



The Academy of Romanian Scientists

University POLITEHNICA of Bucharest
National Center of Micro and Nanomaterials



Virtual International Scientific Conference on

**“Applications of Chemistry in Nanosciences and
Biomaterials Engineering”
NanoBioMat 2023 – Summer Edition**

28-30 June 2023

Program

The program will be published on the official webpage of AOSR on 23.06.2023, as well as in the TEAMS Class. The link for the TEAMS Class will be provided in due time, on or before 23.06.2023.

The topics for the conference include, but are not limited to:

- novel materials;
- surface chemistry;
- air and soil bioremediation;
- composite materials and biomaterials;
- applications of natural compounds and chemical products;
- nanomaterials and bionanomaterials for the controlled release of biologically active molecules;
- bionanoproducts for tissue engineering and regeneration;
- advanced techniques for material processing.

Deadlines:

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|--------------------------------|---------------|
| 1. Registration: | 15.05.2023 |
| 2. Extended registration: | 31.05.2023 |
| 3. Abstract submission: | 15.06.2023 |
| 4. Acceptance Notification: | 20.06.2023 |
| 5. Final Program announcement: | 23.06.2023 |
| 6. Conference: | 28-30.06.2023 |

Registration:

Registration should be done using the link: <https://nanobiomat.eu/registration/>.

Registration is free for all students and postdoctoral researchers (or equivalent).

Abstract submission:

Abstract should be submitted in MS Word document using the link <https://nanobiomat.eu/registration/> on or before 15.06.2023. The abstract should be 150 – 300 words and it must contain the title, authors, and their full affiliation.

Scientific Committee

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Dr. Eng. Angela SPOIALĂ – Technical Staff
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Program

Wednesday, 28 June 2023

<p>11:00-11:15 – Opening Ceremony Chair: Ecaterina ANDRONESCU</p> <p>Join here</p>	
<p>11:15-13:00 – Plenary Session (I) Chairs: Mohd Mustafa Al Bakri ABDULLAH and Anton FICAI</p> <p>Join here</p> <p>11:15-11:45 – <i>Recent Progress in Geopolymer Construction Materials Research: Processing and Performance.</i> Mohd Mustafa Al Bakri Abdullah</p> <p>11:45-12:15 – <i>Photocatalytic Thin Films for Microbial Disinfection at the Solidair Interface.</i> Sami Rtimi</p> <p>12:15-12:35 – <i>X-ray Photoelectron Spectroscopy (XPS) – Extracting Surface Analysis Data from Basics to Novel Applications.</i> Anca Mazare</p> <p>12:35-13:00 – Q & A Session</p>	
<p>13:00-14:00 – Lunch Break</p>	
<p>14:00-15:45 – Plenary Session (II) Chairs: Domenico LOMBARDO and Ovidiu OPREA</p> <p>Join here</p> <p>14:00-14:30 – <i>Fractionation of Rice Husk for Producing Value Added Materials.</i> Jin Hyung Lee</p> <p>14:30-15:00 – <i>Ultrasonic Cavitation for Sustainable Photocatalytic Materials Synthesis.</i> Ridha Djellabi</p> <p>15:00-15:30 – <i>Expansion Pathology: Advanced Nanoscale Investigation of Clinical Specimens Using Physical Tissue Expansion.</i> Octavian Bucur</p> <p>15:30-15:45 – Q & A Session</p>	
<p>15:45-16:00 – Coffee Break</p>	
<p>16:00-18:35 – Session I. Biomaterials for Cancer Therapy Chairs: Viorel NACU and Lenuța PROFIRE</p> <p>Join here</p>	<p>16:00-18:50 – Session II. Materials for Advanced Applications (I) Chairs: Sami RTIMI and Maria GAVRILESCU</p> <p>Join here</p>

Thursday, 29 June 2023

<p style="text-align: center;">09:00-12:00 – Poster Session (I) Chairs: Pietro CALANDRA, Ridha DJELLABI, Irina FIERĂSCU, Bogdan Ștefan VASILE Join here</p>	
<p style="text-align: center;">12:00-13:00 – Lunch Break</p>	
<p>13:00-15:30 – Session III. Advanced Techniques in Material Science Chairs: Jorg OPITZ and Ioana DEMETRESCU Join here</p>	<p>13:00-15:20 – Session IV. Materials for Advanced Applications (II) Chairs: Jin Hyung LEE and Madalina ALBU-KAYA Join here</p>
<p style="text-align: center;">15:30-16:00 – Coffee Break</p>	
<p>16:00-18:20 – Session V. Biomaterials for Antimicrobial Therapies Chairs: Serguei SAVILOV and Carmen CHIFIRIUC Join here</p>	<p>16:00-18:20 – Session VI. Materials for Advanced Applications (III) Chairs: Joan CERDA and Andreea-Teodora IACOB Join here</p>

Friday, 30 June 2023

<p>9:00-11:50 – Session VII. Biomaterials for Tissue Engineering and Regeneration Chairs: Oguzhan GUNDUZ and Alexandru-Mihai GRUMEZESCU Join here</p>	<p>9:00-11:50 – Session VIII. Natural Bioactive Compounds Chairs: Ion NEDA and Victor FRUTH Join here</p>
<p style="text-align: center;">11:50-13:00 – Lunch Break</p>	
<p style="text-align: center;">13:00-14:00 – Poster Session (II) Chairs Cem Bulent USTUNDAG and Radu Claudiu FIERĂSCU Join here</p>	
<p style="text-align: center;">14:00-14:30 – Closing Ceremony Chair: Ecaterina ANDRONESCU Join here</p>	

