Monday
Oct 18, 2021

Day 1

07:30
Join the Meeting (AV Check)

07:50
Opening Remarks and Introduction

Keynote Talks

Chair: Anu Puri, NIH/NCI, MD, USA

08:00
Impact of Nanobiotechnology on the Future of Pharmaceuticals and Nutraceuticals: The Road toward Precision Medicines –Case Studies
Shaker Mousa, Albany College of Pharmacy and Health Sciences, NY, USA

08:40
Induction of Immune Tolerance Using Antigen-encapsulating PLGA Nanoparticles Operates by Signaling via the cGAS/STING Pathway
Stephen D. Miller, Northwestern University Medical School, IL, USA

09:20
Preventing the Next Pandemic with Broad-Spectrum, Self-Disinfecting Antimicrobial Polymers
Richard Spontak, North Carolina State University, NC, USA

10:00
Welcome the Spring of the Third Milestone in Pharmaceutical Drug Development: RNA Therapeutics
Peixuan Guo, The Ohio State University, OH, USA

Session: Nano-enabled Biomarker, Drug Delivery and Therapeutics

Chair: Shaker Mousa, Albany College of Pharmacy and Health Sciences, NY, USA

10:40
Orally Targeted Delivering Drugs to Diseases
Xing Zhou, Chongqing University of Technology, China

11:00
Engineering of Nanomaterials for Drug Delivery and Bio-Sensing
Beatrice Fortuni, KU Leuven, Belgium

11:20
Chlorogenic Acid Nanoemulsion: As an Effective Skin Whiting Formulation
Yasemin Budama-Kilinc, Yildiz Technical University, Turkey

11:40
Nanocomposites of Nylon 6 and Carbon Nanoparticles Modified with Aminos and Acids Groups for the Adsorption of Uric Acid
Christian Javier Cabello Alvarado, Center for Research in Applied Chemistry, Mexico

12:00
Nanowired Drug Delivery for Neuroprotection in Traumatic Brain Injury
Ala Nozari, Harvard Medical School, MA, USA
Emerging Researcher Presentations

**12:20**
Preparation and Application of Multifunctional Nanoparticles with Hemostasis and Regulating Blood Coagulation
Qing Zhang, Chongqing University of Technology, China

**12:35**
Inorganic Nanoparticles in Drug Delivery
Tanya Singh, Jamia Hamdard, India

**12:50**
The Development of a Multifunctional Drug Delivery System for Efficient Cancer Cell Targeting in 3D Cell Models
Indra Van Zundert, KU Leuven, Belgium

E-Poster

**13:05**
Solid State Photoreduction of Silver on Mesoporous Silica to Enhance Antifungal Activity
Giulia Quaglia, University of Perugia, Italy

**13:15**
Break

Session: Nanomedicine, DNA Nanotechnology

**Chair:** Richard Spontak, North Carolina State University, NC, USA

**13:30**
Nanomedicine and Brain Diseases
Giovanni Tosi, University of Modena and Reggio Emilia, Italy

MicroRNA-124-3p-enriched Small Extracellular Vesicles as a Promising Therapeutic Approach for Parkinson's Disease
Liliana Bernardino, University of Beira Interior, Portugal

**14:10**
DNA-Scaffolded Nanoreactors for Biomimetic Catalysis and Molecular Sensing
Jinglin Fu, Rutgers University-Camden, NJ, USA

Development of DNA Education Modules for Middle School, High School, and Undergraduate Students and Educators
Michael W Hudoba, Otterbein University, OH, USA

Emerging Researcher Presentations

**14:50**
Quantification of DNA Damage Induced Repair Focus Formation via dSTORM Localization Microscopy
Varga Dániel, University of Szeged, Hungary

E-Poster

**15:05**
Modulating Cell Motions Using pH Responsive DNA Origami
Deepak Karna, Kent State University, OH, USA
## Session: Cancer Nanotherapeutics

**Chair:** Hai-Feng Ji, Drexel University, PA, USA

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>15:15</td>
<td>Multifunctional Stimuli-Responsive Systems for Sensing and Therapy</td>
<td>Helena Iuele, CNR NANOTEC Institute of Nanotechnology, Italy</td>
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<td>15:35</td>
<td>Nano-pharmaceuticals: A Transformative Way for Cancer Treatments</td>
<td>Murali M. Yallapu, University of Texas Rio Grande Valley (UTRGV), TX, USA</td>
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<td>15:55</td>
<td>Oxime Ether Lipids, A Novel Class of Cationic Molecules for Delivery of Functional DsiRNA to A549 Tumors</td>
<td>Anu Puri, NIH/NCI, MD, USA</td>
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<td>16:15</td>
<td>Cancer Nanotechnology: Determining the Effect of Nano-based Therapeutics in Cancer Cells vs. Normal Cells</td>
<td>Devika Chithrani, University of Victoria, Canada</td>
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<td>16:35</td>
<td>New Multi Dimensional AFM modes to Identify Cells Using Machine Learning</td>
<td>Igor Sokolov, Tufts University, MA, USA</td>
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<td>16:55</td>
<td>Nanotechnology-based Tools for Glioblastoma and Secondary Brain Cancers</td>
<td>Shanta Dhar, University of Miami Miller School of Medicine, FL, USA</td>
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<td>17:15</td>
<td>Using Transferrable Graphene-based Membranes for Spatial and Temporal Control of Cell Cultures</td>
<td>Keith Whitener, U.S. Naval Research Laboratory, D.C., USA</td>
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### Emerging Researcher Presentations

