Scientific Program



Joint Event

26th International Conference on

Advanced Nanotechnology

&

2nd Edition of International Conference on

Materials Technology and Manufacturing Innovations

October 04-05, 2018 | Moscow, Russia

DAY-1

October 04, 2018

Meeting Hall: **Ekaterina -1**

08:30-08:45 Registrations

Opening Ceremony 08:45-09:00

KEYNOTE FORUM

Introduction

09:00-09:30 **Title: Basic physics disproves the obligatory ISO-14577 standards: A dilemma for all indentation mechanics**
Gerd Kaupp, University of Oldenburg, Germany

09:30-10:00 **Title: Can charpy impact testing (high strain rate) detect the presence of hydrogen in high strength steels?**
Omar S Es-Said, Loyola Marymount University, USA

10:00-10:30 **Title: Mechanical and electric properties of nanofiber- polymer composites under different electric fields**
Masaru Matsuo, Dalian University of Technology, China

Networking and Refreshment Break 10:30-10:40 @ Foyer

10:40-11:10 **Title: Plasma processing for carbon nanostructures**
Mineo Hiramatsu, Meijo University, Japan

11:10-11:40 **Title: The formation of periodic concentration distribution under the phase transition of solutions**
Guskov Aleksandr, Institute of Solid State Physics RAS, Russia

11:40-12:10 **Title: Myosin heads in muscle can sense presence or absence of actin filaments to decide the direction of ATP-induced movement**
Haruo Sugi, Teikyo University School of Medicine, Japan

12:10-12:40 **Title: Optical nanosensors based on light scattering: Physical principles and applications for medical diagnostics and food control.**
A D Levin, All-Russian Research Institute for Optical and Physical Measurements, Russia

GROUP PHOTO @ 12:40–12:50

Lunch Break 12:50-13:30 @ Rasputin

13:30-14:00 **Title: Carbon nanotube and graphene fibers: Synthesis, properties and functional applications**
Yongyi Zhang, Chinese Academy of Sciences, China

14:00-14:30 **Title: THz short pulse generation in quantum cascade lasers**
Jerome Tignon, Laboratoire Pierre Aigrain, Ecole normale supérieure, France

Sessions: Materials Science and Engineering | Manufacturing Innovations | Nanotechnology | Nanomaterials | Advanced Materials and Devices

Chair: Myung Chul Chang, Kunsan National University, South Korea
Co-Chair: Anna Antsiferova, National Research Center 'Kurchatov Institute', Russia

PLENARY SESSIONS

14:30-14:50
Title: Size-dependent behavior of electrospun polymer nanofibers
Arkadii Arinstein, Technion – Israel Institute of Technology, Israel

14:50-15:10
Title: Biodegradable load-bearing nanocomposites for controlled drug delivery and damaged bone repair
Elazar Y Gutmanas, Technion – Israel Institute of Technology, Israel

15:10-15:30
Title: Ways to accelerate nanotechnologies implementation in the health care system
Valyaev Alexandr, Nuclear Safety Institute of Russian Academy of Sciences, Russia

15:30-15:50
Title: Nanoscale deformation characterization of light-weight ceramics
Kolan Madhav Reddy, Shanghai Jiao Tong University, China

15:50-16:10
Title: Application of artificial neural networks for the prediction of performance of desiccant material for desiccant cooling system
Hemant Parmar, Ujjain Engineering College, India

Networking and Refreshment Break 16:10-16:20 @ Foyer

16:20-16:40
Title: Developement of dielectric nano-crystals structures for highly sensitive piezoelectric detectors
Shlomo Berger, Technion – Israel Institute of Technology, Israel

16:40-17:00
Title: Modification of electrodes with a thin film of environmentally sensitive gel to get micro and nano electrode-array behavior
Zbigniew Jan Stojek, University of Warsaw, Poland

17:00-17:20
Title: Controlling of microgel size by electrochemically induced volume phase transition
Marcin Dawid Karbarz, University of Warsaw, Poland

17:20-17:40
Title: Radio - absorbing parametric material
Vladimir Arabadzhi, Institute of Applied Physics, Russian Federation

17:40-18:00
Title: Machine learning: A new paradigm for process monitoring in Industry 4.0
Sergey A Shevchik, EMPA, Switzerland

18:00-18:20
Title: Mechanical properties and behaviors of low dimensional materials
Yinfeng Li, Shanghai Jiao Tong University, China

18:20-18:40
Title: Bismuth-based new photocatalysts and associated photoreactors
Jason Zhang, University of Ottawa, Canada