28 June 2023

11:00-11:15 – OPENING CEREMONY

Chair: Ecaterina ANDRONESCU

Prof. Ecaterina ANDRONESCU – President of the Scientific Committee

Prof. Adrian-Alexandru BADEA – President of The Academy of Romanian Scientists

Prof. Tudor PRISECARU – President of the University Politehnica of Bucharest Senate, State Secretary

11:15-13:00 – PLENARY SESSION (I)

Chairs – Mohd Mustafa Al Bakri ABDULLAH and Anton FICAI

11:15-11:45 – *Recent Progress in Geopolymer Construction Materials Research: Processing and Performance.* **Mohd Mustafa Al Bakri Abdullah**

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12:15-12:35 – *X-ray Photoelectron Spectroscopy (XPS) – Extracting Surface Analysis Data from Basics to Novel Applications.* **Anca Mazare**

12:35-13:00 – Q & A Session

13:00-14:00 – LUNCH BREAK

14:00-15:45 – PLENARY SESSION (II)

Chairs – Domenico LOMBARDO and Ovidiu OPREA

14:00-14:30 – *Fractionation of Rice Husk for Producing Value Added Materials.* **Jin Hyung Lee**

14:30-15:00 – *Ultrasonic Cavitation for Sustainable Photocatalytic Materials Synthesis.* **Ridha Djellabi**

15:00-15:30 – *Expansion Pathology: Advanced Nanoscale Investigation of Clinical Specimens Using Physical Tissue Expansion.* **Octavian Bucur**

15:30-15:45 – Q & A Session

15:45-16:00 – BREAK

16:00 - 18:35 – SESSION I. BIOMATERIALS FOR CANCER THERAPY

Chairs – Viorel NACU and Lenuța PROFIRE

16:00-16:20 – *Optoplasmonic Biosensor for Lung Cancer Telediagnosis.* **Alemayehu Getahun**

16:20-16:35 – *Towards New Magnetite-Based Systems for Oncologic Drug Delivery.* **Paul Adrian Tărăbuță, Ludmila Motelica, Cristina Chircov, Denisa Ficai, Anton Ficai**

- 16:35-16:50 – *Investigation of In vitro Local Therapeutic Effects of 3D-Melt Electrowritten Theranostic Patches on Pancreatic Cancer.* **Zeynep Ruya Ege**, Gozde Enguven, Hasan Ege, Kagan Durukan, Hilal Turkoglu Sasmazel, Oguzhan Gunduz
- 16:50-17:05 – *Natural Products Based Nanoformulations for Breast Cancer Treatment.* **Nidhi Gupta**, Sarita Sharma
- 17:05-17:20 – *A New Biotechnological Treatment Method: Wound Dressing.* **Merve Nur Kaya**, Cem Bülent Üstündağ
- 17:20-17:35 – *The Role Of 3D Printing Techniques in the Personalized Medicine of Breast Cancer Patients.* **Eugeniu Valic**, Vladimir Valic, Ion Mereuță
- 17:35-17:50 – *Mesoporous Materials Loaded with Melissa Officinalis Extract.* **Gabriela Petrisor**, Ludmila Motelica, Denisa Ficai, Roxana Doina Trusca, Ovidiu Cristian Oprea, Andreea-Luiza Mirt, Gabriel Vasilevici, Justinian-Andrei Tomescu, Anca Daniela Raiciu, Cristina Manea, Anton Ficai
- 17:50-18:05 – *Production of Wound Dressing From GO/PVA Fibers as Drug Delivery Vehicles for Breast Cancer Surgery Wounds.* Raife Gençer, **Bilge Keleş**
- 18:05-18:20 – *Design and Production of Microneedle Based Drug Delivery System Loaded with Hairy Cellulose Nanocrystals as a Novel Treatment of Breast Cancer.* **Hibe Hariri**, Zeynep Ramazan, Hoda Cheikhkhamis, Cem Bülent Üstündağ
- 18:20-18:35 – *MgB₂ Powder Modification by Ultrasonication in Different Biological Liquids and Their Bioactivity on L929 and B16 Cells.* **Any Cristina Sergentu**, Dan Batalu, Anton Ficai, Petre Badica

16:00 - 18:50 – SESSION II. MATERIALS FOR ADVANCED APPLICATIONS (I)

Chairs – Sami RTIMI and Maria GAVRILESCU

- 16:00-16:20 – *Cinchona Alkaloids Family: Bioactive Derivatives and Multifunctional Chiral Ligands in Asymmetric Catalysis.* **Catalin V. Maftei**, Ion Neda, M. Heiko Franz
- 16:20-16:35 – *Assessing the Adsorption Capacity of Basil and Lavender for Heavy Metals.* **Dana-Mihaela Asiminicesei**, Laura Bulgariu, Maria Gavrilescu
- 16:35-16:50 – *Donezepil for The Treatment of Alzheimer's Disease-Loaded with Curcumin Production of Sandwich-Like 3D PCL/PVA Tissue Scaffolds.* **Tuğçenur Ekici**, Dilek Bilgiç Alkaya, Serap Ayaz Seyhan, Sümeyye Cesur, Oğuzhan Gündüz

