ISNEPP 2007

International Symposium on Nanotechnology in Environmental Protection and Pollution

Asia Pacific Nanotechnology Forum

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University of Central Florida

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APNF Asia Pacific Nanotechnology Forum

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FIU Florida International University

NIA Nanotechnology Industries Association

INTERTOX

Nanomaterials Processing & Characterization Laboratories

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International Symposium on Nanotechnology in Environmental Protection and Pollution

Detection and Remediation

Monitoring and Sensing
Remediation
Treatment and Decontamination

Toxicity and Exposure Assessment

Occupational and Environment
Health and Safety

Energy and Sustainable Future

Energy Generation
Energy Storage
Responsible Materials

Sector Focus

Food and Agriculture
Health and Medicine

Development of Standards

Exposure Control and Best Practices
Protection of Public/Worker/Military
Personnel Health and Safety

Life Cycle

Materials Pathways

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Symposium Chairs

Dr Jurgen Schulte
Executive Director, Asia Pacific Nanotechnology Forum, Australia
Prof Ashok Vaseashta
Director, Nanomaterials Processing and Characterization Laboratories, Marshall University, USA

Local Organizing Committee

Prof. Ashok Vaseashta
Co-chair, Nanomaterials Processing & Characterization Laboratories, Marshall University, USA
Prof. Wonbong Choi
Nanomaterials & Device Laboratory, Florida International University, Florida, USA
Prof. Ni-Bin Chang
Department of Civil and Environmental Engineering, University of Central Florida, Florida, USA

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Principle Supporting Organizations

Asia Pacific Nanotechnology Forum (Australia)
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Foreword

Over the past decade, Nanotechnologies have matured to a stage where substantial environmental benefit can be derived from this fledging technology and more advances are being expected in the very near future. A variety of Nanotechnologies have been recognized for their unmatched ability of detecting pollutants, cleaning polluted waste and water, maintaining a healthy as well as hygienic environment, recovering materials before they become wastes, and expanding available resources.

As economies become ever more conscious about their material resources, it has become evident that energy production, energy efficiency, efficient water treatment, environmental remediation, and low volume materials have not only be moved up the priority list but have increasingly become technologically as well as commercially a more desirable solution.

The ISNEPP series of conferences brings together experts in the field of Nanotechnology to present and discuss R&D work which shows promises of outstanding beneficial environmental impact.

Over two and half days, world leading research and development groups will present a comprehensive overview about new discoveries in this field and the state and perspectives of Smart Solutions for Nanotechnology applications in Environmental Protection and Pollution.

Dr. Jurgen Schulte
Asia Pacific Nanotechnology Forum
Prof. Dr. Ir. Ashok Vaseashta
Nanomaterials Processing & Characterization Laboratories, Marshall University

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Symposium Program

Bahia Mar Symposium Reception Area	BMSR
Beach Front	BF
Plenary Lecture Hall	PLH
Lecture Theater	LT 1,2,3
Bahia Mar Concourse	BMC

Monday, 10 December 2007

Time	Session		Location
16.00-18.00	Registration		
18.00-18.15	Welcome from the Organizers		
18.00-19.30	Symposium Reception	Bahia Mar Symposium Reception Area	BMSR

Tuesday, 11 December 2007

Time	Session (PLH)	Speaker
08.25-11.00	Registration	
08.20-08.25	Welcome	**Jim Naugle** Mayor, Ft. Lauderdale
08.25-09.55	Opening	**Chair: TBA**
08.25-08.35	Opening	**Dr. Stephen J. Kopp** President, Marshall University, USA
08.35-09.15	Plenary Lecture	**Andre Nel** NanoMedicine, UCLA, USA **Predictive Toxicological Paradigms for the Assessment of Nanoparticle Toxicity**
09.15-09.55	Plenary Lecture	**T. Nejat Veziroglu** Univeresity of Miami, UNIDO, USA **21st Century's Energy: Hydrogen Energy Systems**
09.55-10.20	Coffee Break (BMC)	

