



The Academy of
Romanian Scientists



Accademia Tiberina già pontificia

CNMN

National Center of Micro and
Nanomaterials



National University of Science and
Technology Politehnica Bucharest

Virtual International Scientific Conference on

**“Applications of Chemistry in Nanosciences and
Biomaterials Engineering”
NanoBioMat 2024 – Summer Edition**

19-21 June 2024

Book of Abstracts
Applications of Chemistry in Nanosciences and
Biomaterials Engineering

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Program

The program will be published on the official webpage of AOSR on 12.06.2024, as well as in the TEAMS Class. The link for the TEAMS Class will be provided in due time, on or before 19.06.2024.

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: | 19.06.2024 |
| 2. Extended registration: | 07.06.2024 |
| 3. Abstract submission: | 09.06.2024 |
| 4. Acceptance Notification: | 11.06.2024 |
| 5. Final Program announcement: | 19.06.2024 |
| 6. Conference: | 19-21.06.2024 |

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 09.06.2024. The abstract should be 150 – 300 words and it must contain the title, authors, and their full affiliation.

Scientific Committee

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Program (GMT +2, Bucharest time)

Wednesday, 19 June 2024		
08:00 - 08:30		
08:30 - 09:00		
09:00 - 09:30		
09:30 - 10:00	Registration	
10:00 - 10:15	OPENING CEREMONY Chair: Ecaterina ANDRONESCU link	
10:15 - 10:30	SESSION I. Circular Economy Chairs: Fatima MONTEMOR; Anton FICAI link <i>Materials for high power electrochemical energy storage: from fit for the purpose design to creative reuse. Fátima MONTEMOR</i> <i>The integration of circular economy principles into nanosciences and biomaterials engineering. Walter R. STAHEL</i> <i>Circular Economy: from education to innovative research on plastic waste. Elena-Cristina RADA</i> <i>New sustainable processes for recycling REEs from End-of-Life magnets. Zara CHERKEZOVA-ZHELEVA, Radu-Robert PITICESCU, Marian BURADA, Sabina Andreea FIRONDA, Daniela PANEVA, Anca Elena SOBETKII, Olivier JAY</i> <i>Solar to steam generation for environmental & energy application. Ridha DJELLABI</i>	
10:30 - 10:45		
10:45 - 11:00		
11:00 - 11:15		
11:15 - 11:30		
11:30 - 11:45		
11:45 - 12:00		
12:00 - 12:30		
12:30 - 13:00	Oral Presentations	
13:00 - 13:30	LUNCH BREAK	
13:30 - 14:00		
14:00 - 14:30	SESSION II. Materials, Technologies and Devices in the Context of Circular Economy Chairs: Walter R. STAHEL; Simina LAKATOS link <i>When Technological Innovations Converge: The Rise of 3D Printing, VR, and AI in Elevating Synthesis and Remote Collaboration. Stephen HILTON</i> <i>From electrically conductive MOFs to sustainable batteries. Mircea DINCA</i>	SESSION III. TISSUE ENGINEERING AND REGENERATIVE MEDICINE Chairs: Stephen HILTON; Ovidiu OPREA link
14:30 - 18:00		
15:00 - 15:30		
15:30 - 16:00		
16:00 - 16:30		
16:30 - 17:00		
17:00 - 17:30		

Thursday, 20 June 2024		
	SESSION IV. FOOD SAFETY AND NATURAL COMPOUNDS FOR HEALTH Chairs: Veronica LATTANZIO; Nastasia BELC link	SESSION V. MATERIALS FOR ANTI-CORROSIVE AND ENVIRONMENTAL APPLICATIONS Chairs: Domenico LOMBARDO; Maria GAVRILESCU link
10:00 - 10:30	<i>EU4Health grants. Maria VASILE</i>	
10:30 - 11:00	<i>The EU Food Safety Platform: which opportunities for Youngs acting for the future of Food Safety in EU? Veronica MT LATTANZIO, Nunzia M CITO, Antonio MORETTI, Nastasia BELC</i>	
11:00 - 11:30	Oral Presentations	Oral Presentations
11:30 - 12:00		
12:00 - 12:30		
12:30 - 13:00		
13:00 - 13:30		
13:30 - 14:00	LUNCH BREAK	
14:00 - 14:30	SESSION VI. MATERIALS WITH ANTIOXIDANT, ANTIMICROBIAL, AND ANTICANCER PROPERTIES (I) Chairs: Viorel NACU; Lenuta PROFIRE link	SESSION VII. ADVANCED MATERIAL FOR SPECIFIC APPLICATIONS Chairs: Ana ALCUDIA CRUZ; Ioana DEMETRESCU link
14:30 - 18:00		
15:00 - 15:30		
15:30 - 16:00		
16:00 - 16:30		
16:30 - 16:45		
16:45 - 18:00	Poster SESSION Chairs: Carlos MARQUES, Luigi CALABRESE, Denisa FICAI, Irina FIERASCU	