- 16:50-17:05 – *Characterizations of Ethosuximide-Loaded Bismuth Ferrite Nanoparticles for the Potential Treatment of Epilepsy.* **Yeliz Ersan**, Burcak Bulut, Songul Ulag, Banu Aydin, Oguzhan Gunduz
- 17:05-17:20 – *Unlocking the Marvels of Nano-Wonders: The Synergistic Symphony of Reduced Graphene Oxide and Iron Oxide Unveils Breakthroughs in Biomedical Marvels.* **Emmellie Laura Albert**, Dharshini Perumal, Che Azurahaman Che Abdullah
- 17:20-17:35 – *Development of Microparticles Containing Polylactic Acid/Bioactive Glass/Caffeic Acid.* **Beyda Tag**, Songul Ulag, Cem Bulent Ustundag, Oguzhan Gunduz
- 17:35-17:50 – *Compatibility and Stability of Retinoids Impregnated in Bioglass for Dermatological Applications.* **Ioana Lavinia Lixandru (Matei)**
- 17:50-18:05 – *Effects of Cobalt Doping on the Structural Properties of ZnO Thin Films Produced by the Automated SILAR Process.* **Brahim Ydir**, Amine Ajdour, Mouad Soumane, Iulia Antohe, Gabriel Socol, Luiza-Izabela Toderascu, Mohamed Boussetta, Houda Lahlou
- 18:05-18:20 – *Production of Vancomycin-Loaded Polylactic acid (PLA)/Polycaprolactone (PCL) Electrospun Nanofibers with Different Designs.* **Eray Altan**, Zekiye Akdag, Esra Pilavci, Sumeyye Cesur, Oguzhan Gunduz
- 18:20-18:35 – *Ethosuximide Loaded Polylactic Acid/Bismuth Ferrite Nanofibers for Epilepsy Treatment.* **Izel Yigit**, Oguzhan Gunduz, Banu Aydin, Songul Ulag
- 18:35-18:50 – *Design and Fabrication of Biofunctional PVA/PLA Bi-layer Nanofiber Wound Dressing by Electrospinning Method.* **Alpay Köse**, Cem Bülent Üstündağ

29 June 2023

9:00-12:00 – POSTER SESSION (I)

Chairs – Pietro CALANDRA, Ridha DJELLABI,

Irina FIERĂSCU, Bogdan Ștefan VASILE

1. *Development of Natural Extracts by Valorizing Agrotechnical Waste from Vineyards.* **Daniela-I. Sărdărescu**, Radu C. Fierăscu, Diana E. Vizitiu, Anda M. Baroi, Alin Din, Irina Fierăscu, Cătălina I. Guță, Elena C. Buciumeanu
 2. *Surface Treatments of Microelectrodes for the Development of Electrochemical Microsensors.* **Vasilica Țucureanu**, Octavian Ligor, Gabriel Crăciun, Alina Matei
 3. *The Influence of Natural Deep Eutectic Solvents and Ionic Liquids on the Formation of the Biphasic Water Systems.* **Dajana Lazarević**, Jasmina Mušović, Jelena Jovanović, Tatjana Trtić-Petrović
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4. *The Use of Hydroxyapatite and its Derivatives in the Depollution of Wastewaters.* **Roxana Ioana Matei (Brazdis)**, Maria Grapin, Valentin Raditoiu, Irina Fierascu, Anda Maria Baroi, Toma Fistos, Alina Raditoiu, Florentina Monica Raduly, Radu Claudiu Fierascu
 5. *Transition Metal Oxide Nanostructures and Their Potential Applications in Biotechnological Fields.* **Alina Matei**, Cosmin Romanitan, Oana Brincoveanu, Vasilica Țucureanu
 6. *Ecological Formulations Entrapping Natural Pigments with pH Sensitivity.* **Ligia Todan**, Mariana Voicescu, Daniela C. Culita, Mirabela E. Soare, Rodica M. Ion, Radu C. Fierascu
 7. *Investigating the Structural Properties of Zn(BDC)(DABCO) and Zn(NH₂-BDC)(DABCO) MOFs: A Step Towards Metabolic Monitoring.* **Cătălin Păun**, Ludmila Motelică, Denisa Ficai, Anton Ficai, Ecaterina Andronescu
 8. *Green Synthesis of Copper Oxide/Reduced Graphene Oxide Nanocatalyst and its Application in Water Remediation.* **Zirwa Fayyaz**, Muhammad Akhyar Farrukh
 9. *Biostimulatory Effect of Some Micro-Algae on the Growth and Development of Tomato Plants.* **Eugeniu Ciobanu**
 10. *Detection of Ammonia Using Polymer Based Chemiresistive Sensors.* **Ana-Maria Popa**, Andrei Stochioiu, Luiza-Izabela Toderașcu, Vlad-Andrei Antohe, Gabriel Socol, Iulia Antohe
 11. *Nonstationary Behaviour of the Upconversion Processes for the Y₂O₃ Ceramic Doped with Er³⁺ Yb³⁺ Ions Pair.* **Liviu Dudas**
 12. *Polymeric Membranes Containing Nanoparticles for Water and Wastewater Treatment.* **Simona Căprărescu**, Anita-Laura Chiriac
 13. *Laser Pyrolysis of Iron Oxide Nanoparticles and the Influence of Laser Power.* **Iulia Ioana Lungu**, Ecaterina Andronescu, Gabriel Prodan, Florian Dumitrache, Lavinia Gavrilă-Florescu, Ana Maria Banici, Iuliana Morjan
 14. *Apatitic Materials Improve with Heavy Metals with Potential Antimicrobial Properties for the Treatment of Wood and Stone Cultural Heritage Objects.* **Toma Fistos**, Roxana Ioana Matei (Brazdis), Anda Maria Baroi, Irina Fierascu, Lia-Mara Ditu, Radu Claudiu Fierascu
 15. *Innovative Composite Membranes Based on Alginate Biopolymers and Antibacterial Nanoparticles as Adsorbent Materials for Water Treatment.* **Angela Spoială**, Cornelia-Ioana Ilie, Georgiana Dolete, Gabriela Petrișor, Roxana-Doina Trușcă, Ludmila Motelica, Denisa Ficai, Anton Ficai, Ovidiu-Cristian Oprea, Mara-Lia Dițu