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Tuesday, 11 December 2007

Time	Detection & Remediation (PLH)	Toxicity & Exposure (LH2)	Sector Focus (LH3)
10.20-12.00	**Chair: N. Tanpipat**	**Chair: Amanda Rogers**	**Chair: Chunying Chen**
10.20-11.00	**P. A. Lieberzeit, A. Rehman, S. Yaqub, Franz L. Dickert** **Keynote** Analytical Chemistry and Food Chemistry, University of Vienna, Austria **Nanostructured Particles and Layers for Sensing Contaminants in Air and Water**	**Harald F. Krug** **Keynote** EMPA, Materials-Biology Interactions Lab., Switzerland **Are Nanomaterials Nanonoxes? Implications and Applications of Nanomaterials in Environment and Health**	**Peter Wick** **Keynote** EMPA, Lab for Materials – Biology Interactions, Switzerland **Carbon nanotubes: a review of their properties and effect on cell physiology**
11.00-11.20	**John Mayo, Cafer T. Yavuz, Helen D'Couto, William W. Yu, Arjun Prakash, Joshua C. Falkner, Sujin Yean, J. Shipley, Amy T. Kan, Mason B. Tomson, Vicki L. Colvin** Rice University, USA **Water Treatment Using Magnetic Fe_3O_4 Nanocrystals**	**Yuji Fujitani** National Institute for Environmental Studies, Japan **Measurement of aerosols in engineered nanomaterials factories for the risk assessment**	**Pagona Papakonstantinou** Nanotechnology and Integrated BioEngineering Centre University of Ulster, UK **Inorganic MoSI Nanowires and Carbon nanotubes: Novel platforms for direct bioelectronic and optical sensing**
11.20-11.40	**Juyoung Kim** Advanced Materials Engineering, Kangwon National University, S Korea **Use of Amphiphilic Polymer Nanoparticles for Removal of hydrophobic Pollutants and Heavy Metals Form Soil and Water**	**Brenda Barry, Bill Looney, John Nagy** ENSR, AECOM, USA **Workplace Assessments for Nanotechnology: Benefits of a Proactive Approach**	**Haifang Wang, Shengtao Yang, Xiaoyong Deng, Yuanfang Liu, Ya-Ping Sun** Beijing National Laboratory for Molecular Sciences, Department of Chemical Biology, College of Chemistry and Molecular Engineering, Peking University, P. R. China Institute of Nanochemistry and Nanobiology, Shanghai University, Shanghai, China Department of Chemistry and Laboratory for Emerging Materials and Technology, Clemson University, Clemson, South Carolina, USA **Chemistry plays an important role in the behavior of carbon nanotubes in vivo**
11.40-12.00	**Wonbong Choi, Harindra Vedala, Somenath Roy, Ved Prakash Verma, Minhyun Jeon** Nanomaterials and Device Lab, Florida International University, Miami, USA Inje University, School of Nano Engineering, South Korea **Carbon Nanotube Interfaces for Molecular Level Bio/Environmental Sensing**	**Joe Griffitt, David S Barber, Kelly A Hyndman, Nancy D Denslow, Kevin Powers** Center for Environmental and Human Toxicology, University of Florida, USA Department of Zoology, University of Florida, USA Particle Engineering Research Center, University of Florida, USA **Environmental Toxicity of metallic nanoparticles**	**JRA Gomez, J Del Rio Garcia, EU Hernandes** Instituto Politecnico Nacional, Mexico **Nanospheres of a block copolymer of Synperonic PE/F108 and its structural behavior when acting as an an encapsulating system of an hydrophobic material in water solvent**

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12.00-13.30 **Lunch Break**

13.30-14.10 **Chair: Steffi Friedrichs**

13.30-14.10 **Thomas Epprecht**
Plenary Lecture (PLH)
Swiss Reinsurance Company, Switzerland
Insurance cover shall extend to... - Small matter, unknown impact?