Panel Discussion

DAY-2

October 05, 2018

Meeting Hall: **Ekaterina -1**

KEYNOTE FORUM

	Introduction
09:00-09:30	**Title: Preparation and fabrication studies of three dimensionally ordered nano - micro and meso-scale calcium phosphate crystallites scaffold for artificial bone materials (3-DOMm)** **Myung Chul Chang,** Kunsan National University, South Korea
09:30-10:00	**Title: Status and future directions of adaptive, smart and sustainable machining systems for aerospace applications** **Mahmoud Helmi Attia,** McGill University and NRC, Canada
10:00-10:30	**Title: Photonic crystal circular defect (CirD) laser** **Masahiko Kondow,** Osaka University, Japan

Networking and Refreshment Break 10:30-10:40 @ Foyer

10:40-11:10	**Title: Configuring 2D materials by stacking order for energy harvesting and homo-junctions** **Ze Xiang Shen,** Nanyang Technological University, Singapore
11:10-11:40	**Title: Key technologies for the novel solar driven heating and cooling systems** **Xudong Zhao,** University of Hull, England
11:40-12:10	**Title: Single-walled carbon nanotube synthesis by alcohol catalytic chemical vapor deposition in high vacuum using platinum-group metal catalysts** **Takahiro Maruyama,** Meijo University, Japan
12:10-12:40	**Title: Nanoclay application to geotextiles to improve adsorption function for removal of heavy metal and toxic components in waste landfill sites** **Han-Yong Jeon,** Inha University, South Korea

Sessions: Energy Materials | Nanophotonics |Materials chemistry | Nanoparticle | Biomaterials | Polymer Materials

Chair: Guskov Aleksandr, Institute of Solid State Physics RAS, Russia
Co-Chair: Xudong Zhao, University of Hull, UK

PLENARY SESSIONS

12:40-13:00	**Title: Optical properties of nanocomposites** **Dondi dall'Orologio Giovanni,** University of Bologna, Italy

Lunch Break 13:00-13:40 @ Rasputin

13:40-14:00	**Title: Accumulation of silver nanoparticles in mammalian brain and effects on cognitive functions** **Anna Antsiferova,** National Research Center 'Kurchatov Institute', Russia

14:00-14:20
Title: **Transient CO_2 methanation over Rh/CeO_2-ZrO_2 catalysts**
Monica Julieth Valencia Botero, Vaasa Energy Business Innovation Centre, Finland

14:20-14:40
Title: **Growing of apatite particles on surfaces of natural rubbers and their effects on blood wettability**
Rodney Marcelo do Nascimento, University of São Paulo, Brazil

14:40-15:00
Title: **Electroactive polymers for ocean kinetic energy harvesting**
Hyung-Man Kim, INJE University, South Korea

15:00-15:20
Title: **Electrical properties of conductive polymers under stress**
António Manuel Relógio Ribeiro, University of Lisbon, Portugal

15:20-15:40
Title: **Stable plasma protein coatings on magnetite nanoparticles for biomedical applications**
Anna V Bychkova, N.M. Emanuel Institute of Biochemical Physics, Russian Academy of Sciences, Russia

15:40-16:00
Title: **Non-destructive characterization and testing of composite materials by using mechanical resonance of defects**
Igor Solodov, University of Stuttgart, Germany

Networking and Refreshment Break 16:00-16:10 @ Foyer

16:10-16:30
Title: **Separation of medical nanopowder from the natural minerals by $ScCO_2$**
Jambiin Oyun, Ulaanbaatar University of Mongolia, Mongolia
Munkhjargal Sharaviin, National University of Mongolia, Mongolia

16:30-16:50
Title: **IBR manufacturing by hybrid combination of laser metal deposition and machining processess**
Haizea González Barrio, University of the Basque Country, Spain

16:50-17:10
Title: **General methodology for manufacturing complex geometries in turbo-machinery components**
Luis Norberto López de Lacalle, University of the Basque Country, Spain

17:10-17:30
Title: **Cryogenic lubricoolant machining on difficult-to-cut alloys**
Octavio Manuel Pereira, University of the Basque Country, Spain

17:30-17:50
Title: **Shadow boxing with laser: Laser damage resistance of three-dimensional photonic crystals**
Lei Pan, Harbin Institute of Technology, China

YRF SESSIONS

17:50-18:05
Title: **AgNP/CE electrospun nanofibrs for antibacterial applications**
Jatoi Abdul Wahab, Shinshu University, Japan

18:05-18:20
Title: **Investigation of Pt-supported nanographene produced by in-liquid plasma for development of polymer electrolyte fuel cells**
Vladislav Gamaleev, Meijo University, Japan

18:20-18:35
Title: **Confined chemistry and its application for lithium/sodium ion batteries**
Jie Sun, Tianjin University, China

VIDEO PRESENATIONS

18:35-18:40

Title: Anthracene-based molecular glasses. Design, synthesis and applications in nanolithography and organic electronics. Overview and perspectives

Veroniki P Vidali, Institute of Nanoscience & Nanotechnology, Greece

Panel Discussion

Awards & Closing Ceremony