16. *Physical and Mechanical Performance of OPC Concrete Mortar with Addition of Rice Husk.* **Muhammad Faheem Mohd Tahir**, Mohd Mustafa Al Bakri Abdullah, Shayfull Zamree Abd Rahim, Warid Wazien Ahmad Zailani, Meor Ahmad Faris Meor Ahmad Tajudin and Mohamad Firdaus Abu Hashim
17. *Comparative Study on The Biodegradation of Plastic Bags and Biodegradable Bags.* **Ionuț Cristian Mărgărit**
18. *Polyethylene/ZnO Nanoparticles Composite – A Novel Antimicrobial Packaging Film.* **Ludmila Motelica**, Ovidiu Oprea, Maria Sonmez, Maria Daniela Stelescu, Denisa Ficai, Anton Ficai, Roxana-Doina Truşcă
19. *Applications and Properties of Honey, Propolis and Royal Jelly in Skin Tissue Engineering.* **Corina Dana Dumitru**, Ionela Andreea Neacșu, Ecaterina Andronescu, Alexandru Mihai Grumezescu, Denisa Ficai
20. *Nanotechnology and Modern Methods of Prevention for Infections Associated with Mesh Repairs of Abdominal Hernias Wall.* **Bianca Căncea**, Adina Mateescu, Ecaterina Andronesci, Alina Prodan, Mihai Matei, Claudiu Turculeț, Mircea Beuran
21. *Recent Approaches Towards Silicate Biomaterials Inspired by Nature.* **Stefania Chiriac**, Laura-Madalina Cursaru, Alexandru Cristian Matei, Mihai Ghita, Roxana Mioara Piticescu
22. *Black Phosphorus-Based Scaffolds for Bone Therapy.* **Andra-Maria Sîrmon**, Ecaterina Andronescu, Ionela Andreea Neacșu, Vasile-Adrian Surdu, Alexandru Mihai Grumezescu
23. *Novel Developments in the Synthesis of Natural Hydroxyapatite-Based Materials for Bone Tissue Engineering.* **Diana-Elena Radulescu**, Ecaterina Andronescu, Otilia Ruxandra Vasile, Adrian Vasile Surdu, Alexandru-Mihai Grumezescu
24. *Green Synthesis of Metal Oxide Nanoparticles Applied in Soft Tissue Engineering.* **Denisa-Maria Radulescu**, Ecaterina Andronescu, Alexandru-Mihai Grumezescu, Vasile Adrian Surdu, Adrian-Ionuț Nicoara
25. *Synthesis and Antimicrobial Properties of Cinnamaldehyde Schiff Bases.* **Neetu Singh**, Surender Singh Yadav
26. *Insights From 575 Scientific Literature Articles on SARS-CoV-2 Molecular Docking and Virtual Screening.* **Paul Andrei Negru**, Denisa Claudia Miculas, Tapan Behl, Alexa Florina Bungau, Ruxandra-Cristina Marin, Simona Gabriela Bungau

27. *Surface-Functionalized Membranes for Biomedical Applications*. **Madalina Oprea**, Stefan Ioan Voicu, Andreea Madalina Pandele
28. *Supermacroporous Cryogels as Promising Materials for Antibiotics Retention*. **Marinela-Victoria Dumitru**, Andreea Miron, Maria Ines Da Cruz Roque, Horia Iovu, Ana-Lorena Neagu (Ciurlica), Anamaria Zaharia, Ana Mihaela Gavrilă, Anita-Laura Chiriac, Tanta-Verona Iordache
29. *In Vitro Evaluation of the Anti-Alzheimer's Effects of Donepezil-Loaded Poly(lactic-co-glycolic acid) Nanoparticle Embedded Sodium Alginate/Polyethylene Glycol Scaffolds Produced by 3D Printer*. **Ilke Kabaoglu**, Ece Guler, Humeyra Betul Yekeler, Muhammet Emin Cam
30. *Towards Smart SARS-CoV-2 Detection Using a Plasmonic Sensor*. **Iulia Antohe**, Bianca Solomonea, Gabriel Socol
31. *Ara H1 Peanut Allergen Detection Using an Optical Fiber Based Sensor*. **Iulia Antohe**
32. *Cerium Oxide as an Alternative for Antimicrobial Treatment*. **Cezara-Marina Bolocan**, Ecaterina Andronescu
33. *Green Synthesis of Copper Oxide Nanoparticles using Aspalathus linearis Plant Extract for Photocatalytic Environmental Remediation*. **Abubakar Dantani Meli**, Che Azurahaman Che Abdullah
34. *"Green" Polyols Based on Recycled Polymers and Renewable Feedstock for Various Industrial and Biomedical Applications*. **Sorin-Viorel Dolana**, Anamaria Zaharia, Tanța-Verona Iordache, Andrei Sârbu, Anton Ficai