Friday, 21 June 2023		
10:00 - 10:30	SESSION VIII. MATERIALS WITH ANTIOXIDANT, ANTIMICROBIAL, AND ANTICANCER PROPERTIES (II) Chairs: Jörg OPITZ; Radu FIERASCU link	SESSION IX. NATURAL, GREEN AND BIOMIMETIC MATERIALS Chairs: Elena-Cristina RADA; Danuț-Ionel VĂIREANU link
10:30 - 11:00		
11:00 - 11:30		
11:30 - 12:00		
12:00 - 12:20	<i>Ultra-Slippery Wetting-Repellent Aerophilic Surfaces. Alexander B. Tesler, et al.</i>	
12:20 - 12:40	<i>Enhancing bioactivity of nanostructured TiO₂: interplay of morphology and surface chemistry. Anca Mazare</i>	
12:40 - 13:00	CLOSING CEREMONY Chair: Ecaterina ANDRONESCU	

Wednesday, 19 June 2024

09:30-10:00 – Registration

10:00-10:15 – OPENING CEREMONY - [link](#)

Chair: Ecaterina ANDRONESCU

Ecaterina ANDRONESCU – President of the Scientific Committee

Bogdan-Gruia IVAN - Minister of Research, Innovation and Digitization

Laszlo BORBELY - Head of the Sustainable Development Department, State Councilor

Tudor PRISECARU – President of the Senate of The National University of Science and Technology
POLITEHNICA Bucharest

10:15-13:10 –SESSION I. Circular Economy - [link](#)

Chairs: Fatima MONTEMOR; Anton FICAI

10:15-10:45 Materials for high power electrochemical energy storage: from fit for the purpose design to creative reuse. **Fátima MONTEMOR**

10:45-11:15 The integration of circular economy principles into nanosciences and biomaterials engineering. **Walter R STAHEL**

11:15-11:45 Circular Economy: from education to innovative research on plastic waste. **Elena-Cristina RADA**

11:45-12:05 New sustainable processes for recycling REEs from End-of-Life magnets. Zara CHERKEZOVA-ZHELEVA, **Radu-Robert PITICESCU**, Marian BURADA, Sabina Andreea FIRONDA, Daniela PANEVA, Anca Elena SOBETKII, Olivier JAY

12:05-12:25 Solar to steam generation for environmental & energy application. **Ridha DJELLABI**

12:25-12:40 Complex 3D printed architectures for skin tissue repair and regeneration. **Isabella Nacu**, Andrei Tunaru, Ioana Ilie, Loredana Elena Nita, Liliana Verestiuc

12:40-12:55 Unconventional synthesis of ZnO nanoparticles using a gliding arc discharge plasma reactor. **Bounedjar Nourelhouda**, Ferhat Mohammed Fouad, Toukal Linda, Anton Ficai

12:55-13:10 Investigation of the effect of maleic anhydride grafted polyethylene compatibilizing agent in industrial lime sludge waste filled HDPE composites. **Satadru Kashyap**

13:10-14:00 – LUNCH BREAK

14:00 - 17:15 – SESSION II. Materials, Technologies and Devices in the Context of Circular**Economy - [link](#)****Chairs: Walter R STAHEL; Simina LAKATOS**