Time	Energy & Sustainable Future (PLH)	Development of Standards (LH1)	Life Cycle (LH2)	Detection & Remediation (LH3)
14.10-15.40	**Chair: Joydeep Dutta**	**Chair: Michael Ellenbecker**	**Chair: Matsunori Nara**	**Chair: John Mayo**
14.10-14.40	**Kirk Ziegler, Randy K. Wang, Sejin Youn, Jean-Claude Bonzongo** Chemical Engineering, The University of Florida, USA **Green Manufacturing of Single-Walled Carbon Nanotubes Aqueous Dispersions**	**Nuttapun Supaka** Keynote NANOTEC, Thailand **Development of Nano-product Certification System and Nano-safety in Thailand**	**Pelagia-Irene Gouma** Keynote Center for Nanomaterials and Sensor Development Department of Materials Science and Engineering, SUNY at Stony Brook, NY, USA **Nanostructured Hybrid Materials for Environmental Monitoring and Remediation**	**Marie-Isabelle BARATON, Lhadi MERHARI** Keynote University of Limoges, SPCTS CNRS, Limoges, France CERAMEC R&D, Limoges, France **NO_x Detection by Semiconductor Tin Oxide Nanoparticles: FTIR Analysis of Transducing Mechanisms**
14.40-15.00	**Zou Zhigang** Nanjing University of China, P. R. China **Photocatalytic Solar Energy Conversion and Hydrogen Energy**	**Michael Ellenbecker, Su-Jung Tsai, Jacqueline Isaacs** Univ. of Massachusetts Lowell, USA Center for High-rate Nanomanu-facturing, Northeastern University, USA **Guidelines for the Safe Handling of Nanoparticles in University Research Laboratories**	**Daofanf Zhang, Xiaojing Huang, Xuefei Shi, Lefeng Teng** University of Shanghai for Science and Technology, P.R. China **Experimental Study on Treatment of Reclaimed Closed Scenic Water Body in Residential Quarters**	**W. Shangguan, J. Zhi, Z. Hairong, W. Zhongpeng** Shanghai Jiao Tong University, P.R. China **The simultaneous catalytic removal of NOx and soot over the Nd_2O_3-based mixture oxides loaded with potassium and transition nanosized metal oxide**
15.00-15.20	**Aghareed Tayeb** Faculty of Engineering, Minia University, Egypt **Use of Nano Graphite for Solar Energy Storage**	**Ana Proykova** Faculty of Physics, University of Sofia, Bulgaria **Nanometrology: status quo and demands**	**Sita Krajangpan, Juan Elorza, Achintya Bezbaruah, Eakalak Khan, Bret Chisholm** North Dakota State University, USA, University of Burgos, Spain **Contaminant Removal by Zero-Valent Iron Nanoparticles Entrapped in Calcium Alginate**	**Gordon Yang, Sheng-Wei Chan, Tzu-Chin Peng, Yi-Hsun Chen** National Sun Yat-Sen University, Taiwan **Preparation and Characterization of Nanostructured $[Fe_3O_4]MgO$**
15.20-15.40	…	**Jacobi Scher, Dennis Caputo** Quest Consulting, Inc., USA **Forensic Environmental Analysis of Nanotechnology Regulations**	**Yan Jin, Hao Zhu, Jie Han, John Xiao** University of Delaware, USA Department of Physics and Astronomy, University of Delaware, USA **Uptake and Translocation of Manufactured Nanoparticles in Pumpkin Plants**	**Ruh-Ullah, Sunandan Baruah, Faizur Rafique Rahman, Joydeep Dutta** Center of Excellence in Nanotechnology Asian Institute of Technology, Thailand **ZnO nanoparticles and Nanowires- semiconductor doping, a way towards visible light photocatalysis**