12:00-13:00 – LUNCH BREAK

13:00 - 15:30 – SESSION III. ADVANCED TECHNIQUES IN MATERIAL SCIENCE

Chairs – Jorg OPITZ and Ioana DEMETRESCU

- 13:00-13:30 – *Nanoscale Features: From Pure Carbon to Carbohydrates*. **Serguei V. Savilov**
- 13:30-13:45 – *A Combined Approach in Understanding the Potential Use of High Entropy Alloys (HEAs) in Dentistry*. **Radu Nartita**, Mihai Andrei, Anisoara Cimpean, Daniela Ionita, Andreea Cristiana Didilescu, Ioana Demetrescu
- 13:45-14:00 – *Predictive Energy Efficient & Secure Routing Approach in Sensor Ad-hoc Cognitive Network*. **Vijay Mishra**, Vaseem Naiyer, Bandi Nageshwar Rao
- 14:00-14:15 – *Gd-SiO₂ Nanoparticles as New Contrast Agents for MRI and PCCT*. **Zukhro Zoirova**, Evgeniya Suslova, Denis Shashurin, Olga Pavlova, Vladislav Rozhkov, Serguei Savilov, Georgy Chelkov
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- 14:15-14:30 – *Salicylic Acid-Loaded Gelatin Methacryloyl Microneedles as a Potential Drug Delivery System in Plants Diseases.* **Ayse Gulcan Ipek**, Huseyin Berkay Ozarici, Ugur Sayin, Oguzhan Gunduz, Songul Ulag
- 14:30-14:45 – *Production of Drug-Loaded Hydrogel-Based Microneedles for the Treatment of Epilepsy and Investigation of Controlled Release of Drugs from Microneedles.* **Berrak Bulut**, Songul Ulag, Rezzan Gulhan, Oguzhan Gunduz
- 14:45-15:00 – *Comparison of Cellulose Nanofibers Synthesized from Three Parts of Kenaf Biomass.* **Virginia Ghita Firsty**, Soo-Jeong Shin, Jin Hyung Lee
- 15:00-15:15 – *Continuing Technology of Extraction Silica for Inorganic Materials from Biomass By-Products.* **Ji Yeon Park**, Yang Mo Gu, Byoung In Sang, Jin Hyung Lee
- 15:15-15:30 - *Effect of Se/(Sn+Zn+Sn) Ratio on the Properties of Electrodeposited Cu₂ZnSnSe₄ Thin Films.* **R. El Otmani**, O. El Khouja, A. El Manouni, Aurelian Catalin Galca, A. Almagoussi

13:00 - 15:20 – SESSION IV. MATERIALS FOR ADVANCED APPLICATIONS (II)

Chairs – Jin Hyung LEE and Madalina ALBU-KAYA

- 13:00-13:20 – *A One-Pot Universal Approach to Fabricate Lubricant-Infused Slippery Surfaces on Solid Substrates.* **Alexander B. Tesler**, Lucia H. Prado, Marat M. Khusniyarov, Ingo Thievensen, Anca Mazare, Lena Fischer, Sannakaisa Virtanen, Wolfgang H. Goldmann, Patrik Schmuki
- 13:20-13:35 – *Mechanical Effect of Molarity of Sodium Hydroxide on Fly Ash Based Geopolymer Filler in Recycled High-Density Polyethylene (rHDPE) for 3D Printed Filament.* **Mohammad Firdaus Abu Hashim**, Meor Ahmad Faris Meor Ahmad Tajudin, Mohd Mustafa Al Bakri Abdullah, Tan Soo Jin, Yusrina Mat Daud, Mohamad Syahmie Mohd Rasidi, Muhammad Faheem Mohd Tahir
- 13:35-13:50 – *Characterization of Oxides Grown on Uncoated and CrNx Coated 310 H Stainless Steel After Exposure to Supercritical Water Environment.* **Aurelia Elena Tudose**, Ioana Demetrescu, Florentina Golgovici, Manuela Fulger, Cristina Surdu-Bob4, Alexandru Anghel, Oana Brîncoveanu, Cosmin Romanițan
- 13:50-14:05 – *The Synthesis of Nanocomposite with a Core-Shell Morphology Made of Graphene Nanoflakes and Lanthanum Nanoparticles.* **Aleksei P. Kozlov**, Evgeniya V. Suslova, Denis A. Shashurin, Georgy A. Chelkov, Serguei V. Savilov
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- 14:05-14:20 – *Applications of Nanotechnology in Phytoremediation of Heavy Metal-Contaminated Soils: A Review of Current Developments and Future Prospects.* **Hamza Badamasi**
- 14:20-14:35 – *Dielectric and Electrical Properties of Melt-Extruded Polypropylene Carbon Nanofiber Composites.* **Z. Samir**, A. J. Paleo, N. Aribou, Y. Nioua, M. S. Martins, M. F. Cerqueira, J. Agostinho Moreira, M. E. Achour
- 14:35-14:50 – *Electrical Conductivity Modeling of Carbon Reinforced Polymer Composites Using an Interphase Approach.* **Najoia Aribou**, Yassine Nioua, Zineb Samir, Mohammed E. Achour
- 14:50-15:05 – *Colloidal Tweezers Using Magnetic Colloidal Polymers.* **Joan J. Cerdà**
- 15:05-15:20 – *Injectable Hydrogel Consisting of Resveratrol-Loaded Nanoparticles and Travoprost for Neuroprotective Glaucoma Treatment.* **Amira Khalil**, Emira Kalifa, Ola Ramazan