- 14:00-14:15 The Role of 3D-Printing Technologies in Oncology - A Comprehensive Study Among Medical Students. **Eugeniu Valic**, Vladimir Valic, Daniela Ciobanu, Ion Mereuță, Grzegorz Bieledda
- 14:15-14:30 Some Aspects in the Evaluation of Biomaterials based on Collagen from the Umbilico-Placental Complex. **Jian Mariana**, Mostovei Andrei, Solomon Oleg, Motelica Ludmila, Oprea Ovidiu Cristian, Cobzac Vitalie, Nacu Ana - Maria, Anton Ficai, Nacu Viorel
- 14:30-14:45 TiO₂/Fe₂O₃ heterostructures for photocatalytic degradation of Reactive Yellow 176. **Maria Grapin**, Valentin Raditoiu, Alina Raditoiu and Florentina Monica Raduly
- 14:45-15:00 The influence of temperature on the structure and properties of TiZrTaAg high entropy alloy. **Radu Nartita**, Andrei Bogdan Stoian, Daniela Ionita, Ioana Demetrescu
- 15:00-15:15 New polymer-modified Ti-alloy with potential application as stent in coronary surgery. **Stefan Sandu**, Doina-Margareta Gordin, Denis Laillé, Sandrine Geffroy, Vera Balan, Liliana Verestiuc
- 15:15-15:30 Fire Reaction Performance of Nanosilica-Treated Wood: A Study of Various Fire Testing Methods. **Diana Floriana Talau**, Anton Ficai
- 15:30-15:45 3D-Printed Scaffolds for Osteoporotic Bone Restoration based on Poly-ε-Caprolactone and Strontium-Doped Hydroxyapatite. **Cosmin Iulian Codrea**, Daniel Lincu, Irina Atkinson, Alexa Maria Croitoru, Bogdan Stefan Vasile, Adrian Ionut, Nicoară, Vladimir Lucian Ene, Miruna Silvia Stan, and Anton Ficai
- 15:45-16:00 Synthesis and Development of Perovskite Materials for Advance Energy Generation. **Muhammad Salman Habib**, Muhammad Asif Rafiq
- 16:00-16:15 Development and characterization of MOF-silane composite coatings for adsorption heat pump application. **Muhtadi Idrees**, Antonio Fotia, Emanuela Mastronardo, Luigi Calabrese

16:15-16:45 When Technological Innovations Converge: The Rise of 3D Printing, VR, and AI in Elevating Synthesis and Remote Collaboration. **Stephen HILTON**

16:45-17:15 From electrically conductive MOFs to sustainable batteries. **Mircea DINCA**

14:00 - 16:00 – SESSION III. TISSUE ENGINEERING AND REGENERATIVE MEDICINE - [link](#)

Chairs: Stephen HILTON; Ovidiu OPREA

14:00-14:15 Potential application of PVA based electro spun nanofiber mates. **Karanjit Kapila**, Sushen Kirtania

14:15-14:30 YSZ-based scaffolds infiltration with nanohydroxiapatite and silver nanoparticles biopolymeric composites for bone regeneration applications. **Ernesto J. Delgado-Pujol**, Gemma Fargas, Victoria Axelra, Guillermo Martinez, Gemma Herranz, Belén Begines, Cristina Berges, Luis Llanes, Ana Alcudia, Yadir Torres

14:30-14:45 Novel biodegradable hydrogels for biomedical applications. **Guillermo Martínez Muñoz**, Ernesto Delgado-Pujol, Belén Begines Ruiz, David Casado Jurado, Ana Alcudia Cruz, Yadir Torres

14:45-15:00 Polymer Based Dental Membrane. **Hilal Gülsena Nur Akkuş**, Cem Bülent Üstündağ

15:00-15:15 Biocompatible and Conductive Cardiac Patches: Electrospun PCL-Reduced Graphene Oxide-Collagen-Gelatin Composites for Tissue Regeneration. **Israa F. Abdulazez**, Buşra Oktay, Ayşe Betül Bingöl, Cem Bülent Üstündağ

15:15-15:30 Decellularized algae as complex structures for skin tissue engineering. **Andreea Luca**, Maria Stella Pascal, Teodora Vlad, Florina Daniela Cojocar, Maria Butnaru, Liliana Vereştiuc

15:30-15:45 Fabrication and characterization of Hydroxyapatite/Polymethylmethacrylate based Nanocomposite for Biomedical Application. **Mariam Sohail Mansoor**, Aneela Anwar, Nayab Raza, Furqana Bibi

15:45-16:00 Advancements in injectable biocements: the role of gellan hydrogel in magnesium phosphate bone cement. **Maryia Khamenka**, Anna Ronowska, Aleksandra Mielewczyk-Gryń, Dawid Koziń; Justyna Kozłowska, Marcin Wekwejt

Thursday, 20 June 2024

10:00 - 13:00 – SESSION IV. Food Safety and Natural Compounds for Health - [link](#)