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15.40- Coffee Break
15.50

Time	Toxicity & Exposure (PLH)	Life Cycle (LH1)	Sector Focus (LH2)
15.50- 17.00	**Chair: Andres D. Campiglia**	**Chair: Pagona Papakonstantinou**	**Chair: Peter Wick**
15.50- 16.10	**Pedro J. Medelius** **Keynote** (15.50-16.20) Chief Scientist, ASRC Aerospace Corporation, Kennedy Space Center, Florida, USA **Sensors for Monitoring Hazardous Environments**	**Man Bock Gu** **Keynote** Korea University **Toxicogenomic impact of nano particles in bacteria, yeast and fish**	**S Marapan, K Miyazawa** **Keynote** Fullerene Engineering Group, National Institute for Materials Science, Japan **Metal oxide decorated Fullerene (C_{60}) nanowhiskers for environmental application**
16.10- 16.30	**Takahiro Kobayashi** (16.20-16.40) Center for Innovation Systems Research Integrated Research Institute Tokyo Institute of Technology, Japan **Physio-chemical properties of nanoparticles for assessment of toxicological effects**	**Quan Sun, Andrew J. Feitz, Jing Guan, T. David Waite** The University of New South Wales, Australia **Comparison of nZVI (Dithionate) and nZVI (Borohydride) Mediated Degradation**	**C. Y. Tan, S. Ramesh, M. Hamdi, I. Sopyan, W. D. Teng** Ceramics Technology Laboratory, COE, University Tenaga Nasional, Malaysia University Malaya, Malaysia International Islamic University Malaysia, Malaysia **Sintering Behaviour of Hydroxyapatite Bioceramic**
16.30- 16.45	**Elke Dopp, Kunal Bhattacharya, Eik Hoffmann, Catrin Albrecht, Roel Schins, Jens Boertz, Louise M. Hartmann, Gerrit Alink, Albert W. Rettenmeier** (16.40-17.00) University of Duisburg-Essen, Germany IUF Düsseldorf, Germany Wageningen University, The Netherlands **Enhanced cyto- and genotoxic effects of Fe(III) nanoparticles compared to Fe(III) fine particles**	**S Klimkova, M Cernik, L Lacinova** Institute of New Technologies and Applied Informatics, Faculty of Mechatronics and Interdisciplinary Engineering Studies,Technical University of Liberec, Czech Republic **Application of Nanoscale Zero-valent Iron for Groundwater Remediation: Laboratory and Pilot Experiments**	**Ni-Bin Chang, M Wanielista, Lei Zhai, F Hossain** Civil and Environmental Engineering, University of Central Florida, USA Nano-Science Technology Center and Department of Chemistry, University of Central Florida, Orlando, USA **Use of Nano-sized Zero Valent Iron and Green Sorption Media for Nutrient Removal in Stormwater Management Facilities**
16.45- 17.00		**Filiz Bayrakci, Karel A Savas Koparal, A Tansu Koparal, A Dogan** Anadolu University, Turkey **Antibacterial Nano Powder and Ultrasonic Systems in alternative Water Disinfection**	**Handan Acar, Meral Karakisla, Mehmet Sacak** Department of Chemistry, Ankara University, Turkey **The Preparation and Characterization of Conductive Polypyrrole/Kaoline Nanocomposites by in situ chemical polymerization**

17.00-17.30 Poster Session
19.00-21.30 Symposium Banquet

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Tuesday, 12 December 2007		
Time	Session (PLH)	Speaker
08.35-09.55	Opening	**Chair: Andre Nel**
08.35-09.15	Plenary Lecture	**David Balshaw** Center For Risk And Integrated Sciences, National Institute of Environmental Health Sciences, USA **Development of sensors for individual exposure assessment at the NIH**
09.15-09.55	Plenary Lecture	**A. Vaseashta** Nanomaterials Processing & Characterization Laboratories, Marshall University, USA **Nanotechnology: Potential, Publicity, or Peril - Philosophy - Ethics and Society**
09.55-10.20	Coffee Break	