15:30-16:00 – BREAK

16:00 - 18:20 – SESSION V. BIOMATERIALS FOR ANTIMICROBIAL THERAPIES

Chairs – Serguei SAVILOV and Carmen CHIFIRIUC

- 16:00-16:20 – *Synthesis of Metal Nanoparticles with Plant Extract Loaded with Niosomes for Potential Anti Skin Bacterial Psoriasis.* **Che Azurahaman Che Abdullah**, Yuki Shirosaki, Rathi Devi Nair, Ashreen Norman
- 16:20-16:35 – *Design and Development of Hybrid Hemodialysis Membrane Containing Graphene Oxide and Polysulfone.* **Elif Yildiz Küçüktepe**, Cem Bülent Ustundag
- 16:35-16:50 – *Enrichment of Antioxidant Properties of Chitosan-Fish Gelatin Edible Films by Incorporating Procyanidin.* **Udana Eranda**
- 16:50-17:05 – *Antibiotic-Loaded PLA Nanofibers for Treatment of Skin Infections.* **Nasma Anjrini**, Songul Ulag, Oguzhan Gunduz
- 17:05-17:20 – *Green Synthesis of Copper Based Particles Using Ocimum Sanctum Leaf Extract and its Synergistic Antibacterial Activity.* **Surendra Prakash Gupta**, Shweta Agarwal, Ankur Bhardwaj, Mohit Kumar, Riya Soni
- 17:20-17:35 – *Effect of Silver on Novel Biodegradable Zinc-Copper Alloys for Ureteral Stent.* **Sercan Basit**, Rinat Islamgaliev, Yasemin Yilmazer, Elif Damla Arisan, Burak Dikici, Hakan Yilmazer

17:35-17:50 – *Silver-Coated Magnetite Microspheres for Targeted Antimicrobial Properties.*

Adrian Moraru, Cristina Chircov, Alexandra Cătălina Bîrcă, Cornelia-Ioana Ilie, Vladimir Lucian Ene

17:50-18:05 – *Ciprofloxacin Loaded GelMA Scaffold as a Therapeutic for Joint Infections.* **Hilal**

Yilmaz, Tuba Bedir, Sevda Gursoy, Elif Kaya, Gulgun Bosgelmez Tinaz, Oguzhan Gunduz, Cem Bulent Ustundag

18:05-18:20 – *Development of Electrospun Nanofibers Containing Gentamicin and*

Cinnamaldehyde for Treating Corneal Infections. **Tufan Arslan Tut**, Sumeyye Cesur, Elif Ilhan, Ewa Kijeńska-Gawrońska, Oguzhan Gunduz

16:00 - 18:20 – SESSION VI. MATERIALS FOR ADVANCED APPLICATIONS (III)

Chairs – Joan CERDA and Andreea-Teodora IACOB

16:00-16:20 – *Functional and Novel Perovskite Materials for Biomedical and Energy Harvesting Applications.* **Muhammad Salman Habib**

16:20-16:35 – *Heavy Metal Removal from Contaminated Soils by Phytoremediation.* **Raluca-Maria**

Țâbuleac, Camelia Smaranda Bețianu, Maria Gavrilescu

16:35-16:50 – *Influence of Silica Nanoparticles on Thermal Properties of Wood.* **Diana Floriana**

Talau, Ovidiu Oprea, Anton Ficai

16:50-17:05 – *Identification of the Origin of Essential Oils Using Principal Component Analysis.*

Bogdan Purcăreanu, Veronica Drumea, Dan Eduard Mihaiescu, Alina Moroșan, Laura Olariu, Anton Ficai

17:05-17:20 – *Tolerance of White Mustard (*Sinapis Alba L.*) to the Toxicity of Co(II), Cu(II), Ni(II) and Zn(II) As Soil Pollutants.* **Petronela Cozma**, Mariana Minuț, Mihaela Roșca,

Raluca-Maria Hlihor, Maria Paiu, Ionela-Cătălina Vasilachi, Diana-Elena Ungureanu-Comăniță, Maria Gavrilescu

17:20-17:35 – *Inula helenium Extract-Loaded Nanofibrous Patches for the Treatment of Cancer.*

Rabia Betul Sulutas, Sumeyye Cesur, Serap Ayaz-Seyhan, Dilek Bilgic-Alkaya, Oğuzhan Gündüz

17:35-17:50 – *Production of PVA/HA Dental Membrane in Nanofiber Structure Containing Ag+*

Nanoparticles. **Seymanur Berat Yeni**, Hande Yaren Kahraman, Ceren Keskin, Iremnaz Bandırma

17:50-18:05 – *3D Printing of Scaffolds for Bone Tissue Engineering Based on Bacterial Hydroxyapatite*. **Sabere Nouri**, Songul Ulag, Giti Emtiazi, Ayse Ceren, Oguzhan Gunduz

18:05-18:20 – *Drug-Loaded Tumor Dressing Design With 3D Printer for Controlled Release Systems*. **Ayşe Betül Bingöl**