Chairs: Veronica MT LATTANZIO; Nastasia BELC

- 10:00-10:30 EU4Health grants. Maria VASILE
- 10:30-11:00 The EU Food Safety Platform: which opportunities for Youngs acting for the future of Food Safety in EU? Veronica MT LATTANZIO, Nunzia M CITO, Antonio MORETTI, Nastasia BELC
- 11:00-11:15 Biopolymer-Based Food Packaging: Techniques for Incorporating Functional Ingredients and Enhancing Food Quality. **Pir Mohammad Junaid**, Sadaf Zaidi
- 11:15-11:30 Catechols: A Never-Ending Story of Building Innovative Polymeric Materials. **Alin-Ionuț Alecu**, Ana-Maria Albu, Celina Maria Damian, Andra Mihaela Onaș, Cristina Stavarache, Roxana Trușcă
- 11:30-11:45 Synthesis and Characterization of Propolis Loaded Microspheres and Investigation of Health Effects. **Busra Sinan**, Elif Ilhan, Oguzhan Gunduz, Adviye Gulcin Sagdicoglu Celep
- 11:45-12:00 Analysis of oxycodone hydrochloride as an opioid analgesic. **Creangă Elena Christen**
- 12:00-12:15 New Medicine Design: Eye Drop Design Based in Medicinal Plants. **Melina Keivanzade**
- 12:15-12:30 Potential applications of cellulose-acetate based polymeric membranes. **Ananda Ram Barman**, Polash Protim Dutta, Karanjit Kapila
- 12:30-12:45 Curcumin and Licodine Hydrochloride USP Monohydrate-Loaded Dressing for Treatment of Moderate Burns. **Kardelen Gürbüz**, İlknur Daniş, Melike Atasoy, Ayşe Betül Bingöl, Büşra Oktay, Cem Bülent Üstündağ
- 12:45-13:00 Harnessing the Nature: Applications of Essential Oils in various fields. **Sunita Singh**, Avanish Chandra Sharma

11:00 - 13:00 – SESSION V. MATERIALS FOR ANTI-CORROSIVE AND ENVIRONMENTAL APPLICATIONS - [link](#)

Chairs: Luigi CALABRESE; Maria GAVRILESCU

- 11:00-11:15 Efficient removal of anionic dye and pharmaceutical drugs from wastewaters by copper-modified hemp fibers. **Gianluca Viscusi**, Elena Lamberti, Giuliana Gorrasi
- 11:15-11:30 Nanosensors: A Technological Breakthrough for Addressing Water Purification and Contamination. **Inmbisat Altaf**, Manzoor A Mir
- 11:30-11:45 Utilizing Cassia Occidentalis as a Natural Reducing and Stabilizing Agent for Titanium Oxide Nanoparticles in Photocatalytic Applications. **Abubakar Dantani Meli**, Mohamed Abdelmonem, Che Azurahaman Che Abdullah
- 11:45-12:00 Tailored Electrophoretic Coatings for Enhanced Corrosion Resistance of 316L Stainless Steel Implants using Bioactive Glasses. **Salwa El Baakili**, Abdelhabib Semlali, Hawraa Issa, Meriame Bricha, Khalil El Mabrouk
- 12:00-12:15 Novel Quinoline Derivatives as Effective Corrosion Inhibitors in NaCl Environments: Electrochemical and Surface Analyses. **Zakia Aribou**, Mohamed Rbaa, Mouhsin Galai, Mohamed Ebn Touhami
- 12:15-12:30 Anticorrosive power of Marrubium vulgare L from Morocco. **Sara Rached**, Amar Habsaoui, Khaoula Mzioud, Redouane Lachhab, Mouhsine Galai, Mohamed Ebn Touhami
- 12:30-12:45 Synthesis and Characterization of Iron Oxide Nanoparticles for Sustainable and Efficient Water Purification. **Nayab Raza**, Aneela Anwar, Mariam Sohail Mansoor, Furqana Bibi
- 12:45-13:00 Exploring Lantana camara essential oil as a green corrosion inhibitor for carbon steel in acidic environments. **Khaoula Mzioud**, Souad El Fartah, Amar Habsaoui, Sara Rached, Kharbouch Otmane, Ebn Touhami Mohamed

13:00-14:00 – LUNCH BREAK

14:00 - 16:45 – SESSION VI. MATERIALS WITH ANTIOXIDANT, ANTIMICROBIAL, AND ANTICANCER PROPERTIES (I) - [link](#)**Chairs: Viorel NACU; Lenuta PROFIRE**