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<td>17:35</td>
<td>Small Molecule-based EGFR Targeting of Biodegradable Nanoparticles Containing Temozolomide and Cy5 Dye for Greatly Enhanced Image-guided Glioblastoma Therapy</td>
<td>Rebecca R. Schmitt, University at Buffalo, NY, USA</td>
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### E-Posters

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<tr>
<td>17:50</td>
<td>Preparation and Characterization of Stable Nanoliposomal Formulations of Curcumin with High Loading Efficacy: <em>in vitro</em> and <em>in vivo</em> Anti-tumor Study</td>
<td>Maryam Karimi, University of Maryland, MD, USA</td>
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#### Tuesday Oct 19, 2021

**Day 2**

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<th>Time</th>
<th>Activity</th>
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<tr>
<td>08:00</td>
<td>Join the Meeting (AV Check)</td>
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<tr>
<td>08:15</td>
<td>Introduction</td>
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### Keynote Talks

**Chair:** Vishal Sharma, Cluster University of Jammu, India

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<tr>
<td>08:20</td>
<td>Mechanisms of Reductions Catalyzed by M(0)-nanoparticles</td>
<td>Dan Meyerstein, Ariel University, Israel</td>
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<td>09:00</td>
<td>Chemistry Beyond Conventional Wisdom</td>
<td>Puru Jena, Virginia Commonwealth University, VA, USA</td>
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### Session: Nanotechnology & Societal Aspects

**09:40**
Cannabinoids in Tears: Novel Biomarker for Forensic Use  
**Denise A Valenti**, IMMAD, LLC, MA, USA

**10:00**
The Role of IP in Nanotechnology Innovation  
**Monica Patel**, Keltie LLP, United Kingdom

**Emerging Researcher Presentations**

**10:20**
Investigating Factors Influencing Consumer Willingness-to-pay for Nanopesticides  
**Peiyuan Liu**, University of California, CA, USA

### Session: Nano Electronics

**10:35**
Integrated Electrical System Based AD5933 Impedance Analyzer: Towards Multi-Selective Detection of Complex Gas Mixtures in IoT Micro-Systems  
**Bilel Hafsi**, Institute of Electronics, Microelectronics and Nanotechnology (IEMN), France

**10:55**
Soft Nanomaterials as Plasmonic Systems  
**Brigita Rozic**, Jozef Stefan Institute, Slovenia

**11:15**
Sensitive Interferometric Plasmon Ruler Based on a Single Nanodimer  
**Alfred J. Meixner**, University of Tuebingen, Germany

**11:35**
Octahedral Distortion Driven by CsPbI3 Nanocrystals Reaction Temperature – The Effects on Phase Stability and Beyond  
**Paola Vivo**, Tampere University, Finland

**11:55**
Investigation of Semiconductor Nanowires Using X-ray Diffraction Methods  
**Sergey Lazarev**, National Research Tomsk Polytechnic University (TPU), Russia

**12:15**
New and Emerging Van der Waals Semiconductors for Electronic and Photonic Applications  
**Moh R. Amer**, University of California, Los Angeles, CA, USA

**12:35**
Break

**Chair:** **Moh R. Amer**, University of California, Los Angeles, CA, USA

**12:55**
Thickness and Spin Dependence of Raman Modes in 2D Magnet Fe3GeTe2  
**Liangbo Liang**, Oak Ridge National Laboratory, TN, USA

**13:15**
Design and Simulation of Fundamental Building Blocks for All-Optical Computers (Universal Gates Only)  
**Saif Hasan Abdulnabi**, Imam Ja’afar Alsadiq University, Iraq

**13:35**
Active Polymer: Perovskite Nanocrystals Blends as Possible Active Materials for Photonics and Optoelectronics Devices  
**Marco Anni**, Università del Salento, Italy
13:55  Plasmonic Nanoresonators Embedded into Active Shells Optimized for Near-field and Far-field Stimulated Emission
Maria Csete, University of Szeged, Hungary

14:15  Enhancement of THz Detection by Using an Asymmetric-Dual-Grating-Gate Graphene FET
Juan Antonio Delgado Notario, CENTERA Laboratories, Institute of High-Pressure Physics PAS, Poland

