

MATERIALS SUMMIT 2020

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

SCIENTIFIC PROGRAM

**AUGUST 28, 29 & 30, 2020 (GMT+1, LONDON TIMINGS)
ONLINE VIRTUAL CONFERENCE**

**MATERIALS
SUMMIT
2020**

CONFERENCE SCIENTIFIC HIGHLIGHTS

**Materials Science and Engineering
Nanomaterials and Nanotechnology
Biomaterials and Medical Devices
Polymer Science and Technology
Electronic, Optical and Magnetic Materials
Emerging Smart Materials
Materials for Energy and Environmental Sustainability
Metals, Metallurgy and Materials
Physics and Chemistry of Materials
Mechanics, Characterization Techniques and Equipments
Ceramics and Composite Materials
Entrepreneurs Investment Meet**

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Video Conferencing

Web: <https://materialssummit.researchwaves.com/>

DAY 1

SCIENTIFIC PROGRAM

FRIDAY**AUGUST 28, 2020 (GMT+1, LONDON TIMINGS)**

09:45 - 10:00 **Introduction & Opening Ceremony**

Keynote Session

10:00 - 10:35 **Organic and polymer semiconducting materials for practically useful next generation solar cells**
Hwan Kyu Kim, Korea University, South Korea

10:35 - 11:10 **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

11:10 - 11:45 **Graphene coatings: a disruptive approach to durable corrosion resistance of metals and alloys**
Raman Singh, Monash University, Australia

Eye Relaxation Break (11:45 - 12:10)**Keynote Session Continues..**

12:10 - 12:45 **Designing new smart materials through direct digital manufacturing**
Geoffrey Mitchell, Polytechnic Institute of Leiria, Portugal

12:45 - 13:25 **Materials strategies to prevent the spread of highly contagious pathogens**
Richard J. Spontak, North Carolina State University, USA

13:25 - 14:00 **Transition metal dichalcogenides in field-effect transistors**
Antonio Di Bartolomeo, University of Salerno, Italy

Session Break (14:00 - 15:00)**Keynote Session Continues..**

15:00 - 15:35 **Nanomaterials and Covid-19: a paradigm shift in prevention, diagnostics and therapy**
Thomas J. Webster, Northeastern University, USA

Special Session (15:35 - 16:35)

15:35 - 16:35 **The fourth phase of water: beyond solid, liquid and vapor**
Gerald H. Pollack, University of Washington, USA

Keynote Session Continues..

16:35 - 17:10 **Tuning two-dimensional materials and their applications in electronics and electrocatalysts**
Wonbong Choi, University of North Texas, USA

Eye Relaxation Break (17:10 - 17:30)

17:30 - 18:05 **Innovative electrode materials and their interfaces for safer lithium-ion batteries**
Vilas G. Pol Purdue University, USA

18:05 - 18:40 **A smarter solution to environmental remediation using nanotechnology**
Ajay Kumar Mishra, University of South Africa, South Africa

Oral Sessions

- 09:00 - 09:20 **Mechanical properties of 3D-printed mouthguards**
Ana P. Piedade, University of Coimbra, Portugal
- 09:20 - 09:40 **Development of antimicrobial coatings**
Iva Rezić, University of Zagreb, Croatia
- 09:40 - 10:00 **Fs-laser fabrication of anti-icing surface for aerospace application**
Annalisa Volpe, University of Bari Aldo Moro, Italy
- 10:00 - 10:20 **Application of phase change materials and nanomaterials in solar thermal and solar desalination systems**
Gholamabbas Sadeghi, University of Twente, Netherlands
- 10:20 - 10:40 **High temperature tolerance naocomposite materials for oil and gas and non-metallics applications**
Yangchuan Ke, China University of Petroleum, China
- 10:40 - 11:00 **Biomimetic physics: learning from nature's strategies of overcoming evolutionary crises**
Erich Sackmann, Technical University Munich, Germany

Eye Relaxation Break (11:00 - 11:20)

