



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:

- | | |
|--------------------------------|---------------|
| 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. Mohd Mustafa Al Bakri ABDULLAH, UniMAP, WIIPA & MyRIS (Malaysia)
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Prof. Ze Xiang SHEN, NTU (Singapore)

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Prof. Maria GAVRILESCU

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Dr. Eng. Angela SPOIALĂ – Technical Staff

PhD Student, Eng. Cornelia-Ioana ILIE – Technical Staff

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>Nanoscale Features: From Pure Carbon to Carbohydrates.</i> Serguei V. Savilov</p> <p>12:15-12:45 – <i>Fractionation of Rice Husk for Producing Value Added Materials.</i> Jin Hyung Lee</p> <p>12:45-13:00 – 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>Photocatalytic Thin Films for Microbial Disinfection at the Solidair Interface.</i> Sami Rtimi</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>16:00-18:35 – Session II. Materials for Advanced Applications (I) Chairs: Jorg OPITZ and Maria GAVRILESCU</p> <p>Join here</p>

Thursday, 29 June 2023

<p>09:00-12:00 – Poster Session (I) Chairs: Pietro CALANDRA, Ridha DJELLABI, Irina FIERĂSCU, Bogdan Ștefan VASILE Join here</p>	
<p>12:00-13:00 – Lunch Break</p>	
<p>13:00-15:35 – Session III. Advanced Techniques in Material Science Chairs: Sami RTIMI and Ioana DEMETRESCU Join here</p>	<p>13:00-15:35 – Session IV. Materials for Advanced Applications (II) Chairs: Jin Hyung LEE and Madalina ALBU-KAYA Join here</p>
<p>15:35-16:00 – Coffee Break</p>	
<p>16:00-18:25 – Session V. Biomaterials for Antimicrobial Therapies Chairs: Joan CERDA and Carmen CHIFIRIUC Join here</p>	<p>16:00-18:25 – Session VI. Materials for Advanced Applications (III) Chairs: Serguei SAVILOV and Maria TOMOAIACOTISEL Join here</p>

Friday, 30 June 2023

<p>9:00-11:50 – Session VII. Biomaterials for Tissue Engineering and Regeneration Chairs: Oguzhan GUNDUZ and Denisa FICAI Join here</p>	<p>9:00-11:50 – Session VIII. Natural Bioactive Compounds Chairs: Ion NEDA and Join here</p>
<p>11:50-13:00 – Lunch Break</p>	
<p>13:00-14:00 – Poster Session (II) Chairs Cem Bulent USTUNDAG and Radu Claudiu FIERĂSCU Join here</p>	
<p>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**

11:45-12:15 – *Nanoscale Features: From Pure Carbon to Carbohydrates.* **Serguei V. Savilov**

12:15-12:45 – *Fractionation of Rice Husk for Producing Value Added Materials.* **Jin Hyung Lee**

12:45-13:00 – 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 – *Photocatalytic Thin Films for Microbial Disinfection at the Solidair Interface.* **Sami Rtimi**

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 – *Development of Biofunctional, Double Layer Hydrogel and Nanofiber Dressing for Cancer Treatment.* **Merve Nur Kaya**

17:20-17:35 – *The Role Of 3D Printing Technologies in the Personalized Medicine of Breast Cancer Patients.* **Eugeniu Valic**, Vladimir Valic, Ion Mereuță

17:35-17:50 – *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

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.* **Hoda Cheikhkhamis**, Zeynep Ramazan, Hibe Hariri, Cem Bülent Üstündağ

18:20-18:35 – *Drug-Loaded Tumor Dressing Design With 3D Printer for Controlled Release Systems.* **Ayşe Betül Bingöl**

16:00 - 18:35 – SESSION II. MATERIALS FOR ADVANCED APPLICATIONS (I)

Chairs – Jorg OPITZ 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 – *Ethosuximide-Reinforced Bismuth Ferrite Magnetic Nanoparticles as a Potential Drug Delivery System for Treatment of Epilepsy Disease.* **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 – *MgB₂ Powder Interaction with Different Biological Media.* **Any Cristina Sergentu**
- 18:05-18:20 – *Production and Characterization of Drug-Loaded Wound Dressings by Electrospinning Method.* **Eray Altan**, 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