14:35  New D-A-D Systems Containing Porphyrin Cores as Electron donors for BHJ-SMOSCs
Pilar de la Cruz, Universidad de Castilla-La Mancha, Spain

14:55  Optimization of Silver Chalcogenide Quantum Dots for NIR-II Potodetectors
Jianying Ouyang, National Research Council Canada, Canada

E-Posters

15:15  Quantum Switching in Y-shaped Nanostructures
Trevor McDonough, SUNY University at Buffalo, NY, USA

15:25  Surface Modification and Characterization of Germanium Nanoparticles
Viktoriia Slynchuk, Eberhard Karls University of Tuebingen, Germany

15:35  A New Reductant in Gold Cluster Chemistry Gives a Superatomic Gold Gallium Cluster
Florian Fetzer, University of Tuebingen, Germany

15:45  Molecular Biology and Microorganisms Brownian Motion Fractal Nature
Bojana Markovic, Serbia and Institute of Technical Sciences of SASA, Serbia

Wednesday  
Oct 20, 2021

08:15  Join The Meeting (AV Check)
08:35  Introduction

Keynote Talk

Chair: Ramzi Maalej, University of Sfax, Tunisia

08:40  Energy, Cost and Carbon Reduction by Utilizing Functionalized Nanodiamond-Enhanced Fluids in Industrial Facilities
Ethan Ehsan Languri, Tennessee Tech University, TN, USA

Session: Nano Engineering & Nanomaterials for Energy & Environment

09:20  Nanomaterial Design for Solar Driven Water Desalination
Zhengtao Zhu, South Dakota School of Mines and Technology, SD, USA

09:40  Metalloid Group 11 Clusters: Novel Structures and Properties
Andreas Schnepf, University of Tuebingen, Germany
10:00  Green Synthesized Nanomaterials for Diverse Applications  
**Doga Kavaz**, Cyprus International University, Turkey

10:20  On the “Super” Storage of Hydrogen in Graphite Nanofibers  
**Yury S. Netchaev**, Kurdjumov Centre of Metals Science and Physics, Russia

10:40  Emerging Technologies: From Risk Assessment to Risk Governance and Safety by Design  
**Christopher L. Cummings**, North Carolina State University, NC, USA

11:00  Investigation of Cellulose Nanocrystals (CNC) and Cellulose Nanofibers (CNF) as Thermal Barrier and Strengthening Agents in Pigment-Based Paper Coatings  
**Brenda Hutton-Prager**, University of Mississippi, MS, USA

11:20 Break

11:40 Chair: **Doga Kavaz**, Cyprus International University, Turkey

11:40  New Optical Sensor Based on Au@MX2 Hybrid for The Detection at Low Traces  
**Ramzi Maalej**, University of Sfax, Tunisia

12:00  Uniform Energy Deposition via Optimized Passive and Active Plasmonic Nanoresonator Distributions  
**Maria Csete**, University of Szeged, Hungary

12:20  Atomic Oxygen Exposure Effect on Electromagnetic Reflectivity of Small Satellites  
**Andrea Delfini**, Sapienza University of Rome, Italy

12:40  Cell-free Biosynthesis Exploiting Nanoparticle Scaffolds and Enzymatic Channeling  
**Igor L. Medintz**, U.S. Naval Research Laboratory, Washington D.C., USA

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Emerging Researcher Presentations

13:00  Universal Nanoscale Thermoelectric Power Generator for Energy Harvesting Applications  
**Faisal Alamri**, King Abdulaziz City for Science and Technology (KACST), Saudi Arabia

13:15  Preparation of Graphene Nanoparticle Surface Modified Metal Oxide Doped Soda-Lime Glass Composite for Application in Water Purification  
**Aban Mandal**, Jadavpur University, India

13:30  The Developing Natural Convection Visualization of Water - Ethylene Glycol Mixture based Fe3O4 Nanofluids in Eccentric Annular Ducts in Low Temperature Applications  
**Nur Cobanoglu**, Izmir Katip Celebi University, Turkey

13:45  A Novel Nanocomposite Coating for Flexible Food Packaging – The Effect of Dispersion Preparation and Coating Processes on the Final Oxygen Barrier Performance  
**Stefan Schiessl**, Fraunhofer Institute for Process Engineering and Packaging (IVV), Germany

14:00  Influence of Engineered Nanoparticles on Properties of Water in Soil Organic Matter  
**Marta Miklasova**, Brno University of Technology, Czech Republic

14:15  A Study of Solvent Systems for Nickel Nanopastes Used for Nanojoining  
**Benjamin Sattler**, Chemnitz University of Technology, Germany

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E-Posters

14:30  Characterization of Titanium Dioxide for Nanoparticles  
**Weam Sidahmed Awadalla Sidahmed**, University of Khartoum, Sudan