- 11:20 - 11:40 **Liquid crystal elastomer shell actuators: positive vs. negative order parameter**
Venkata Subba Rao Jampani, University of Luxembourg, Luxembourg
- 11:40 - 12:00 **Scaling-up Nanoparticle Beam Deposition for Green Synthesis of Advanced Materials**
Richard E. Palmer, Swansea University, UK
- 12:00 - 12:20 **Mechanical properties of ofe copper subjected to electron irradiation: experiment and analysis of data**
Bijan K Dutta, Homi Bhabha National Institute, India
- 12:20 - 12:40 **Environmentally sustainable fabrication of carbon-based nanostructures for energy and environmental applications**
Mohammad Ehtisham Khan, Jazan University, Saudi Arabia
- 12:40 - 13:00 **Deformation microstructure and work hardening of Ag, Cu, Ni and Al under friction in lubricated conditions**
Lev Rapoport, Holon Institute of Technology, Israel

Session Break (13:00 - 14:00)

- 14:00 - 14:20 **An outline of the roberts-janet nuclear periodic table**
John Owen Roberts, Open University, UK
- 14:20 - 14:40 **New materials for electrochemical green energy storage**
Marisa A. Frechero, Universidad Nacional del Sur (UNS) Bahía Blanca, Argentina
- 14:40 - 15:00 **Application of dilatometric techniques considering cooling rates up to 100°C/s to obtain Dual Phase steel CCT curve**
Elena Brandaleze, Universidad Tecnológica Nacional-FRSN-DEYTEMA, Argentina

- 15:00 - 15:20 **ZnO Nanostructures applied in Biosensors**
Rossana E. Madrid, National University of Tucumán INSIBIO, Argentina
- 15:20 - 15:40 **An insight on the use of sugarcane bagasse ash as an environmentally-friendly material**
Pedro Montes-García, Instituto Politécnico Nacional / CIIDIR Oaxaca, México
- 15:40 - 16:00 **Magnetron-sputtering deposition of fully inorganic lead halide perovskites thin films.**
Stefano Caporali, Università degli Studi di Firenze, Italy

Session Break (16:00 - 16:20)

- 16:20 - 16:40 **Hydrogel detector for pH measurements Based on Fresnel Lens**
Yousef Alqurashi, University of Birmingham, UK
- 16:40 - 17:00 **Study of the free vibrations of composite plates with ANS (Assumed Natural Strain) finite element methods**
José Miguel Martínez Valle, University of Cordoba, Spain
- 17:00 - 17:20 **Solid State Photopolymerization Preparation of Polymeric Organic Conductors and Possible Superconductor**
Bruce S. Hudson, Syracuse University, USA
- 17:20 - 17:40 **Highly Relaxed In_xGa_{1-x}N templates for improved multiple quantum wells emission**
Mostafa Abdelhamid, North Carolina State University, USA
- 17:40 - 18:00 **The role of point defects in the growth and breakdown of passivity**
Digby D. Macdonald, University of California, USA
- 18:00 - 18:20 **Dielectric, Magnetic and Structural Characterizations in Mn Doped 0.9BiFeO₃-0.1BaTiO₃ Multiferroic Materials**
Ricardo A. M Gotardo, Technological Federal University of Paraná, Brazil
- 18:20 - 18:40 **Cooper oxide thin films grown on matched MgO-substrates by means of non-reactive DC magnetron sputtering**
Carolina Rocío Ruiz Daza, Universidad del Cauca, Colombia

