

3rd International Conference on **Functional Materials and Chemical Engineering**

Day 1 - November 09, 2022

Hall Name: El Dhiyafa 2

08:00 - 08:40 Registrations

08:40 - 09:00 Introduction

Keynote Presentations

09:00 - 09:40 Title: Rings and Chains: New Functionalized Polymeric Materials from Various Heterocyclic Monomers

Helmut Ritter, University Duesseldorf, Germany

09:40 - 10:20 Title: Robust Amphiphobic Property on Polymer Substrate for Electronic Devices

Young-Rae Cho, Pusan National University, Republic of Korea

10:20 - 11:00 Title: Advantages of Using Ultra-High-Performance Concrete in Modular Construction

Raafat El-Hacha, University of Calgary, Canada

Group Photo (11:00 - 11:10)

Refreshments (11.10 - 11.30) @ Outside the hall

Oral Presentations

Chair **Young-Rae Cho**, Pusan National University, Republic of Korea

Co - Chair **Markus Brillinger**, Pro2Future GmbH, Austria

Sessions:

Materials Science and Engineering | Materials Chemistry | Functional Materials | Nano Materials and Nanotechnology | Advanced Energy Materials | Surface Science and Engineering | Biomaterials and Medical Devices | Mechanical and Civil Engineering | Metallurgical Engineering | Ferrous and Non-Ferrous Materials

11:30 - 12:00 Title: Improved Corrosion Resistance of Oxide Sol-Gel Films Deposited on Zinc-Based Substrates

Nikolai Boshkov, Bulgarian Academy of Sciences, Bulgaria

12:00 - 12:30 Title: Decellularization of Full Heart—Optimizing the Classical Sodium-Dodecyl-Sulfate-Based Decellularization Protocol

Reem S AL Hejailan, King Faisal Specialist Hospital and Research Center, Saudi Arabia

12:30 - 13:00 Title: Comparative Chemico-Physical Analyses of Single GaAs/Al_{0.3}Ga_{0.7}As Quantum Dot Photon Sources Grown by Droplet Epitaxy

Inah Yeo, Pusan National University, South Korea

Lunch (13:00 - 14:00) @ New Seasons Restaurant

14:00 - 14:30 Title: Crystal Chemistry of Ti-Bearing Hydroxyapatites and Nature of Photocatalytic Activity of Ti-Modified Hydroxyapatite Materials

Anatoliy Korneev, Saint Petersburg State University, Russia

14:30 - 15:00 Title: Tree Gum-Based Functional Materials for Advanced Applications

Vinod V.T. Padil, Technical University of Liberec, Czech Republic

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15.00 - 15.30	Title: Highly Efficient Coalescence and Separation of Oil-In-Water Emulsion by Polyacrylonitrile Nanofibrous Membrane Yunpeng YUE , Nagoya University, Japan
15.30 - 16.00	Title: Friction Stir Spot Welding of Al 6061 Alloy Synthesized Using Powder Metallurgy Route Vijay Navaratna Nadakuduru , Malaviya National Institute of Technology Jaipur, India
16.00 - 16.30	Title: Nano Vs Macro: Small Size Does Matter Arkadii Arinstein , Technion-Israel Institute of Technology, Israel
16.30 - 17.00	Title: The Microstructure and Mechanical Characterization of The Friction Stir Welded Joints with Respect to a Sampling Direction Sipokazi Mabuwa , Cape Peninsula University of Technology, South Africa
Networking & Refreshments (17:00 - 17:30) @ Outside the hall	
17.30 - 18.00	Title: Effect of Standoff Distance on the Splat Formation of Flame Sprayed Polymer onto A Mild Steel Rough Surface Kadhim Al Amara , University of Ras Al Khaimah, United Arab Emirates
18.00 - 18.30	Title: A Lyophilized Ready-To-Use Mix for The Real-Time Polymerase Chain Reaction Diagnosis Siyu Yang , The Hong Kong University of Science and Technology, Hongkong
18.30 - 19.00	Title: Integration of Vision System into Laser Sintering Process Marcin Korzeniowski , Wroclaw University of Science and Technology, Poland
19.00 - 19.30	Title: Application of Nanosecond Green Laser for Iron-Based Metallic Glassed Sintering Aleksandra Malachowska , Wroclaw University of Science and Technology, Poland
19.30 - 20.00	Title: Corrosion Resistance of Virgin and Used Steam Line Pipes Made of Steel Grade MoV6-3 Ljubica Milovic , University of Belgrade, Serbia
20.00 - 20.30	Title: Dynamic and Real-Time Biometrics in Clinical Research Ayoub Diarra , Data Consulting Group, Mali