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Time	Detection & Remediation	Toxicity & Exposure	Sector Focus	Health and Medicine
	Chair: N. Tanpipat	**Chair: Harald F. Krug**	**Chair: Andres D. Campiglia**	**Chair: K Miyazawa**
10.20-11.00	**Andres D. Campiglia** Keynote Department of Chemistry, University of Central Florida **Novel Approaches for Sensing Environmental Pollutants at the Ultra-Trace Level of Contamination**	**Toshihiko Myojo, Kikuo Okuyama, Hitoshi Emi, Isamu Tanaka** University of Occupational and Environmental Health, Japan Hiroshima University, Japan Kanazawa University, Japan **Current Research on Aerosol Filtration and Respiratory Protection of Nanosize Particles in Japan**	**Chunying Chen, Jiangxue Wang, Wei Li, Wei Li, Taotao Wei** Keynote Laboratory for Bio-Environmental Effects of Nanomaterials and Nanosafety; National Center for Nanoscience and Technology; National Laboratory of Biomacromolecules, P.R. China **Potential Neurotoxicity of Nasal Instilled TiO_2 nanoparticles**	**Emir B. Denkbas, A Vaseashta** Keynote Biopolymeric Systems Research Group, Biochemistry Division, Turkey Nanomaterials Processing & Characterization Laboratories, Marshall University, USA
11.00-11.20	**Sita Krajangpan, Juan Elorza, A Bezbaruah, Eakalak Khan, Bret Chisholm** Civil Engineering, Center for Nanoscale Science and Engineering, North Dakota State University, USA University of Burgos, Spain **Comparative Studies of Colloidal Stability of Bare and Amphiphilic Polysiloxane Graft Copolymer Coating**	**Anisur Khuda-Bukhsh** University of Kalyani, Kalyani, West Bengal, India **Amelioration of arsenic toxicity in human victims by ultra-high diluted arsenic trioxide: a novel application**	**Arzum Erdem** Faculty of Pharmacy Analytical Chemistry, Ege University, Turkey **Electrochemical sensors based on nanomaterials developed for biomolecular recognitions**	**Iis Sopyan** Department of Manufacturing and Materials Engineering, International Islamic University Malaysia, Malaysia **Porous Hydroxyapatite-Lactide/glycolide (PLGA) Copolymers Composites for Bone Substitutes and Controlled Drug Release**
11.20-11.40	**Khalil Arshak, Olga Korostynska, Ger Hickey** University of Limerick, Ireland **Gamma radiation and ozone sensing using mixed oxides thin films**	**Angela Guimaraes, Virgínia Ciminelli, Wander Vasconcelos** Minas Gerais Federal Center for Technological Education CEFET-MG Federal University of Minas Gerais, Brazil **Cadmium (II) adsorption onto nanostructured hybrid material derived from the functionalization**	**Byoung-In Sang** KIST, S Korea **Molecular biological monitoring of bactericidal actions by nanoparticles in bacteria**	**Cynthia Lindquist** Department of Geosciences, University of Arizona, USA **Going Forward While Looking Back: The Nanotechnology Revolution, Social Responsibility and Opportunity**
11.40-12.00	**Samuel A. Afuwape, Femi M. Akindele** Engineering and Technology, National University, San Diego, USA Enviromental Protection Agency, Atlanta, Georgia, USA **Carbon nanotube enhanced label-free DNAbiosensor for monitoring environmental pollutants**	**Kuen-Song Lin, Ni-Bin Chang, Tien-Deng Chuang** University of Central Florida, USA Fuel Cell Center, Yuan Ze University, Taiwan **Decontamination of Nitrates and Nitrites in Groundwater by Zero-Valent Iron Nanoparticles**	**Eulalia Siu, Jean Andino** Arizona State University, USA **Organophosphates Adsorption on Nano-sized Silica and Silica/Alumina: Surface Interactions and Behavior of Adsorbents**	**Abu Bakar Munir** Faculty of Law, University of Malaya, Malaysia **Environmental Protection: Finding Law for Nano**

