

WEBINAR

Program

V-Mat2021

3rd Edition of Materials Science
&
Nanoscience Webinar

September 17 | 07:00 – 15:00 GMT

September 18 | 07:00 – 16:15 GMT



September 17, 2021

GMT 07:00 – 15:00

07:00 – 07:10

Introduction



Keynote Sessions - 1

Webinar

Speakers

Time Zone

Time Zone

07:10 – 07:45

16:10 – 16:45

Title: Atomic structure of bulk metallic glasses/liquids studied by synchrotron-radiation X-ray diffraction, scanning tunneling microscopy and ab-initio molecular dynamics simulation

Dmitri Louzguine, Tohoku University, Japan.

07:45 – 08:20

08:45 – 09:20

Title: MULTICOMPONENT HIGH-ENTROPY CANTOR ALLOYS

Brian Cantor, University of Oxford & Brunel University, UK.

08:20 – 08:55

11:20 – 11:55

Title: Sonochemical Coatings: From the laboratory to the market

Aharon Gedanken, Bar-Ilan University, Israel.

08:55 – 09:30

11:55 – 12:30

Title: Metal-free and flexible Li-ion batteries based on CNT tissues

Yair Ein-Eli, Technion- Israel Institute of Technology, Israel.

09:30 – 10:05

10:30 – 11:05

Title: Advanced Printed Semiconductors for Highly Efficient and Stable Photovoltaics

Tayebbeh Ameri, University of Edinburgh, UK.

10:05 – 10:10

Networking and Refreshments Break



Invited Sessions

10:10 – 10:30 18:10 – 18:30

Title: Fabrication of Polymer Optical Device Combined with Selective Visible-Light Transmission and Zero-Birefringence

Yunming Wang, Huazhong University of Science and Technology, China.

10:30 – 10:50 11:30 – 11:50

Title: Development of textured artificial joints

Jufan Zhang, University College Dublin, Ireland.

10:50 – 11:10 18:50 – 19:10

Title: Translating Silk from Textiles to Functional Materials

Chengchen Guo, Westlake University, China.

11:10 – 11:30 19:10 – 19:30

Title: 2D electrolytes: theory, synthesis, and characterization

Mariana C. F. Costa, National University of Singapore, Singapore.

11:30 – 11:50 13:30 – 13:50

Title: Point Defects in two-dimensional Indium Selenide as Tunable Photon Sources: a Theoretical Study

Francesca Risplendi, Politecnico di Torino, Italy.



Keynote Sessions - 2

11:50 – 12:25 19:50 – 20:25

Title: Single-crystalline electron transport layer for enhanced carrier dynamic in perovskite solar cells

Akrajas Ali Umar, Universiti Kebangsaan Malaysia, Malaysia.

12:25 – 13:00

15:25 – 16:00

Title: Synthetic Route Towards Pure Phase of WS₂ & MoS₂
Inorganic Nanotubes and their Unusual Properties

Alla Zak, Holon Institute of Technology, Israel.

13:00 – 13:35

15:00 – 15:35

Title: The use of nanomaterials as atmospheric fume-removing
additive for bitumen

Paolino Caputo, University of Calabria, Italy.

13:35 – 14:10

08:35 – 09:10

Title: Advanced Materials for a Carbon-Neutral Future

Mohammad Asadi, Illinois Institute of Technology, USA.

14:10 – 14:45

07:10 – 07:45

Title: Advanced Radiation Nanodetector For Nuclear Energy
Application

You Qiang, University of Idaho, USA.

Poster Presentation

P- 01

Title: First principles study of optical and electronic
properties of hybrid perovskites for use of solar cells

Edgar Paredes Sotelo, University of Sonora, Mexico.

End of Day One



September 18, 2021

GMT 07:00 – 16:15

07:00 – 07:10

Introduction

Webinar

Speakers

Time Zone

Time Zone



Keynote Sessions - 1

07:10 – 07:45

15:10 – 15:45

Title: Application of Conducting Polymers for Flexible Electronics

Jianyong Ouyang, National University of Singapore, Singapore.

