

Scientific Program

Proceedings of
5th International Conference on
Nanotek & Expo

November 16-18, 2015 San Antonio, USA

Sponsor

NETZSCH

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Scientific Program

Day 1 November 16, 2015

08:30-09:00 Registrations

Texas A



09:00- 09:25

Opening Ceremony

Keynote Forum

- 09:25-09:30 **Introduction**
- 09:30-10:00 **Ashok Vaseashta**
Institute for Advanced Sciences Convergence & International Clean Water Institute, USA
- 10:00-10:30 **Carlo Montemagno**
Alberta Ingenuity Lab, Canada
- 10:30-11:00 **Fang Xie**
Imperial College London, UK

Coffee Break & Group Photo 11:00-11:20 @ Foyer

Track 1: Nanomaterials
Track 2: Nanostructures

Session Chair: Carlo Montemagno, Alberta Ingenuity Lab, Canada

Session Chair: R M G Rajapakse, University of Peradeniya, Sri Lanka

Session Introduction

- 11:20-11:45 **Low-cost clay-polymer nanocomposites as oxygen reduction catalysts for fuel cell applications**
R M G Rajapakse, University of Peradeniya, Sri Lanka
- 11:45-12:10 **Title: Synthesis and photopolymerization of C₆₀ fullerene nanowhiskers**
Kun'ichi Miyazawa, National Institute for Materials Science, Japan
- 12:10-12:35 **Friedel-Crafts alkylation on mesoporous W-Zr composite oxide catalysts prepared by a wall ion-exchange method**
Masakazu Iwamoto, Chuo University, Japan
- 12:35-13:00 **Characterization, mechanical and thermochemical properties of 2D carbon-based nanomaterials studied by calorimetry and thermal analysis**
Kristina Lilova, Setaram Inc., USA

Lunch Break 13:00-13:45 @ Texas E

- 13:45-14:10 **Hybrid nanofibers of TiO₂-silicone and TiO₂-Ag-silicone for high water flux photocatalytic degradation of dairy effluent**
Muzafar A Kanjwal, Technical University of Denmark, Denmark
- 14:10-14:35 **Semiconducting SWCNT: From materials to thin film transistors**
Zhao Li, National Research Council of Canada, Canada
- 14:35-15:00 **Synthesis and characterization of Strontiumzinc oxide nanocomposite via soft chemical process**
Etakula Nagabhushan, Osmania University, India
- 15:00-15:25 **Bioinspired surfaces with gradient micro- and nanostructures to control wettability**
Yongmei Zheng, Beihang University, China
- 15:25-15:50 **Carbon nanotube toxicity: *In-situ* imaging method using peapods to evaluate the biokinetics of carbon nanotubes**
Naoto Saito, Shinshu University, Japan
- 15:50-16:15 **Control of optical properties of oxynitride pigments through stoichiometries**
Toshihiro Moriga, Tokushima University, Japan

Coffee Break 16:15-16:35 @ Foyer

Young Researchers Forum

- 16:35-16:55 **Ultra-durable rotary nanomotors assembled from nanoentities by electric fields**
Jianhe Guo, University of Texas, USA
- 16:55-17:15 **PLA/GNP/NHA- Application of poly-lactic acid reinforced with graphene nanoplatelets and nano-hydroxyapatite hybrids in load bearing bone implants**
Feven Matthews Michael, University of Nottingham, Malaysia
- 17:15-17:35 **On the mechanics of nanomaterials in micro-/nano-scale applications**
Mohammed Ibrahim Shaat, New Mexico State University, USA

Day 2 November 17, 2015

Texas A

Keynote Forum

- 08:30-08:35 **Introduction**
- 08:35-09:05 **Gerd Kaupp**
University of Oldenburg, Germany
- 09:05-09:35 **Yutaka Ohno**
Nagoya University, Japan

Track 3: Nanomedicine

Track 4: Nanodevices & Nanosensors

Session Chair: William E Lee, Defence Research and Development, Canada

Session Co-Chair: Hari S Sharma, Uppsala University, Sweden

Session Introduction

- 09:35-10:00 **Nanotechnology-enhanced biosensors for pathogen detection**
William E Lee, Defence Research and Development, Canada
- 10:00-10:25 **Early detection and treatment of Alzheimer's disease- Nanotechnology as a tool**
Jerzy Leszek, Wroclaw Medical University, Poland