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12.00-13.30	Lunch Break			
13.30-14.10	**Chair: Jurgen Schulte**			
	Barbara Karn Georgetown University, USA **Green Nanotechnology: the Direction toward Sustainability**			
Time	**Energy & Sustainable Future**	**Detection & Remediation**	**Life Cycle**	**Toxicity & Exposure**
14.10-15.40	**Chair: John Zhu**	**Chair: Handan Acar**	**Chair: John Mayo**	**Chair: Arzum Erdem**
14.10-14.40	**K Miyazawa, SI Cha, C Ringer, J Okuda, A Tanaguchi, M Tachibana** **Keynote** National Institute for Materials Science, Tsukuba, Japan **Synthesis of fullerene nano and micro tubes for materials storage, delivery and recovery**	**Arshak K., Cunniffe C., Moore E., Guiney I., Adley C.** **Keynote** Electronic and Computer Engineering, University of Limerick, Ireland Systems Microbiology Laboratory, University of Limerick, Ireland **Detection of Bacteria using Polymer Nanocomposite Sensors for water quality monitoring**	**Steffi Friedrichs** **Keynote** Nanotechnology Industries Association, UK	**Maria Palazuelos, Kevin W. Powers, Steve M. Roberts, David S. Barber, Brij M. Moudgil** **Keynote** Particle Engineering Research Center, University of Florida, USA Center for Environmental and Human Toxicology, USA **In vitro toxicity analysis of nano sized aluminum: particle size and shape effect**
14.40-15.00	**Dimiter Alexandrov, Gloria Hang Yu** Lakehead University, Thunder Bay, Canada **Interaction between positive hydrogen ions and electrons located in InN containing oxygen impurities**	**Sumeyra Tek, H V Demir, Dilek Yucel, G Celiker** Nanotechnology Research Center, Bilkent University, Turkey Yasar Group, Ltd, Turkey **Combination of TiO_2 - ZnO nanoparticles chemically integrated into acrylic for enhanced photocatalytic activity in the near-UV**	**Ornprapa Pummachana, Vivarad Phonekeo, A. Vaseashta** Silpakorn University, Nakornpathom, Thailand Nanomaterials Processing & Characterization Laboratories, Marshall University, USA **Real-Time Monitoring of Air Pollution in Urban Environment by Onsite Measurements**	**Huiyong Wang, Andres D. Campiglia** University of Central Florida, USA **Direct Determination of Benzo[a]pyrene in Drinking Water by Solid Phase Nano-Extraction and Laser-Excited Time-Resolved Shpol'skii Spectrometry**
15.00-15.20	**Driss Abouelaoualim** **Design and modeling of Lithium-ion polymer battery**	**J Thompson, A Bezbaruah, B Chisholm** Engineering and Environmental Conservation Sciences, Center for Nanoscale Science and Engineering, North Dakota State University, USA **Rapid Dechlorination of the Herbicide Alachlor by Zero Valent Iron Nanoparticles**	**Matsunori Nara** Tokyo University of Science, Japan **Study on water purification using nanocomposites of a ferrite titanium dioxide**	**Samy Iyyah Konar Navaraj Yadav** Yadava College, Madurai, India **Impact of Nanomaterials on Freshwater Fish**
15.20-15.40	**Je-Hoon Lee, Seok-Man Kim, Mike Myoung-Ok Lee, Kyoung-Rok Cho** Chungbuk National University, South Korea Murdoch Univerrsity, Australia **A high-speed asynchronous ARM processor based on new parallel processing methodology**	**Diwan Singh** Civil Eng. Dept., National Institute of Technology, Kurukshetra, India **NANOTECHNOLGY FOR REMEDIATION OF WASTEWATER CONTAINING HEAVY METALS**	**Sujung Tsai, Ali Ashter, Earl Ada, Carol Barry, Joey Mead, Michael Ellenbecker** University of Massachusetts Lowell, USA **Control of Airborne Nanoparticle Release during Compounding of Polymer Nanocomposites Using Twin Screw Extruder**	**M. Vaclavikova, G. P. Gallios, K. Stefusova, A. Vaseashta, S. Jakabsky** Slovak Academy of Sciences Institute of Geotechnics, Slovakia **Advanced Nanomaterials in Environmental Technologies - Case of Arsenic**

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Nanotechnology
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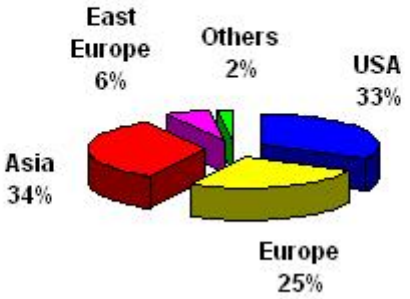
Presentations
(25 countries)



