

MATERIALS CHEMISTRY 2020

**GLOBAL VIRTUAL SUMMIT ON
“MATERIALS SCIENCE AND
ENGINEERING”**

SCIENTIFIC PROGRAM

**SEPTEMBER 11 & 12, 2020 (GMT+1, LONDON TIMINGS)
ONLINE VIRTUAL CONFERENCE**

MATERIALS CHEMISTRY 2020

CONFERENCE SCIENTIFIC HIGHLIGHTS

Materials Science and engineering
Physics and Physics Engineering
Chemical and Chemical Engineering
Steels and Heat Treatment
Applied physics
Materials Chemistry
Materials characterization techniques
Polymer Science and Polymeric Materials
Nanomaterials, Nanotechnology and Sensors
Electrical and Magnetic Materials
Optical Materials
Carbon Nanomaterials, devices and technologies
Smart Materials & Structures
The Future of Piezoelectricity
Bio-materials and Tissue Engineering
Mining and minerology
Advances in Manufacturing & Instrumentation Technology
Energy and the Environment
Nanotechnology in Healthcare
Nanomedicine and Biomedical Engineering

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FRIDAY

SEPTEMBER 11, 2020 (GMT+1, LONDON TIMINGS)

08:45 - 09:00 **Introduction & Opening Ceremony****Keynote Session**09:00 - 09:30 **Why Soft(Green)Processing(=Low-Energy Production) of Advanced Nano-Materials is Difficult but Necessary for Sustainable Society?**

Masahiro Yoshimura, National Cheng Kung University, Taiwan

09:30 - 10:00 **A Novel Microwave Treatment to Augment the Mechanical Properties of Polymeric Materials**

Swamini Chopra, Department of Mechanical Engineering, M.I.T., India

10:00 - 10:30 **New Technologies and Processes toward sustainable society.**

Lucia D'Accolti, University of Bari "Aldo Moro", via E. Orabona, Italy

Eye Relaxation Break (10:30 - 10:40)**Keynote Session Continues..**10:40 - 11:10 **Looking at electron dynamics to better understand photo-active materials**

Adrien Chauvet, The University of Sheffield, UK

11:10 - 11:40 **Scaling-up Nanoparticle Beam Deposition for Green Synthesis of Advanced Materials**

Richard E. Palmer, Swansea University, UK

11:40 - 12:10 **Can Nanotechnology and Materials Science Help the Fight against SARS-CoV-2?**

Nicola Cioffi, University of Bari "Aldo Moro", via E. Orabona, Italy

Session Break (12:10 - 13:00)**Oral Sessions 1****(Session Chair: Milanese Chiara)**13:00 - 13:20 **An account on Functionalization of Materials: Influence on the Performance Evaluation of Solid-State Devices**

Madhumita Mukhopadhyay, Amity University, India

13:20 - 13:40 **Proteomic Profiling of Human Umbilical Cord Blood Serum and its Potential Use in Regenerative Therapies**

Ashmitha K Shetty, M .S Ramaiah University of Applied Sciences, India

13:40 - 14:00 **Innovative Carbon Based Materials For Solid State Hydrogen Storage And Energy Storage**

Milanese Chiara, University of Pavia, Italy

14:00 - 14:20 **Theoretical investigation of thermal expansion coefficients of SiC reinforced copper matrix composites**

Safa POLAT, Karabuk University, Turkey

Eye Relaxation Break (14:20 - 14:30)**Oral Sessions 2****(Session Chair: Filipe Amaral)**14:30 - 14:50 **Electric and dielectric behavior of Purified Galactomannan films**

Filipe Amaral, Polytechnic Institute of Coimbra, PT

14:50 - 15:10 **Joining of Stainless Steel with Novel Filler Material and its Weldability Studies**

Koushik Kosanam, California State University, Northridge

15:10 - 15:30 **Piezoelectric on Natural Fiber Reinforced Epoxy Composite for Wireless Energy Harvesting**

Dounia El Fadlaoui, Hassan II University, Casablanca, Morocco

15:30 - 15:50 **Light-responsive Porous Aromatic Frameworks: generation of photon up converted emission and modulation of porosity by bulk photoisomerization**

Jacopo Perego, University of Milano-Bicocca, Italy

Day 1 Continuation....

Eye Relaxation Break (15:50 - 16:10)

Oral Sessions 3

(Session Chair: Xiaosong Wang)

- 16:10 - 16:30 **Active Roles of Water in Aqueous Assembly of Macromolecules**
Xiaosong Wang, University of Waterloo, Canada
- 16:30 - 16:50 **Design, Analysis and Finite Element Modeling of Macro Fiber Composite Piezoelectric Materials**
Dounia El Fadlaoui, Hassan II University, Morocco
- 16:50 - 17:10 **Self-healing material design and optimization for soft robotic applications**
Joost Brancart, Vrije Universiteit Brussel, Belgium
- 17:10 - 17:30 **Advanced Technology for 3D Nanoprinting**
Gang-Yu Liu, University of California, USA
- 17:30 - 17:50 **The influence of nature silicates of different structure (zeolite, kaolinite, montmorillonite) on the properties of composite materials for food and cosmetics purposes**
PAIENTKO, Chuiko Institute of Surface Chemistry, Ukraine
- 17:50 - 18:10 **The Theoretical Description For Sunset Yellow Electrochemical Determination In Food, Assisted By Poly(3,4-Ethylenedioxyppyrrrole) – Vo(OH) Composite**
Volodymyr V. Tkach, Chernivtsi National University, Ukraine
- 18:10 - 18:30 **The Theoretical Description For Poly(Naphthoquinones) – Vo(OH)- Assisted Peroxycompounds Electrochemical Detection**
Volodymyr V. Tkach, Chernivtsi National University, Ukraine

