

ISNEPP 2007

International Symposium on
Nanotechnology in Environmental Protection and Pollution

Asia Pacific Nanotechnology Forum

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and

Marshall University

Florida International University

University of Central Florida

Vaseashta Foundation

Intertox

Nanotechnology Industry Association

Bahia Mar Beach Resort & Yachting Center

801 Seabreeze Boulevard

Fort Lauderdale, FL, USA

11 – 13 December 2007

Symposium Chairs
Jurgen Schulte
Ashok Vaseashta



INTERTOX



ISNEPP 2007

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

ISNEPP 2007

International Symposium on Nanotechnology in Environmental Protection and Pollution

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

International Advisory Board

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| Switzerland | Prof. Harald F. Krug, Materials-Biology Interactions, EMPA, ETH, Switzerland |
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International Symposium on Nanotechnology in Environmental Protection and Pollution

International Scientific and Program Committee

| | |
|-------------|---|
| Australia | Prof. Max Lu, ARC Centre for Functional Materials, University of Queensland, Australia Prof. Sri Bandopadhyay, University of New South Wales, Kensington, Australia Dr. Jurgen Schulte, Executive Director, Asia Pacific Nanotechnology Forum |
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Principal and Technical Contact

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Principle Supporting Organizations

Asia Pacific Nanotechnology Forum (Australia)
Marshall University (USA)
Florida International University (USA)
University of Central Florida
Vaseashta Foundation (USA)
Intertox (USA)
Nanotechnology Industry Association (UK)

ISNEPP 2007, International Symposium on Nanotechnology in Environmental Protection and Pollution
11-13 December 2007, The Bahia Mar Beach Resort and Yachting Hotel, Ft. Lauderdale, Florida, USA
Asia Pacific Nanotechnology Forum

ISNEPP 2007

International Symposium on Nanotechnology in Environmental Protection and Pollution

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

ISNEPP 2007 is proudly supported by

Asia Pacific Nanotechnology Forum (Australia)

Marshall University (USA)

Florida International University (USA)

University of Central Florida (USA)

Vaseashta Foundation (USA)

Intertox (USA)

Nanotechnology Industry Association (UK)

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International Symposium on Nanotechnology in Environmental Protection and Pollution

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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International Symposium on Nanotechnology in Environmental Protection and Pollution

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 Fe₃O₄ 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 Hernandez Instituto Politecnico Nacional, Mexico Nanospheres of a block copolymer of Synperonic PE/F108 and its structural behavior when acting as an encapsulating system of an hydrophobic material in water solvent |

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12.00- **Lunch Break**

13.30

Chair: Steffi Friedrichs

14.10

13.30- **Thomas Epprecht**

14.10 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 NO_x and soot over the Nd₂O₃-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 [Fe₃O₄]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)

15.50- Chair: Andres D. Campiglia

17.00

15.50- Pedro J. Medelius

16.10 Keynote (15.50-16.20)

Chief Scientist, ASRC Aerospace Corporation, Kennedy
Space Center, Florida, USA

Sensors for Monitoring Hazardous Environments

16.10- Takahiro Kobayashi (16.20-16.40)

16.30 Center for Innovation Systems Research Integrated
Research Institute Tokyo Institute of Technology, Japan

Physio-chemical properties of nanoparticles for
assessment of toxicological effects

16.30- Elke Dopp, Kunal Bhattacharya, Eik Hoffmann, Catrin

16.45 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

16.45-

17.00

Life Cycle (LH1)

Chair: Pagona Papakonstantinou

Man Bock Gu

Keynote

Korea University

Toxicogenomic impact of nano particles in bacteria,
yeast and fish

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

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

Filiz Bayrakci, Karel A Savas Koparal, A Tansu

Koparal, A Dogan

Anadolu University, Turkey

Antibacterial Nano Powder and Ultrasonic Systems in
alternative Water Disinfection

Sector Focus (LH2)

Chair: Peter Wick

S Marapan, K Miyazawa

Keynote

Fullerene Engineering Group, National Institute for
Materials Science, Japan

Metal oxide decorated Fullerene (C₆₀) nanowhiskers for
environmental application

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

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

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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International Symposium on Nanotechnology in Environmental Protection and Pollution

| 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 TiO₂ nanoparticles | Emir B. Denkbaz, 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, Virginia 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. Akindede Engineering and Technology, National University, San Diego, USA Environmental 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 TiO₂ - 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 University, Australia A high-speed asynchronous ARM processor based on new parallel processing methodology | Diwan Singh Civil Eng. Dept., National Institute of Technology, Kurukshetra, India NANOTECHNOLOGY 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 |

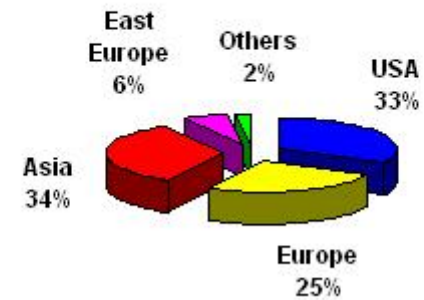
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International Symposium on
Nanotechnology in Environmental Protection and Pollution



Presentations
(25 countries)



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International Symposium on Nanotechnology in Environmental Protection and Pollution

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 In₂O₃-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 H₂S 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 Mn₃O₄ 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 | |
| 09.35-9.50 | Leonid Krenev, Sergey Aizikovitch, Elena Ambalova Don State Technical University, Russian Federation Department of Mechanics, Mathematics and Computer Science, Southern Federal University, Russian Federation Determination of temperature fields for materials with graded coatings | |
| 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 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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