Day 1 Concludes

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Day 2 - November 10, 2022

Hall Name: El Dhiyafa 2

Keynote Presentation

09:00 - 09:40 Title: Study of Mechanisms of Coupled Field Emission in CNT and Creation of CNT-Based Cathodes with the Help of Mechanical Bottom – Up Nano-Integration Base on Shape Memory Nano Tools

Svetlana von Gratowski, Russian Academy of Sciences, Russia

09:40 - 10:20 Title: Subcooled Liquid Printing – How to Increase Profitability of Additive Manufacturing by Scales?

Markus Brillinger, Pro2Future GmbH, Austria

Refreshments (10.20 - 10.40) @ Outside the hall

10.40 - 11.10 Title : Thermal Heat Storage and Dissipating Behaviour of Phosphate Composites with House Decorating Materials

Trilochan Swain, Fakir Mohan University, India

11.10 - 11.50 Title: Intelligence: Attempting to Build a Bridge Between Artificial and Biological Domains

Alessandro Chiolerio, Istituto Italiano di Tecnologia, Italy

Oral Presentations

Chair: **Svetlana von Gratowski**, Russian Academy of Sciences, Russia

Co - Chair: **Alessandro Chiolerio**, Istituto Italiano di Tecnologia, Italy

Sessions

Functional Materials|Advanced Energy Materials|Materials Science and Engineering |Composite, Coating and Ceramic Materials|Nano Materials and Nanotechnology|Surface Science and Engineering|Environmental and Green Materials| Ceramics and Composite Materials | Materials for Computing |Functional Biomaterials|Micro or Nano Materials

11.50 - 12.20 Title: Weldability of Additive Manufactured Components by Laser Powder Bed Fusion Process

Shahram Sheikhi, HAW Hamburg, Germany

12.20 - 12.50 Title: Bitter Gourd Pericarp Derived Porous Activated Carbon for High Energy Density Supercapacitor Devices

M L Aparna, Indian Institute of Technology Madras, India

12.50 - 13.20 Title: Influence of Heating Mode on Cyclic Temperature Range of An Ni-Ti Shape Memory Alloy During Partial Transformation Cycling

G.Swaminathan, Indian Institute of Technology Madras, India

Lunch (13:20 - 14:10) @ New Seasons Restaurant

14.10 - 14.40 Title: Optical Studies of Near-Infrared Emitting AgInS and AgInS/ZnS Quantum Dots for Lateral Flow Assay Applications