***** End of Day 1*****

Keynote Session

- 09:00 - 09:30 **Li-ion Battery Research in Hierarchical Green-Energy Materials Research Center**
Jow-Lay Huang, National Cheng Kung University, Taiwan
- 09:30 - 10:00 **Engineering at the Nanoscale: A Strategy for Developing High Performance Functional Polymer Nanocomposites**
Sabu Thomas, Mahatma Gandhi University, Kerala, India

Eye Relaxation Break (10:00 - 10:15)**Oral Session 1****(Session Chair: Yuksel AKINAY)**

- 10:15 - 10:35 **Poly(vinyl alcohol) - chitosan medicines' polymer containers**
Eugen Dikhtiaruk, Chuiko Institute of Surface Chemistry, Ukraine
- 10:35 - 10:55 **Epoxy resins and their zinc composites as novel anti-corrosive materials for copper in 3% sodium chloride solution: Experimental and computational studies**
O. Dagdag, Sidi Mohammed Ben Abdallah University, Morocco
- 10:55 - 11:15 **Twistronics; A Recent Avenue in van der Waals Heterostructures**
Pramoda K. Nayak, Indian Institute of Technology Madras, India
- 11:15 - 11:35 **UV and Thermal Properties of Alumina/Silica Coated TiO₂ nanoparticles**
Yuksel AKINAY, Van Yuzuncu Yil University, Turkey
- 11:35 - 11:55 **Silver nanoparticle deposition on boron nitride surface**
Safa POLAT, Karabuk University, Turkey

Poster Presentation

- 11:55 - 12:15 **Composite epoxy-graphite materials and their electrochemical application**
Abel I Balbin Tamayo, University of Havana, Cuba

Session Break (12:15 - 13:00)**Keynote Session**

- 13:00 - 13:30 **COVID-19 Global Healthcare System Failures: The Desperate Need for a Paradigm Shift for Better Medical Materials**
Thomas J. Webster, Northeastern University, USA
- 13:30 - 14:00 **New nanotechnologies for Energy saving and Resiliency of the Built Environment**
Umberto Berardi, Ryerson University, Toronto, Ontario, Canada
- 14:00 - 14:30 **Carbon dots: New Biomaterials in Surface Science**
Roger M. Leblanc, University of Miami, USA

Eye Relaxation Break (14:30 - 14:40)**Oral Sessions 2****(Session Chair: Deepa Kodali)**

- 14:40 - 15:00 **Recycle of zincates and aluminum to feed Zn-air fuel cells**
Patrizia Bocchetta, Università del Salento, Italy
- 15:00 - 15:20 **Characterization of forcespun Polycaprolactone fibers infused with bio-based hydroxyapatite for biomedical applications**
Deepa Kodali, Tuskegee University, USA
- 15:20 - 15:40 **Controlling intermolecular H-atom abstraction with ultrafast pump-push-probe spectroscopy**
Cody Schlenker, University of Washington, USA
- 15:40 - 16:00 **Environment dictates water adsorption in bone tissues: an atomistic picture of bone aging**
Valerie Vaissier Welborn, Department of Chemistry at Virginia Tech, USA

Day 2 Continuation....

Eye Relaxation Break (16:00 - 16:10)

Oral Sessions 3

(Session Chair: Yiqun Zhou)

- 16:10 - 16:30 **Near-Infrared Photothermal Therapy Cancer Treatment Assisted With Graphene-Based Materials**
Faith Cheung, Richard Montgomery High School, USA
- 16:30 - 16:50 **Carbon Dots: From Lab Synthesis to Unique Applications**
Yiqun Zhou, University of Miami, USA
- 16:50 - 17:10 **Hydrophobic waxes in ivory nuts affect surface modification by atmospheric air plasma jet**
Yuri Ferreira da Silva, University of Rio de Janeiro, Brazil
- 17:10 - 17:30 **The Theoretical Description For Chlorantraniliprole Electrochemical Determination, Assisted By Squaraine Dye – Nano-Ag₂O₂ Composite**
Volodymyr V. Tkach, Chernivtsi National University, Ukraine
- 17:30 - 17:50 **The Theoretical Description For Sunset Yellow Electrochemical Determination In Food, Assisted By Poly(3,4-Ethylenedioxyppyrrrole) – Vo(OH) Composite**
Volodymyr V. Tkach, Chernivtsi National University, Ukraine
- 17:50 - 18:10 **The Theoretical Description For The Anti-Covid-19 Drug Remdesivir Electrochemical Determination, Assisted By A Polyuretane-Vo(OH) Composite**
Volodymyr V. Tkach, Chernivtsi National University, Ukraine

***** End of Day 2*****