An</b> , Se-jin Kwon, Seung Young Jeong, Gyojic Shin, Kyung-ho Choi, Sangkug Lee Korea Institute of Industrial Technology, <b>Korea</b>	<b>Ms Mi-im An</b>
10	Novel Photopolymer with High Photosensitivity and Superior Alignment Characteristics for 3D Retardation Film <b>Ju Hui Kang</b> , Si Yeol Yang, Seung Yong Jeong, Sangkug Lee, Kyung Ho Choi, Gyojic Shin Korea Institute of Industrial Technology, <b>Korea</b>	<b>Mr. Gyojic Shin</b>
11	Application of Spark Plasma Sintering for Fabrication of Functionally Graded Thermal Barrier Coating on a Superalloy Substrate <b>M. Bahrami</b> , A.H. Pakseresht and A. Simchi Department of Material Science and Engineering, Sharif University of Technology, and Department of Ceramics, Materials and Energy Research Center, Karaj, <b>Iran</b>	<b>Mr Mohsen Bahrami</b>

**Poster session II: 27th August 2014**

Poster N°	Abstract's details	Participant
1	Determination of Copper (II) Ions in Wastewater by Colorimetric Detection <b>P. Muensri</b> and S. Danwittayakul National Metal and Materials Technology Center, Pathumthani, <b>Thailand</b> .	<b>Ms Phitchaya Muensri</b>
2	Hansen solubility parameters for an amphiphilic block co-polymer selection for SU-8 modification through self-assembling <b>O. Mednova</b> and K. Almdal Denmark Technical University, Department of Nanotechnology, Copenhagen, <b>Denmark</b>	<b>Mr Olga Mednova</b>
3	Spectral selectivity of unbalanced magnetron sputtered TiN, TiAlN and TiAlSiN coatings: XRD, SEM and optical analyses <b>M. Mahbubur Rahman</b> , Zhong-Tao Jiang, Chun Yang Yin, Khalil Ibrahim, Zhonghan Xie, Zhi-feng Zhou, Amun Amri5, Nick Mondinos. School of Engineering & Information Technology, Murdoch University, Murdoch, <b>Australia</b> , School of Science & Engineering, Teesside University, <b>United Kingdom</b> , School of Mechanical Engineering, University of Adelaide, <b>Australia</b> , Department of Mechanical and Biomedical Engineering, City University of Hong Kong, Hong Kong, <b>China</b> , Department of Chemical Engineering, Riau University, <b>Indonesia</b>	<b>M. Mahbubur Rahman</b>
4	Immobilization of Urease Based on Adsorption in Eggshell Membrane for Urea Biosensor Application T. Suwanchaituch, S. Imthong and <b>K. Panpae</b> Department of Chemistry, Faculty of Science, King Mongkut's University of Technology Thonburi, KMUTT, Bangkok, <b>Thailand</b>	<b>Prof Kornvalai Panpae</b>

5	Effect of the combined radiation and oxidation pretreatment on the surface properties of lignocellulosic materials D.P. Melnikov, Ya.A. Masyutin, A.V. Beskorovaynyy, D.S. Kopitsyn, A.A. Novikov and V.A. Vinokurov Gubkin Russian State University of Oil and Gas, Department of Physical and Colloid Chemistry, Moscow, <b>Russia</b>	<b>Mr. Dmitry Kopitsyn</b>
6	Antibiotic-Labelled Nanomaterials for the Rapid Detection of Microorganisms by Surface-Enhanced Raman Spectroscopy A.V. Beskorovaynyy, D.S. Kopitsyn, <b>A.A. Novikov</b> , E.A. Bochkova and E.V. Ivanov Gubkin Russian State University of Oil and Gas, Department of Physical and Colloid Chemistry, Moscow, <b>Russia</b>	<b>Dr Andrei Novikov</b>
7	Optimization of enzyme immobilization onto nano-structure materials for enhancing bio-gas production from anaerobic digestion C. Kang, K.Y. Lee, S.J. Kim, K.Y. Park and <b>H.S. Kim</b> Environmental Engineering, Konkuk University and Civil and Environmental System Engineering, Konkuk University, Seoul, <b>Korea</b>	<b>Mr Han Kim</b>
8	Needle-less Jet Injection System with Multi-Pore Nozzle for Viscous Drug Delivery Applications <b>Y. C. Jo</b> , H. K. Hong, Y. S. Choi and H. S. Kim Korea Electronics Technology Institute, Medical IT Convergence Research Center, SeongNam-Si and Korea Electronics Technology Institute, Contents Research Center, SeongNam-Si, <b>South Korea</b>	<b>Dr Young-Chang Jo</b>
9	Simple Methods to Fabricate Multilayer Microfluidic Devices <b>T. Jiemsakul</b> , C. Kortchana, <b>S. Manakasettharn</b> National Nanotechnology Center, Integrated Nanosystem Laboratory, Pathum Thani and King Mongkut's Institute of Technology Ladkrabang, College of Nanotechnology, Bangkok, <b>Thailand</b>	<b>Mr Thanakorn Jiemsakul</b>
10	Effect of Annealing Temperature on Microstructure and Optical Properties of ZnO Thin Films with Mg Dopant <b>K. Verma</b> , B. Chaudhary and M. Kumar Nanomaterial and Environmental Sensors Research Laboratory Department of Physics, University of Lucknow, <b>India</b>	<b>Mr Kartikey Verma</b>

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