Ncediwe Tsolekile, Cape Peninsula University of Technology, South Africa

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14:40 - 15.10	Title: Experimental and Finite Element Analyses of Metallic Materials Used in Marine Applications Subjected to Torsion Loading Saud Bader Amur Al Radini , Military Technological College, Oman
15:10 - 15.40	Title: Photocatalytic Properties of Nanotitania to Inhibit the Growth of Gardnerella Vaginalis (GAVA) Ahmad Mukifza Harun , Universiti Malaysia Sabah, Malaysia
15:40 - 16.10	Title: Degradation of the Mechanical Properties of Carbon/Epoxy Composite Materials Under Hygro-Thermal Aging Bachir Bouiadjra Bel Abbes , University of Sidi Bel Abbes, Algeria
16:10 - 16.40	Title: Strengthening Reinforced Concrete Structures Using Carbon Fibre Reinforced Polymer Raafat El-Hacha , University of Calgary, Canada
16:40 - 17.10	Title: Hydroxypropyl methylcellulose-copper nanoparticle and its nanocomposite hydrogel films for antibacterial application Radha Devi Pyarasani , Universidad de Catolica del Maule, Chile
Networking & Refreshments (17:10 - 17:20) @ Outside the hall	
17:20 - 17.50	Title: Generalizing Rosenbluth's Algorithm to Include Along-the-Chain Intramolecular Energies Ebtisam A. Aldaais , Imam Abdulrahman Bin Faisal University, Saudi Arabia
17:50 - 18:20	Title: A simplified technique to evaluate the strength and stiffness of a filament winding CFRP composite propeller hollow drive shaft: Comparison to a conventional high strength stainless steel alloy propeller shaft Ayman Yousef Saleh , Military Technological College, Oman
18:20 - 18:50	Title: rGO Decorated Nanoparticles: An Advanced Catalyst for The Hydrogen Evolution Reaction Kishor Kumar Sadasivuni , Qatar University, Qatar
18:50 - 19:20	Title: structure and Possible magnetic phase in Sn-doped $\text{La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$ Zohra Ali Gebrel , University of Sabratha, Libya
19:20 - 19:50	Title: Carbon Nano Fibre Infused Ultra-High-Performance Fibre Reinforced Concrete: Compressive Strength and Modulus of Elasticity Raafat El-Hacha , University of Calgary, Canada

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Poster Presentations

Poster 001	Title: Environmentally Friendly Surface Films for Corrosion Protection of Galvanized Steel Nelly Boshkova , Bulgarian Academy of Sciences, Bulgaria
Poster 002	Title: Shaped-Controlled Nanocrystals with Carbon Dots-Based Co-Catalyst for Photocatalytic Hydrogen Production Hana Kmentová , Palacký University Olomouc, Czech Republic
Poster 003	Title: Properties of Oxidized Surface Layers Produced by the PDT Method on the $Zr_{48}Cu_{36}Al_8Ag_8$ Bulk Metallic Glass Piotr Błyskun , Warsaw University of Technology, Poland
Poster 004	Title: The Amine Plasma Polymer Coatings for Increasing Endothelization of Vascular Stents Solovieva Anastasiya , Research Institute of Clinical and Experimental Lymphology, Russia
Poster 005	Title: Electropulse and Furnace Sintering of a Tungsten-Based Powder Composition with Copper, Nickel And Iron Additives for Radiation Protection Vadzim Savich , O.V.Roman Powder Metallurgy Institute, Belarus
Poster 006	Title: Microstructure and Properties of Cobalt-Based Composite Powders Reinforced by Inclusions of Titanium Carbide Obtained by VIGA Aliaksandr Ilyushchanka , O.V.Roman Powder Metallurgy Institute, Belarus
Poster 007	Title: Surface Modification of the $Zr_{48}Cu_{36}Al_8Ag_8$ Bulk Metallic Glass in Glow Discharge Plasma Nitriding Krzysztof Kulikowski , Warsaw University of Technology, Poland
Poster 008	Title: Radiative Energy Transfer in Optically Bound Colloidal Quantum Dot Spheres Marios Sergides , University of Cyprus, Cyprus
Poster 009	Title: Flexible Hybrid Nanogenerator for Energy Harvesting and as a Self-Powered NH ₃ Gas Sensor Elhasen Cheikh Elhadrami , Qatar University, Qatar

Day 2 Concludes

Panel Discussion - Awards & Closing Ceremony followed by Vote of Thanks

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Virtual Presentations

Day 1 - November 09, 2022 BST

10.00 - 10.10 Introduction

Keynote Presentations

10.10 - 10.40 Title: Stereolithographic Additive Manufacturing of Functional Geometries
Soshu Kirihara, Osaka University, Japan