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
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 Fikai, Anton Fikai, Ecaterina Andronescu
8. *Kombucha – Tradition Turned into Science.* **Ionuț-Marian Catangiu**, Cristina-Alexandra Diaconu, Mihai Pîrlogea, Călin-Victor Ungureanu, Marina Ionela Ilie, Andreea-Letiția Arsene
9. *Green Synthesis of Copper Oxide/Reduced Graphene Oxide Nanocatalyst and its Application in Water Remediation.* **Zirwa Fayyaz**, Muhammad Akhyar Farrukh
10. *Biostimulatory Effect of Some Micro-Algae on the Growth and Development of Tomato Plants.* **Eugeniu Ciobanu**
11. *Detection of Ammonia Using Polymer Based Chemiresistive Sensors.* **Ana-Maria Popa**, Andrei Stochioiu, Luiza-Izabela Toderășcu, Vlad-Andrei Antohe, Gabriel Socol, Iulia Antohe
12. *Nonstationary Behaviour of the Upconversion Processes for the Y₂O₃ Ceramic Doped with Er³⁺ Yb³⁺ Ions Pair.* **Liviu Dudas**
13. *Polymeric Membranes Containing Nanoparticles for Water and Wastewater Treatment.* **Simona Căprărescu**, Anita-Laura Chiriac
14. *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
15. *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
16. *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 Fikai, Anton Fikai, Ovidiu-Cristian Oprea, Mara-Lia Dițu
17. *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

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18. *Comparative Study on The Biodegradation of Plastic Bags and Biodegradable Bags.* **Ionuț Cristian Mărgărit**
19. *Preparation and Characterization of Composite Bone Substitutes.* **Alina Florentina Vladu**, Ludmila Motelica, Roxana Trusca, Florin Iordache Anton Fikai
20. *Polyethylene/ZnO Nanoparticles Composite – A Novel Antimicrobial Packaging Film.* **Ludmila Motelica**, Ovidiu Oprea, Maria Sonmez, Maria Daniela Stelescu, Denisa Fikai, Anton Fikai, Roxana-Doina Trușcă
21. *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 Fikai
22. *Synthesis and Characterization of Fatty Acid-Modified Chitosan-Based Nanoparticles with Potential Application in Hydrophobic Drug Delivery.* **Rosina-Elena Sabău**, Cătălina Dungu, Vera Bălan
23. *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
24. *Recent Approaches Towards Silicate Biomaterials Inspired by Nature.* **Stefania Chiriac**, Laura-Madalina Cursaru, Alexandru Cristian Matei, Mihai Ghita, Roxana Mioara Piticescu
25. *Black Phosphorus-Based Scaffolds for Bone Therapy.* **Andra-Maria Sîrmon**, Ecaterina Andronescu, Ionela Andreea Neacșu, Vasile-Adrian Surdu, Alexandru Mihai Grumezescu
26. *3D-Printed Wound Dressings.* **Daniela Alina Ionita**, Ecaterina Andronescu, Ionela Andreea Neacsu, Vasile Adrian Surdu, Alexandru Mihai Grumezescu
27. *Novel Developments in the Synthesis of Natural Hydroxyapatite-Based Materials for Bone Tissue Engineering.* **Diana-Elena Radulescu**, Ecaterina Andronescu, Alexandru-Mihai Grumezescu, Bogdan Stefan Vasile
28. *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
29. *Synthesis and Antimicrobial Properties of Cinnamaldehyde Schiff Bases.* **Neetu Singh**, Surender Singh Yadav

30. *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
31. *Surface-Functionalized Membranes for Biomedical Applications*. **Madalina Oprea**, Stefan Ioan Voicu, Andreea Madalina Pandeale
32. *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
33. *In Vitro Evaluation of the Anti-Alzheimer's Effects of Donepezil-Loaded Poly(lactic-co-glycolic acid) Nanoparticle Embedded Sodium Alginate/Polyethylene Glycol Transdermal Patches Produced by 3D Printer*. **Ike Kabaoglu**, Ece Guler, Humeyra Betul Yekeler, Muhammet Emin Cam
34. *Towards Smart SARS-CoV-2 Detection Using a Plasmonic Sensor*. **Iulia Antohe**, Bianca Solomonea, Gabriel Socol
35. *Ara H1 Peanut Allergen Detection Using an Optical Fiber Based Sensor*. **Iulia Antohe**
36. *Cerium Oxide as an Alternative for Antimicrobial Treatment*. **Cezara-Marina Bolocan**, Ecaterina Andronescu