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9:00 - 11:50 – SESSION VII. BIOMATERIALS FOR TISSUE ENGINEERING AND REGENERATION

Chairs – Oguzhan GUNDUZ and Alexandru-Mihai GRUMEZESCU

9:00-9:20 – *Silver and Gold Nanoparticles in Biomedical Applications*. **Fernanda Pilaquina**, Jeroni Morey, María de las Nieves Piña

9:20-9:35 – *GELMA-Sodium Alginate Based Artificial Cornea*. **Buket Hazal Ağyüz**, Doğa İrem Aktaş, Tuba Bedir, Cem Bulent Ustundag

9:35-9:50 – *Production of Essential Oil Coated Polycaprolactone Scaffold with Antibacterial Properties*. **İrem Tuba Arslan**, Faik Nuzhet Oktar, Oguzhan Gunduz, Songul Ulag

9:50-10:05 – *From Theory to Practice: Synthesizing Bioglass for Bone Tissue Engineering*. **Andreea-Luiza Mîrț**, Anton Ficai, Gabriel Vasilievici

10:05-10:20 – *3D Printed Scaffolds Based on Biopolymers-Calcium Phosphates and Magnetic Nanoparticles for Bone Tissue Engineering*. Iustina Botezatu, Isabella Nacu, **Florina Daniela Cojocaru**, Vera Balan, Liliana Verestiuc

10:20-10:35 – *Development and Characterization of 3D-Printed Bioactive Glass-Doped Scaffolds*. **Yigit Turan**, Aleyna Keramet Savur, Songul Ulag, Alireza Valanezhad, Oguzhan Gunduz

10:35-10:50 – *Design and Development of a Nanofiber-Based Scaffold with Antimicrobial Properties for the Repair of Damaged Tissue*. **Mohammad Moghaddasi**, Muhammed Mustafa Mert Özdemir, Hüseyin Murat Özadenc, Ali Torabkhani, Cem Bülent Üstündağ

10:50-11:05 – *Eco-Friendly Scaffold Design Made from Eggshell PCL/Nano-Sized Strontium-Substituted Hydroxyapatite Composite for the Treatment of Bone Fractures*. Ayse Naz Koc, **İpek Oktay**, Cem Bulent Ustundag

11:05-11:20 – *Fabrication and Characterization of Polylactic Acid/Hyaluronic Acid/Collagen Nanofibers for Tendon Tissue Engineering.* **Elif Nur Yildiz**, Zekiye Akdag, Ali Sahin, Oguzhan Gunduz, Songul Ulag

11:20-11:35 – *Fabrication of Interpenetrating Network Hydrogel Scaffold Conjugated with Nanoparticles by Extrusion Type Three-Dimensional Printing.* **Nidanur Kaçar**, Hasan Sadıkoğlu, Hale Berber, Hakan Yılmaz

11:35-11:50 – *Cartilage Tissue Repair with Bacterial Cellulose.* **Beyza Topçu**, Elif İlhan, Orhun Pınar, Dilek Kazan, Oğuzhan Gündüz

9:00 - 11:50 – SESSION VIII. NATURAL BIOACTIVE COMPOUNDS

Chairs – Ion NEDA and Victor FRUTH

9:00-9:20 – *Mycotoxin Patulin: A Natural Compound of Comprehensive Review of Interest.* **Rupak Kumar**

9:20-9:35 – *New Methods of Cultivating Cyanobacteria with Nostoc Halophilum Hansg. With Antibacterial Effect.* **Alina Trofim**, Roman Rusnac, Andrei Ciursin

9:35-9:50 – *Production of Nanofiber for Combination with Anticancer Tragopon Porrifolius L. Naringenin.* **Ezginur Yeşil**, Serap Ayaz Seyhan, Dilek Bilgiç Alkaya, Sümeyye Cesur, Oğuzhan Gündüz

9:50-10:05 – *Phytochemistry, Pharmacology, Ethnobotanical and Chemotype of Bioactivity of Abelmoschus: A Review.* **Jemkur Maurice**, Amos Mamman, Joy Yohana Ishaya

10:05-10:20 – *Glucose Level in Alloxan Diabetes on the Background of the Administration of Extracts from Cyanobacteria Nostoc Halophilum Hansg. – As a Natural Nutritional Supplement.* **Alina Trofim**, Iurie Bacalov, Oleg Țurcanu

10:20-10:35 – *Development and In-Vivo Evaluation of Niosomal Gel Containing Loxapine Succinate.* **Rama Shukla**, Gaurav Tiwari, Neeraj Sharma

10:35-10:50 – *Evaluation of Gallic Acid and Quercetin-Loaded Mesoporous Silica Nanoparticles for the Treatment of Colorectal Cancer: A Novel Approach.* **Rucsandra-Cristina Dumitrescu**, Iuliana Samoilă, Ludmila Motelica, Cristina Chircov, Roxana Doina Trusca, Vasile Adrian Surdu, Denisa Ficai, Ovidiu Oprea Cristian, Anton Ficai, Sorina Dinescu

10:50-11:05 – *QbD Based Curcumin Loaded Nanostructured Lipid Carrier for the Management of Ocular Disorder Diabetic Retinopathy.* **Kamini Sharma**, Manish Kumar, Abhishek Mangla

11:05-11:20 – *Production and Characterization of a Dual Drug Delivery System of Memantine and Naringenin by Electrospinning Method.* **Ayşem Birinci**, Dilek Bilgiç Alkaya, Serap Ayaz Seyhan, Sümeyye Cesur, Oğuzhan Gündüz

