



Scientific Program | Keynote Forum

08:00 - 09:00 Registrations

08:45 - 09:00 Opening Ceremony & Welcome Speech

Moderator: Yaroslava G. Yingling, North Carolina State University, USA

TIME	TOPIC	SPEAKERS
09:00- 09:30	Materials Research Opportunities for Power Electronics Integration	Guo-Quan Lu, <i>Virginia Tech, USA</i>
09:30-10:00	Shear transformation zone analysis of anelastic relaxation of metallic glasses — a detailed description of the effect of structural relaxation and rejuvenation	Michael Atzmon, <i>The University of Michigan, USA</i>
10:00-10:30	Advanced materials for nuclear energy applications	Gary S. Was, <i>University of Michigan, USA</i>
10:30-11:00	Reactivity of small hydrocarbons on Pd-Cu alloy nanoparticles supported on thin silica films: A model catalyst	M. Asscher, <i>The Hebrew University of Jerusalem, Israel</i>
Group Photo 		
11:00 -11:15	Coffee Break @ Foyer	
Plenary Talks		
11:15-11:40	A Multiphysics Modelling of Magnetic-Sensitive Hydrogels	Hua Li, <i>Nanyang Technological University, Singapore</i>
11:40-12:05	From proteins to the design of new mechanical metamaterials	Sefi Givli, <i>Technion - Israel Institute of Technology, Israel</i>
12:05-12:30	Properties of Metallic Liquids at High Temperature and Their Relation to Glass Formation	Kenneth F. Kelton, <i>Washington University in St. Louis, USA</i>
12:30-12:55	Interfacial Thermal Resistance: Insights from Molecular Simulations	Pawel Koblinski, <i>Rensselaer Polytechnic Institute, USA</i>



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12:55 -13:40

Lunch Break @ Restaurant

Sessions: Materials Science and Engineering | Emerging Areas of Materials Science | Materials Process Engineering

Session Chairs:

Sefi Givli, Technion - Israel Institute of Technology, Israel
Gary S. Was, University of Michigan, USA

TIME	TOPIC	SPEAKERS
13:40-14:00	Sustainable and reversible materials for 3-D printing	Hunaid Nulwala, <i>Liquid Ion Solutions, USA</i>
14:00-14:20	Materials Process Engineering for extremely miniaturized micro batteries	Robert Hahn, <i>Fraunhofer IZM, Germany</i>
14:20-14:40	Enhancement in Interply Toughness of BMI Composites using Thin Films	Sunil Chandrakant Joshi, <i>Nanyang Technological University, Singapore</i>
14:40-15:00	Highly flexible nanocomposite for piezo-resistive sensor by spatial confining forced network assembly	Xiaolong Gao, <i>Beijing University of Chemical Technology, China</i>
15:00-15:20	Cell-laden Bone Scaffolds with Sequential Release of Multi-growth Factors	Lei Nie, <i>Xinyang Normal University, China</i>
15:20-15:40	Nature-inspired, Graphene-wrapped 3D MoS ₂ Ultrathin Microflower Architecture as a High-Performance Anode Material for Sodium-Ion Batteries	Shoaib Anwer, <i>Khalifa University, United Arab Emirates</i>
15:40 -15:55	Coffee Break @ Foyer	
15:55-16:15	Field induced phase transitions in silver niobate ceramics for high power energy storage	Haixue Yan, <i>Queen Mary University of London, UK</i>
16:15-16:35	Mechanical Properties of Fluorine Elastomer and Epoxy Resin Dispersed with Carbon Nanofillers	Masatoshi Shioya, <i>Tokyo Institute of Technology, Japan</i>
16:35-16:55	Replacement of hard chromium plating by using thermally sprayed green carbides	Sergi Dosta, <i>Universitat de Barcelona, Spain</i>
16:55-17:15	Mathematical-analytical modelling of a piezoelectric travelling wave ultrasonic motor based on the shear effect	Ana Costa Conrado, <i>University of Oslo, Norway</i>