12:00-13:00 – LUNCH BREAK

13:00 - 15:35 – SESSION III. ADVANCED TECHNIQUES IN MATERIAL SCIENCE

Chairs – Sami RTIMI and Ioana DEMETRESCU

- 13:00-13:20 – *X-ray Photoelectron Spectroscopy (XPS) – Extracting Surface Analysis Data from Basics to Novel Applications*. **Anca Mazare**
- 13:20-13:35 – *What is the Potential Use of High Entropy Alloys (Heas) in Dentistry?* **Radu Nartita**, Mihai Andrei, Daniela Ionita, Andreea Cristiana Didilescu, Ioana Demetrescu
- 13:35-13:50 – *Predictive Energy Efficient & Secure Routing Approach in Sensor Ad-hoc Cognitive Network*. **Vijay Mishra**, Vaseem Naiyer, Bandi Nageshwar Rao
- 13:50-14:05 – *Application of New Contract Agents for MRI and CT*. **Zukhro Zoirova**, Evgeniya Suslova, Denis Shashurin, Olga Pavlova, Vladislav Rozhkov, Serguei Savilov, Georgy Chelkov
- 14:05-14:20 – *Green Synthesis of Copper Oxide/ Reduced Graphene Oxide Nanocatalyst and its Applications*. **Zirwa Fayyaz**

- 14:20-14:35 – *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
- 14:35-14:50 – *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
- 14:50-15:05 – *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
- 15:05-15:20 – *Comparison Study: Cellulose Nanofiber of Different Part Kenaf Biomass by Carboxymethylation Pretreatment.* **Virginia Ghita Firsty**, Yang Mo Gu, Soo-Jeong Shin, Jin Hyung Lee
- 15:20-15:35 – *Continuing Technology of Extraction Silica for Inorganic Materials from Biomass By-Products: Function Improvement.* **Ji Yeon Park**, Yang Mo Gu, Byoung In Sang, Jin Hyung Lee

13:00 - 15:35 – 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 Brincoveanu, 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
- 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, and Mohammed E. Achour
- 14:50-15:05 – *Colloidal Tweezers Using Magnetic Colloidal Polymers.* **Joan J. Cerdà**, Josep Batle, Carles Bona-Casas, Joan Massó, Tomàs Sintès
- 15:05-15:20 – *Injectable Hydrogel Consisting of Resveratrol-Loaded Nanoparticles and Travoprost for Neuroprotective Glaucoma Treatment.* **Amira Khalil**, Emira Kalifa, Ola Ramazan
- 15:20-15:35 – *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

15:35-16:00 – BREAK

16:00 - 18:40 – SESSION V. BIOMATERIALS FOR ANTIMICROBIAL THERAPIES

Chairs – Joan CERDA and Carmen CHIFIRIUC

- 16:00-16:20 – *Synthesis of Metal Nanoparticles with Plant Extract Loaded with Niosomes for Potential Anti Skin Bacterial Psoriasis.* **Yuki Shirosaki**, Rathi Devi Nair, Ashreen Norman
- 16:20-16:40 – *Design and Development of Hybrid Hemodialysis Membrane Containing Graphene Oxide and Polysulfone.* **Elif Yildiz Küçüktepe**, Cem Bülent Ustundag
- 16:40-16:55 – *Biobased Nanotechnology in Food Packaging.* **Manat Chaijan**, Worawan Chaijan
- 16:55-17:10 – *Antibiotic Loaded PLA Nanofibers for Treatment of Skin Infections.* **Nasma Anjrini**, Songul Ulag, Oguzhan Gunduz

17:10-17:25 – *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

17:25-17:40 – *Antibacterial and Wound Healing PVA/PLA Double Layer Nanofiber Dressing Design.* **Alpay Köse**, Cem Bülent Üstündağ

17:40-17:55 – *Silver-Coated Magnetite Microspheres for Targeted Antimicrobial Properties.* **Adrian Moraru**, Cristina Chircov, Alexandra Cătălina Bîrcă, Cornelia-Ioana Ilie, Vladimir Lucian Ene

17:55-18:10 – *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

18:10-18:25 – *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 - 18:40 – SESSION VI. MATERIALS FOR ADVANCED APPLICATIONS (III)

Chairs – Serguei SAVILOV and Maria TOMOAI-COTISEL

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

16:20-16:40 – *Heavy Metal Removal from Contaminated Soils by Phytoremediation.* **Raluca-Maria Țâbuleac**, Camelia Smaranda Bețianu, Maria Gavrilăscu