Oral Sessions

- 09:00 - 09:20 **Synthesis, Properties and Applications of Ag Nanoplates**
Vittorio Scardaci, University of Catania, Italy
- 09:20 - 09:40 **Development of High Entropy Alloyed Steels**
Miklós Tisza, University of Miskolc, Hungary
- 09:40 - 10:00 **Synthesis, characterization and toxicity assessment of pluronic-functionalized graphene oxide on zebrafish embryos**
Suhaili Shamsi, Universiti Putra Malaysia, Malaysia
- 10:00 - 10:20 **The greatness of magnetic nanomaterials for developing sensors**
Daniel Matatagui, ITEFI, Madrid, Spain
- 10:20 - 10:40 **Copper alloys Cu-Ni (70-30) and Cu-Ni (90-10) exposed to a mixed bacterial culture found in cooling towers**
Alicia Prithiraj, University of Pretoria, South Africa
- 10:40 - 11:00 **Ferro, Piezo and Pyroelectric Properties of stoichiometric and non-stoichiometric SBT compounds: A comparative study of conventional, microwave and mechanical activation (Nanocrystalline) technique**
Sugandha Gupta, Bhagwan Parshuram Institute of Technology, India

Eye Relaxation Break (11:00 - 11:20)

- 11:20 - 11:40 **Magnetocaloric effect of the polycrystalline compound GdPt₂Si₂**
M.B. Tchoula Tchokonte, University of the Western Cape, South Africa
- 11:40 - 12:00 **Development and characterization of areca fiber reinforced polymer composite**
Kishore Dinakaran, Amrita School of Engineering, India
- 12:00 - 12:20 **Porous metal oxide composites: Scope and prospects**
Nabanita Pal, Mahatma Gandhi Institute of Technology, India
- 12:20 - 12:40 **Rational Design of DA type Oligomers for Organic Photovoltaics : A DFT/TDDFT Study**
Dhruba Jyoti Kalita, Gauhati University, India
- 12:40 - 13:00 **Exploring the potential of gellan and pullulan for synthesis of non-toxic composite hydrogel and nanogel**
Anirban Roy Choudhury, CSIR-Institute of Microbial Technology, India

Session Break (13:00 - 14:00)

- 14:00 - 14:20 **Synthesis characterization and water absorption behavior of chitosan and CD loaded chitosan film for wound healing**
Ranju kandra, Govt science college Jabalpur, India
- 14:20 - 14:40 **Nanocrystals in organic solar cells**
G.V. Lakhotiya, Bajaj College of Science, India
- 14:40 - 15:00 **Failure caused by multiple mechanisms that produce a premature localized wear of a steel ladle slag line**
Elena Brandaleze, Universidad Tecnológica Nacional-FRSN-DEYTEMA, Argentina

- 15:00 - 15:20 **Interstitial Free steel forming aptitude study in correlation with microstructure evolution**
Mykhaylo Romanyuk, Universidad Tecnológica Nacional, Argentina
- 15:20 - 15:40 **Improving surface passivation by UV-Ozone treatment**
Munan Gao, University of Central Florida, USA
- 15:40 - 16:00 **High dispersion of superparamagnetic nanoparticles for ds-DNA condensed/silica shell engineered nanostructure: Rapid adsorption mechanism towards heavy metals removal**
David Alfonso Patiño Ruiz, Universidad de Cartagena, Colombia

Session Break (16:00 - 16:20)

- 16:20 - 16:40 **Agricultural-waste sustainable resources for cellulose nanofibrils (CNFs) production**
Fabiola Valdebenito Escobar, Universidad Católica de la Santísima Concepción, Chile
- 16:40 - 17:00 **On the way to monitoring and prediction of state of degradation of electrodes in battery systems**
Maros Halama, Technical University of Kosice, Slovakia
- 17:00 - 17:20 **Thermal annealing process effect on morphological and structural properties of GaSB thin films like support for multilayers type nanostructures**
Jorge A. Calderón, Universidad Nacional de Colombia, Colombia
- 17:20 - 17:40 **How water makes graphene metallic**
Alejandro Cabo, Matemática y Física (ICIMAF), Cuba
- 17:40 - 18:00 **General corrosion of carbon steel in synthetic concrete pore solution**
Jie Qiu, University of California, USA
- 17:40 - 18:00 **Fast preparation of sustainable polymers from plant oil**
Reza Ahmadi, University of Alberta, Canada