11:20-11:35 – *Ibuprofen and Centaury Oil Loaded Foam Wound Dressing Production for Burn Injuries.* **İrem İlayda Kılıç**

11:35-11:50 – *Magnetite-Enhanced Polysulfone Membranes Loaded with Resveratrol for the Treatment of Peripheral Nerve Injury.* **Gabriela Daniliuc**, Alexandra-Elena Dobranici, Ludmila Motelica, Roxana Doina Truşcă, Denisa Ficai, Ovidiu Cristian Oprea, Anton Ficai, Sorina Dinescu

11:50-13:00 – LUNCH BREAK

13:00-14:00 – POSTER SESSION (II)

Chairs – Cem Bulent USTUNDAG and Radu Claudiu FIERĂSCU

1. *Potential Application and Upcycling Process of Thermoset Polyurethane Based Automotive Wastes Combined with TPU via Electrospinning Method in Automotive Industry.* **Ethem Gokhan Ozcelik**, Furkan Kasap, Cem Yigit
2. *In Situ Monitoring of the Materials Degradation in Concrete-Based Structures by Means of Portable Raman Spectroscopy.* **Maria Teresa Caccamo**, Roberto Caruso, Guerino Sarullo, Giuseppe Lupò, Giuseppe Spinella, Alessandro Boncaldo, Salvatore Magazù, Domenico Lombardo
3. *Surfactant Assisted Dispersion of Carbon Nanotubes into Cement Mortars for Structural Monitoring Applications.* Roberto Caruso, Guerino Sarullo, Giuseppe Lupò, Giuseppe Spinella, Maria Teresa Caccamo, **Alessandro Boncaldo**, Salvatore Magazù, Domenico Lombardo
4. *Carbon Quantum Dots-Modified Electrodes For D-Fructose Detection.* **Ştefania-Diana Boldeanu**, Andreea-Maria Dinu, Alexandra Constantinescu, Cristian Pîrvu
5. *Motion Capacities of Exosomes.* **İsrafil Kucuk, Esra Mutlu**
6. *Enhanced Osteogenic Differentiation of Human Adult Mesenchymal Stem Cells Cultured on Plate-Like Hydroxyapatite Coatings.* **Vasile Pruna**, Daniela-Madalina Ghetu, Diana Vranceanu, Cosmin Cotrut, Alina Vladescu (Dragomir), Irina Titorencu

7. *ZnO Assisted Photocatalytic Removal of a Pharmaceutical Pollutant: Preliminary Evaluation of the Toxicity of Treated Solutions.* **Maria Paiu**, Lidia Favier, Doina Lutic, Raluca-Maria Hlihor, Maria Gavrilescu
8. *Studies on the Behavior and Phytoremediation Potential of Rapeseed (Brassica Napus L.) Growing on Soil Polluted with Cadmium Ions.* **Mariana Minuț**, Mihaela Roșca, Petronela Cozma, Mariana Diaconu, Vasile Stoleru, Maria Gavrilescu
9. *Potential Role of Green Iron Oxide Nanoparticles in Diagnosing and Treating Neurodegenerative Diseases.* **Mohamed Abdelmonem**, Emmellie Laura Albert, Norazalina Saad, Che Azurahanim Che Abdullah
10. *Coronary Stents – From Past to Future.* **Teodor Băjeu**, Ecaterina Andronescu
11. *Phytoniosome Antidiabetic Nanoformulations as Promising Paradigm for Effective Therapy.* **Devi-Nair Gunasegavan Rathi**, Norhaizan Mohd Esa, Che Azurahanim Che Abdullah
12. *Force Field Comparison for In Silico Analysis of Gene Carrier.* **Razvan Puf**, Tudor Vasiliu, Dragos Peptanariu, Razvan Ghiarasim, Mariana Pinteala, Aatto Laaksonen
13. *Decellularized Amniotic Membrane: An Innovative Solution for Tissue Regeneration and Ulcer Therapy.* **Viorica Mihaluța**, Alina Stoian, Olga Ignatova, Grigore Verega, Viorel Nacu
14. *Synthesis and characterization of magnetic bioglass nanostructure.* **Marian Rașcov**, Ecaterina Andronescu, Anton Ficai, Ovidiu Cristian Oprea, Otilia-Ruxandra Vasile
15. *In-Vitro Antioxidant and Antibacterial Activity of Pistacia Lentiscus L Aqueous Extract Mediated Bioactive Silver Nanoparticles.* **Yasmina Khane**, Sofiane Khane, Djaber Aouf, Fares Fenniche
16. *Preparation and Characterization of Composite Bone Substitutes.* **Alina Florentina Vladu**, Ludmila Motelica, Roxana Trusca, Florin Iordache Anton Ficai
17. *3D-Printed Wound Dressings.* **Daniela Alina Ionita**, Ecaterina Andronescu, Ionela Andreea Neacsu, Vasile Adrian Surdu, Alexandru Mihai Grumezescu
18. *Kombucha – Tradition Turned into Science.* **Ionuț-Marian Catangiu**, Cristina-Alexandra Diaconu, Mihai Pîrlogea, Călin-Victor Ungureanu, Marina Ionela Ilie, Andreea-Letiția Arsene

14:00-14:30 – CLOSING CEREMONY

Chair: Ecaterina ANDRONESCU