16:40-16:55 – *Influence of Silica Nanoparticles on Thermal Properties of Wood.* **Diana Floriana Talau**, Anton Ficai

16:55-17:10 – *Identification of The Geographical Origin of Volatile Plant Oils Using Principal Component Analysis.* **Bogdan Purcareanu**, Anton Ficai, Dan Eduard Mihaiescu, Laura Olariu

17:10-17:25 – *Novel Zn Based Biodegradable Alloy for Ureteral Stents.* **Sercan Basit**, Hakan Yilmazer

17:25-17:40 – *Tolerance of White Mustard (*Sinapis Alba L.*) to Soil Polluted with Co(II), Cu(II), Ni(II) and Zn(II).* **Petronela Cozma**, Mariana Minuț, Mihaela Roșca, Raluca-Maria Hlihor, Maria Paiu, Ionela-Cătălina Vasilachi, Diana-Elena Ungureanu-Comăniță, Maria Gavrilăscu

17:40-17:55 – *Inula Helenium Loaded Nanofibers Mat for Medical Application.* **Rabia Betul Sulutas**, Sumeyye Cesur, Serap Ayaz-Seyhan, Dilek Bilgic-Alkaya, Oğuzhan Gündüz

17:55-18:10 – *Production of PVA/HA Dental Membrane in Nanofiber Structure Containing Ag+ Nanoparticles.* **Seymanur Berat Yeni**, Hande Yaren Kahraman, Ceren Keskin, Iremnaz Bandırma

18:10-18:25 – *3D Printing of Scaffolds for Bone Tissue Engineering Based on Bacterial Hydroxyapatite.* **Sabere Nouri**, Songul Ulag, Giti Emtiazi, Ayse Ceren, Oguzhan Gunduz

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

Chairs – Oguzhan GUNDUZ and Denisa FICAI

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-Collagen-based Artificial Cornea.* **Buket Hazal Ağyüz**, Doğa İrem Aktaş

9:35-9:50 – *Production of Essential Oil Coated Polycaprolactone Scaffold with Antibacterial Properties.* **İrem Tuba Arslan**, Oğuzhan Gündüz, Faik Nüzhet Oktar, Üyesi Songül Ulağ

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

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**, Songul Ulag, 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 – *Three-Dimensional Printing-Based Fabrication and Enhancement of Nerve Tissue Connectors Augmented with Nanoparticles.* **Nidanur Kaçar**, Hasan Sadıkoğlu, Hale Berber, Hakan Yilmazer

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 – TBD

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 Turcanu

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 – *Mesoporous Materials Loaded with Melissa Officinalis Extract.* **Gabriela Petrisor**, Ludmila Motelica, Denisa Ficai, Roxana Doina Trusca, Ovidiu Cristian Oprea, Andreea-Luiza Mirt, Gabriel Vasilievici, Justinian-Andrei Tomescu, Anca Daniela Raiciu, Cristina Manea, Anton Ficai

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 of Dual Drug Carrier System by Memantine and Naringenin with Anti-Alzheimer's Effects via Electrospun Nanofiber.* **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.* **Roberto Caruso**, Sarullo Guerino, Giuseppe Lupò, Giuseppe Spinella
3. *Surfactant assisted Dispersion of Carbon Nanotubes into Cement Mortars for Structural Monitoring Applications.* **Roberto Caruso**, Sarullo Guerino, Giuseppe Lupò, Giuseppe Spinella, 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.* **Israfil 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 of Rapeseed (Brassica Napus L.) Growing on Soil Polluted with Cadmium Ions.* **Mariana Minuț**, Mihaela Roșca, Petronela Cozma, Mariana Diaconu, Maria Gavrilescu
9. *Biogenic Synthesis of Iron Oxide Nanoparticles for Targeted Therapeutics in Neurodegenerative Disorders.* **Mohamed Abdelmonem**, Che Azurahamanim
10. *Coronary Stents – From Past to Future.* **Teodor Băjeu**, Ecaterina Andronescu
11. *Phytoniosome Antidiabetic Nanoformulations as Promising Paradigm for Effective Therapy.* **Che Azurahnaim 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 Fikai, 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

14:00-14:30 – CLOSING CEREMONY

Chair: Ecaterina ANDRONESCU