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Panel Discussions

Moderator: Alexa Courty, Sorbone Université, France

TIME	TOPIC	SPEAKERS
09:00-09:30	Nanotechnology of composite materials for energy storage in supercapacitors	Igor Zhitomirsky, <i>McMaster University, Canada</i>
09:30-10:00	Chemical Reactions between Refractories, Liquid Steel and Slags in Refining and Continuous Casting Processes and the Associated Fluid Flow Effects	Rodolfo D. Morales, <i>University of Toronto, Canada</i>
10:00-10:30	Design of nanomaterials for gene delivery	Yaroslava G. Yingling, <i>North Carolina State University, USA</i>

Plenary Talks

10:30-10:55	Selective adsorption of protein by polyvinyl alcohol/zinc-containing hydroxyapatite hybrid membrane	Junfen Sun, <i>Donghua University, China</i>
10:55-11:20	Construction of Hierarchical Micro/Nanofibers with Helical structure	Yongchun Zeng, <i>Donghua University, China</i>

11:20-11:35

Coffee Break @ Foyer

Sessions: Ceramics, Glasses & Composite Materials | Electronic, Optical and Magnetic Materials | Surfaces, Coatings and Films
Biomaterials and Healthcare

Session Chairs:

Michael Atzmon, The University of Michigan, USA

TIME	TOPIC	SPEAKERS
11:35-11:55	The effect of particle size of body components on the processing parameters of semi transparent porcelain	Fazilet Güngör, <i>Kütahya Porselen Sanayi A.Ş., Turkey</i>
11:55-12:15	Orientation of crystalline silicon cut off-axis using polarized Raman scattering	Uma Ramabadran, <i>Kettering University, USA</i>
12:15-12:35	Engineering Nanoparticles for the efficient combating of cancer	Rania Hathout, <i>Ain Shams University, Egypt</i>
12:35-12:55	Magnetic field tunable metamaterials based on magnetic microwires	Pilar Marín, <i>Universidad Complutense de Madrid, Spain</i>



Scientific Program | Afternoon Session

12:55-13:40

Lunch Break @ Restaurant

13:40-14:40

Poster Presentations

Sessions: Ceramics, Glasses & Composite Materials | Electronic, Optical and Magnetic Materials | Surfaces, Coatings and Films
Biomaterials and Healthcare

Session Chairs:

Haixue Yan, Queen Mary University of London, UK
Hua Li, Nanyang Technological University, Singapore

TIME

TOPIC

SPEAKERS

14:40-15:00	Tunability of thermoreversible gelation in K-carrageenan and salt on of hydroxyl methylcellulose in the presence of antioxidant	Leela Rakesh, <i>Central Michigan University, USA</i>
15:00-15:20	Delayed Frost Growth Utilizing Jumping-Associated Droplet-Sweeping (JADS) on Nanoporous Micropatterned Surfaces	Hossein Sojoudi, <i>The University of Toledo, USA</i>
15:20-15:40	Growth Kinetics Behavior and Morphology of Multicomponent Coating on Zirconium Hydride during Oxidizing Atmosphere	Guoqing Yan, <i>GRIMAT Engineering Institute Co., Ltd, China</i>

15:40 - 15:50

Coffee Break @ Foyer

15:50-16:10	Development of highly wear-resistant WC-based cermet coatings	Haibin Wang, <i>Beijing University of Technology, China</i>
16:10-16:30	Epitaxial growth and characterization of b-Ga ₂ O ₃ /GaN heterojunction	Sunan Ding, <i>Chinese Academy of Sciences, China</i>
16:30-16:50	Characterization of Cr/SiC Coatings sputtering on Zirconium Alloy Cladding by magnetron sputtering	Liu Yanhong, <i>Research Institute of Science and Technology State Power Investment Corporation, China</i>

Panel Discussions

Scientific Program | Morning Session

Sessions: Advanced Nanomaterials | Nanotechnology, Nanomaterials & Microstructures |
Computational Modeling of Metals & Materials

Session Chairs:

Leela Rakesh, Central Michigan University, USA
Igor Zhitomirsky, McMaster University, Canada

TIME	TOPIC	SPEAKERS
09:30-09:50	Mechanical properties of Boehmite/Epoxy composites	Maximilian Jux, <i>Technische Universität Braunschweig, Germany</i>
09:50-10:10	Synthesis and organization of bimetallic core-shell nanoparticles with tunable size and crystallinity : toward new properties	Alexa Courty, <i>Sorbone Université, France</i>
10:10-10:30	Magnetic-field-assisted synthesis of iron-based wire-like nanostructures	Marcin Krajewski, <i>Polish Academy of Sciences, Poland</i>
10:30-10:50	Multilayer MgZnO/ZnO Heterojunctions For UV Photodetectors	Lakshami Prasad Purohit, <i>Gurukula Kangri University, India</i>
10:50-11:10	Modeling of the nonlinear dynamic degradation characteristics of fiber-reinforced composite thin plates in thermal environment	Hui Li, <i>University of Liverpool, UK</i>
11:10-11:20	Applying Ion-Sensitive Field Effect Transistor for Pesticide Detection	Nongluck Hounkhamhang, <i>King Mongkut's Institute of Technology Ladkrabang, Thailand</i>
11:20-11:30	Coffee Break @ Foyer	
11:30-11:50	First-principles study on Nd ₂ (Fe, X) ₁₄ B (X = Mg, Al, Si, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge)	Yasutomi Tatetsu, <i>Meio University, Japan</i>
11:50-12:10	Recent development of Carbon Nanocoil research	Lujun Pan, <i>Dalian University of Technology, P.R China</i>
12:10-12:20	Analysis on state fluctuation induced by redox-active molecule functionalised on carbon nanotube	Kian Lian Goh, <i>Osaka University, Japan</i>

Scientific Program | Morning Session

12:20-12:50	Study of electrochromic devices made by Tungsten trioxide and Titanium dioxide thin films, synthesized by sol gel method and annealed at different temperatures	Carmen Rizzuto, <i>University of Calabria, Italy</i>
Thanks giving & Closing Ceremony		
12:50-13:40	Lunch Break @ Restaurant	
Poster Presentations		
IMSNC101	Design and Optimization of micro to macro scale dimension of Pacemaker Electrode using Finite Element Method	Elaina Madison, <i>Central Michigan University, USA</i>
IMSNC102	Effect of high temperature annealing and SHI irradiation on migration behaviour of Xe implanted into glassy carbon	Mahjoub Yagoub Abdalla Ismail, <i>University of Pretoria, South Africa</i>
IMSNC103	Low temperature synthesis of tungsten diboride powders via a simple molten salt route	Ke Ma, <i>Northeastern University, China</i>
IMSNC104	A comparison between the use of FRP, FRCM and HPM for concrete confinement	Corinaldesi Valeria, <i>Università Politecnica delle Marche, Italy</i>
IMSNC105	In-situ Electrodeposition of Conductive Polypyrrole-Graphene Oxide Composite Coatings for Corrosion Protection of 304SS Bipolar Plates	Hongbin Lu, <i>Nanjing University, P.R. China</i>
IMSNC106	In situ De-wetting of Liquid-solid Interface between Liquid metals and Solid medium	Chenglong Lei, <i>Nanjing University, China</i>
IMSNC107	Study on Nano Cu/SiO ₂ Catalysts for Highly Selective Hydrogenation of Acetophene	Zhiguo Lv, <i>Qingdao University of Science and Technology, China</i>
IMSNC108	Computational thinking in predicting failure of cylindrical composites	Sunil Chandrakant Joshi, <i>Nanyang Technological University, Singapore</i>
IMSNC109	Stabilization and continuous release of bFGF from multilayer nanofilm for iPSC culture	Hee Ho Park, <i>Kangwon National University, Korea</i>
IMSNC110	Solar fuel production: opportunities for nanostructures	Zhigang Zou, <i>Nanjing University, China</i>

Panel Discussions