Coffee Break 10:25-10:45 @ Foyer

- 10:45-11:10 **Determining the DNA binding properties of nanoscale ruthenium dumbbells using optical tweezers**
Thayaparan Paramanathan, Bridgewater State University, USA
- 11:10-11:35 **Characterization of multimodal silica nanoparticles for nanomedicine**
Benezra M, Sloan Kettering Institute, USA
- 11:35-12:00 **Superior neuroprotective effects of TiO₂ nanowired cerebrolysin vs. Poly (D,L-lactide-co-glycolide) nanoparticles loaded delivery in Alzheimer's disease brain pathology**
Hari S Sharma, Uppsala University, Sweden
- 12:00-12:25 **Structuring of nanoporous powders into hierarchically porous nanostructured adsorbents for decarbonization**
Farid Akhtar, Luleå University of Technology, Sweden
- 12:25-12:50 **Measurement of biomagnetic field in cell tissues utilizing pT resolution micro magnetic sensor based on magnetoimpedance element.**
Tsuyoshi Uchiyama, Nagoya University, Japan

Lunch Break 12:50-13:35 @ Texas E

Track 5: Materials Science & Engineering

Track 6: Nanoelectronics

Track 7: Nanotechnology in Energy Systems

Session Chair: Gerd Kaupp, University of Oldenburg, Germany

Session Co-Chair: Hiroaki Suzuki, University of Tsukuba, Japan

- 13:35-14:00 **Electrochemical autonomous microfluidic devices for analytical applications**
Hiroaki Suzuki, University of Tsukuba, Japan

- 14:00-14:25** **Tuning photophysical and electrochemical properties of cationic iridium (III) complexes based on 4-methoxyphenylvinylquinolines for organic light emitting devices for lighting**
Adewale O Adeloye, Botswana Institute for Technology Research and Innovation, Botswana
- 14:25-14:50** **Energy harvesting device with nanofluidic reverse electro dialysis**
Daejoong Kim, Sogang University, Republic of Korea
- 14:50-15:15** **Innovative BioMEMS devices leveraging nanofluidic control for drug delivery and cell transplantation**
R Lyle Hood, Houston Methodist Research Institute, USA

Young Researchers Forum

- 15:15-15:35** **Coaxial electrospinning of PCL/GT hybrid fiber for encapsulation and controlled release of doxycycline**
Abdurizzagh Khalf, Oklahoma State University, USA
- 15:35-15:55** **Nano-emulsions for targeted biomedical imaging**
Mohamed Attia, University of Strasbourg, France

Coffee Break 15:55-16:15 @ Foyer

- 16:15-16:35** **Accurate modeling and analysis of mechanical nano-resonators**
Mohammed Ibrahim Shaat, New Mexico State University, USA
- 16:35-16:55** **Nanoparticles application for enhanced oil recovery**
Maje Alhaji Haruna, University of Leeds, UK

Workshop

- 16:55-17:30** **Business Decisions, Marketing and Nanotek**
Mohammed Basheer Ahmed Khan, Pondicherry University, India

Day 3 November 18, 2015

Texas A

Keynote Forum

- 09:00-09:30** **Hari S Sharma**
Uppsala University, Sweden
- 09:30-10:00** **Aman Ullah**
University of Alberta, Canada

- Track 8: Environment, Health and Safety issues of Nanotechnology**
Track 9: Recent Trends in Nanotechnology
Track 10: Applications of Nanotechnology
Track 11: Biomedical Engineering and Application

Session Chair: Hari S Sharma, Uppsala University, Sweden

Session Co-Chair: Benezra M, Sloan Kettering Institute, USA

Session Introduction

- 10:05-10:30** **Synthesis and reactivity of Au/g-C₃N₄/TiO₂ nanocomposites for water-splitting and H₂ production under solar light illumination**
Valerie Keller, University of Strasbourg, France

Coffee Break 10:30-10:50 @ Foyer

- 10:50-11:15** **Conversion of oils into monomers and nanocomposites**
Aman Ullah, University of Alberta, Canada
- 11:15-11:40** **Theoretical investigation on heterogeneous photocatalytic systems containing metal oxide and aqueous solution**
Mitsutake Oshikiri, National Institute for Materials Science, Japan
- 11:40-12:05** **Study of bio-distribution of encapsulated ytterbium nanoparticles for solid tumors treatment in mice**
Navideh Aghaei Amirkhizi, Islamic Azad University, Iran

Lunch Break 12:05-13:00 @ Texas E

Awards & Closing Ceremony