Oral Presentations

10.40 - 11.05 Title: Comparing Different Strategies to Protect and Deliver Vitamin D3 for the Treatment of Psoriasis
Marta Gallo, Politecnico di Torino, Italy

11.05 - 11.30 Title: Research and Development of Water Electrolyzers Based on Ion Exchange Membranes
Vladimir Fateev, National Research Center Kurchatov Institute, Russia

11.30 - 11.55 Title: The 'Generalized Skettrup Model' and Lattice Thermal Capacity of Polymers
Valeri LIGATCHEV, Singapore

11.55 - 12.20 Title: Biopolymer-based Gold Nanoparticles for Wound Healing Applications
Sathish Sundar Dhilip Kumar, University of Johannesburg, South Africa

12.20 - 12.45 Title: Biomacromolecules as Matrix for Antimicrobial Nanocomposite Films: A Comparative Study
Paolo Pino, Politecnico di Torino, Italy

12.45 - 13.10 Title: Properties and Application of 3d Hybrid Nanomaterials: Polyhedral Oligomeric Silsesquioxanes
Enrico Boccaleri, DiSSTE-Università del Piemonte Orientale, Italy

13.10 - 13.35 Title: Kinetic, Isotherm and Thermodynamic Study of Mineral Ions Adsorption Using Strong Cation Exchange Resin for Water Softening
Norhayati Abdullah, Universiti Malaysia Pahang, Malaysia

13.35 - 14.00 Title: Materials Auscultation in Heritage Building
Rubén Rodríguez Elizalde, Universitat Oberta de Catalunya, Spain

Keynote Presentations

14.00 - 14.30 Title: Manufacture Wafer Scale Low Cost and Environmentally Friendly Germanium Nanomembranes
Abderraouf Boucherif, University of Sherbrooke, Canada

Day 1 Concludes

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Day 2 - November 10, 2022

Keynote Presentation

10:00 - 10:30 Title: Stereolithographic Additive Manufacturing of Fine Ceramic Components
Soshu Kirihara, Osaka University, Japan

Oral Presentations

10.30 - 10.55 Title: Metal Organic Frameworks Incorporated Ultrafiltration Membrane for Industrial Wastewater Treatment
Norhaniza Yusof, Universiti Teknologi Malaysia, Malaysia

10.55 - 11.20 Title: Carbon-Modified-TiO₂ in Water Decontamination: Photo-Reforming of Pollutants Using 2D and 3D Graphene-Based TiO₂ Nanomaterials
Sin Yuan Lai, Xiamen University Malaysia, Malaysia

11.20 - 11.45 Title: Improving the Reliability Design of Mechanical Systems Such as Refrigerator
Seongwoo Woo, Ethiopian Technical University, Ethiopia

Poster Presentations

11.45 - 12.00 Title: Effects of Electron Beam Irradiation on the Hardness and Wear Resistance of PEEK
Nurlan Almas, Amanzholov University, Kazakhstan

12.00 - 12.15 Title: Evaluation the Safety and the Impact of Standard Antiviral Drugs on Kinetic of Antiviral Activity on the Early Stages of Viral Replication Cycle by Surface Plasmon Resonance Method
Evdokiya Hikova, Bulgarian Academy of Sciences, Bulgaria

12.15 - 12.30 Title: Computational Analysis of Heterostructures with Transparent Conductive Oxides for the Fabrication of Solar Cells
Ana Cristina Carranza Sanchez, University of Puebla, Mexico

12.30 - 12.45 Title: Quantum Kinetic Phenomena in Proton Semiconductors and Dielectrics
Valeriy Kalytka, Abylkas Saginov Karaganda Technical University, Kazakhstan

12.45 - 13.00 Title: Environmental Residential Architecture of Northern Kazakhstan
Olga Semenyuk, Gumilyov Eurasian National University, Kazakhstan

E-Poster Presentations

13.00 - 13.15 Title: Reproduction Quality of Thermochromic Line Prints
Katarina Itrić Ivanda, University of Zagreb, Croatia

Day 2 Concludes