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15.40-15.50 **Coffee Break**

Time	Detection & Remediation	Life Cycle	Energy & Sustainable Future
15.50-17.00	**Chair: Ashok Vaseashta**	**Chair: Michael Ellenbecker**	**Chair: Matsunori Nara**
15.50-16.10	**Khalil Arshak, Ger Hickey** University of Limerick, Ireland **Ozone sensing properties of thermally evaporated In_2O_3-based thin films**	**Amanda Rogers, Thomas Budiman** (15.50-16.20) TSE Systems GmbH, Germany **Nanoparticles a Health and Safety Issue?**	**Srinivasan Anandan, Yasuro Ikuma, Katsuyoshi Kakinuma, K Niwa** Kanagwa Institute of Technology, Japan Kanagawa University, Japan Kanagwa Institute of Technology, Japan **Synthesis, Characterization, and Photocatalytic Activity of Highly Crystalline Visible-light Responsive**
16.10-16.30	**Z. Luo, K. Katayama-Hirayama, K. Hirayama, T. Akitsu, H. Kaneko** Interdisciplinary Graduate School of Medicine and Engineering, University of Yamanashi, Japan **Photocatalytic degradation of pyrene in porous photocatalyst Pt/TiO2-SiO2 (PPtPC) suspension under UV irradiation**	**A. Vaseashta** (16.20-16.40) Nanomaterials Processing & Characterization Laboratories, Marshall University, USA **Fate, Dynamics and Transport of Nanomaterials in the Environment and Human Health Implications**	**Konstantin Petrov, Sema. Baykara, Ayfer Kale-Veziroglu** Electrochemistry and Energy Systems, Bulgaria Chemical Engineering, Yildiz Technical University, Topkap, Istanbul, Turkey International Association for Hydrogen Energy **Hydrogen Production from H_2S in Black Sea and Industrial Waters using Green Energy**
16.30-16.45	**Csaba Balazsi, Orsolya Koszor, Balazs Fenyi** MTA-MFA, Hungaria **Ceramic based nanocomposites for functional applications**	**George Gallios** (6.40-17.00) Aristotle University of Thessaloniki School of Chemistry Department of Chemical Technology & Industrial Chemistry Thessaloniki, Greece **Removal of persistent organic pollutants from water streams by advanced oxidation methods**	**Yan Yu, Chunhua Chen, Chunlei Wang** Florida International University, USA University of Science and Technology of China, P.R. China **Highly Porous Sponge-like Mn_3O_4 Thin Films with Bimodal Pore as Anode for Li-ion Batteries**
16.45-17.00	**Katarina Sedlackova, Radu Ionescu, Csaba Balazsi** MTA-MFA, Hungaria **TEM investigations on CNT added hexagonal WO3 films for sensing applications**		**Anu Punnoose, Uta Helbig, Ruth Houbertz, Gerhard Sextl** Fraunhofer-Institut Silicatforschung - ISC, Würzburg, Germany Chemische Technologie der Materialsynthese, University of Würzburg, Germany **Encapsulation of salt hydrate by µ-emulsion technique**

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Time	Detection & Remediation (PLH)
	Chair: Toshihiko Myojo
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09.20-09.35	**Florencio E. Hernandez, Matthew Rex, Arthur Thibert and Andres D. Campiglia** University of Central Florida and College of Optics & Photonics: CREOL & FPCE, Florida, USA **Au-Nanorods Cleaning the Environment - A new opportunity for mercury sensing and remediation in aqueous and vapor samples**
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09.50-10.05	**Krithika Kalyanasundaram, PA Gouma** Department of Materials Science and Engineering, State University of New York at Stony Brook, USA **Advanced Selective Nanosensors based on WO_3**
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10.20-11.20	**Workshop OHS/EHS** Group session addressing issues and prospective medium and long term solutions in OHS/EHS	**Chair: Steffi Friederichs**
10.20-11.20	**Workshop Life Cycle** Group session addressing issues and prospective medium and long term solutions in the Life Cycle of Nanotechnologies.	**Chair: Ashok Vaseashta**
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