07:45 – 08:20

16:45 – 17:20

Title: Stability and Catalytic Properties of Multinary Alloy Nanoparticles based on Real System Structure Models

Michihisa Koyama, Shinshu University / Kyoto University, Japan.

08:20 – 08:55

16:20 – 16:55

Title: Optical Signatures of Momentum-Forbidden Dark Excitons in Transition Metal Dichalcogenide Monolayers

Shun-Jen Cheng, National Yang Ming Chiao Tung University, Taiwan.

08:55 – 09:30

18:55 – 19:30

Title: Heteroepitaxial integration of II-VI semiconductors on III-V substrates – epitaxial growth with large lattice mismatch

Wen Lei, The University of Western Australia, Australia.

09:30 – 10:05

17:30 – 18:05

Title: High-Performance Potassium-Ion Battery Materials

Hsing-Yu Tuan, National Tsing Hua University, Taiwan.

10:05 – 10:10

Networking and Refreshments Break

10:10 – 10:45 18:10 – 18:45

Title: A Multiphysics Modelling of Magnetic-Sensitive Hydrogels

Hua Li, Nanyang Technological University, Singapore.

10:45 – 11:20 18:45 – 19:20

Title: An adaptive artificial neural network-based deep generative design method for architected materials

Wenjing Ye, Hong Kong University of Science and Technology, Hong Kong.

11:20 – 11:55 19:20 – 19:55

Title: Interlayer superlubricity between two-dimensional materials

Tianbao Ma, Tsinghua University, China.

11:55 – 12:30 19:55 – 20:30

Title: Magnetic And Conducting Thermoplastic Rubber Based Nanocomposites For Microwave Absorption Application

Sahrim Ahmad, Universiti Kebangsaan Malaysia, Malaysia.



Invited Sessions

12:30 – 12:50 14:30 – 14:50

Title: Barocaloric Effect in a Novel Spin-Crossover Compound

Michela Romanini, Universitat Politècnica de Catalunya, Spain.

12:50 – 13:10 18:20 – 18:40

Title: Visco-Poroelastic Iontronic Polymer Pumps for Low-powered Wearable Electrochromic Devices

Vipin Amoli, Rajiv Gandhi Institute of Petroleum Technology, India.

13:10 – 13:30 15:10 – 15:30

Title: Detection of Biomarkers Involved in Neurodegenerative Diseases and Study of Tumour Microenvironment (TME) Employing Innovative Smart Sensing Tools

Giuliana Grasso, Institute of Nanotechnology (NANOTEC), Italian National Research Council (CNR), Italy.

13:30 – 13:50 16:30 – 16:50

Title: Improving the Fatigue of Newly Designed Mechanical System Subjected to Repeated Impact Loading

Seongwoo Woo, Addis Ababa Science & Technology University, Ethiopia.

13:50 – 14:10 15:50 – 16:10

Title: WS₂ nanostructures as thermo-mechanical reinforcement of composite materials for advanced applications

Danica Bajić, Military Technical Institute, Serbia.

14:10 – 14:30 09:10 – 09:30

Title: Graphene Quantum Dots mitigates paraquat-induced oxidative stress in neuronal cells

Jyoti Ahlawat, University of Texas at El Paso, USA.



Keynote Sessions - 2

14:30 – 15:05 16:30 – 17:05

Title: From Molecular Material – Based Heterojunctions to Ambipolar Gas Sensors

Marcel BOUVET, ICMUB, Universite Bourgogne Franche-Comte, France.

15:05 – 15:40 11:05 – 11:40

Title: Photoacoustic Neural Interface for Modulation

Chen Yang, Boston University, USA.

15:40 – 16:15 10:40 – 11:15

Title: Raman Spectroscopy of Spin Waves and Magnetism-Induced Phonons in van der Waals Magnet CrI₃

Rui He, Texas Tech University, USA.

Closing Ceremony