- 14:00-14:15 Antimicrobial and biodegradable electrospun nanofiber composite for wound dressing. **Abdul Bari Yaqub**, Musa Ayran, Elif Kaya, Aysegul Tiryaki, Songul Ulag, Gulgun Bosgelmez Tinaz, Oguzhan Gunduz
- 14:15-14:30 Fabrication of ethosuximide loaded pcl/bfo based three-dimensional tissue scaffolds and controlled drug release in electric field for the treatment of epilepsy. **Aysim Akyol**, Esra Ozdemir, Hatice Karabulut, Songul Ulag, Zehra Kanli, Banu Aydin, Oguzhan Gunduz
- 14:30-14:45 Complex polymeric matrices with antibacterial and antioxidant inclusions. **Bianca-Elena-Beatrice Cretu**, Gianina Dodi, Ioannis Gardikiotis, Vera Balan, Alina Gabriela Rusu, Alina Ghilan, Loredana Elena Nita, Aurica P. Chiriac
- 14:45-15:00 Characterization and Antibacterial Activity of Zinc Oxide Nanoparticles Synthesized via Non-Thermal Plasma Process. **Boundedjar Nourelhouda**, Ferhat Mohammed Fouad, Toukal Linda, Anton Fikai
- 15:00-15:15 Design and Characterization of a Wound Dressing Using Beta-Glucan and Zinc Oxide Nanoparticles via Electrospinning Method. **Derya Çelik**, Yunus Emre KUL
- 15:15-15:30 Development of Nanobody-Conjugated Polyethyleneimine Polymeric Nanoparticles for Targeted Therapy. **Dilara Zalim**, Lara González-Cabaleiro, Lorena Vázquez-Iglesias, Rabia Çakır Koç, Isabel Pastoriza-Santos, Gustavo Bodelón
- 15:30-15:45 Hyaluronic acid/ellagic acid as materials for potential medical application. **Sylwia Grabska-Zielińska**, Beata Kaczmarek-Szczepańska, Konrad Kleszczyński, Lidia Zasada, Dorota Chmielniak, Mara Barbara Hollerung, Katarzyna Dembińska, Krystyna Pałubicka, Kerstin Steinbrink, Maria Swiontek-Brzezinska
- 15:45-16:00 The Integration of PVA Hydrogel with Magnesium Phosphate – development of biocement for Advanced Medical Applications. **Magdalena Górecka**, Anna

Ronowska, Aleksandra Mielewczyk-Gryń, Dawid Koziń, Justyna Kozłowska, Marcin Wekwejt

16:00-16:15 Temperature-responsive N-isopropyl methacrylate (NIPAm) and gelatin methacryloyl (GelMA)-based hydrogels for controlled drug delivery. **Maria Daaboul**, Ayse Akkaya, Oguzhan Gunduz, Emine Alarcin, Mehmet Murat Ozmen, Murat Topuzogullari

16:15-16:30 Fabrication and characterization of zinc oxide (ZnO) thin films deposited by sol-gel dip coating process. **Oloruntoba Sola Omodele**, Zulkarnain Zinal, Yusran Sulaiman, Ruzniza Mohd Zawawi

16:30-16:45 Variation of the antioxidant effect of the volatile oil obtained from Achillea millefolium depending on the geographical area. **Bogdan Purcăreanu**, Diana Manuela Ene, Veronica Drumea, Dan Eduard Mihaiescu, Anton Ficai

14:00 - 16:45 – SESSION VII. ADVANCED MATERIAL FOR SPECIFIC APPLICATIONS

Chairs: Elena-Cristina RADA; Ioana DEMETRESCU [link](#)

14:00-14:15 Polyaniline-based room temperature methane gas sensor. **Ana-Maria Popa**, Andrei Stochioiu, Luiza-Izabela Toderaşcu, Vlad-Andrei Antohe, Gabriel Socol and Iulia Antohe

14:15-14:30 NiCrAlY layers performance assessment developed onto 310H alloy by EB-PVD method after oxidation in aggressive conditions. **Aurelia Elena Tudose**, Ioana Demetrescu, Florentina Golgovici, Manuela Fulger, Diana Diniasi, Robert Radu Piticescu

14:30-14:45 Application of response surface methodology (RSM) for optimization of synthesis parameters of rGO@MnO₂ nanocomposites as electrode materials for asymmetric supercapacitor device. Balarabe El-Yaqub, **Mohd Haniff Wahid**, Abdul Halim Abdullah, Wan Azlina Wan Ab Karim Ghani

14:45-15:00 The Enhancement of Hydroxyapatite's Inhibitory Properties of Steel Through a Grafting Reaction with Phenolic Compounds in NaCl 3%. **Nouhaila Ferraa**, Mzioud Khaoula, Moussa Ouakki, Mohammed Cherkaoui, Mounia Bennani Ziatni

- 15:00-15:15 Macromolecular chemistry versatile tool for improving the self-assembly skills of commercial coatings. **Paul Valentin LOVIN**, Ana Maria Albu
- 15:15-15:30 Assessing the effect of pH and immersion time on ZnO-based thin films synthesized via automated SILAR process for gas sensor applications. **Ismail Haijoub**, Brahim Ydir, Mouad Soumane, Nejma Fazouan, El Houssine Atmani, Houda Lahlou, Radouane Leghrib
- 15:30-15:45 Investigating Dielectric Properties of Polyester Composites Reinforced with Argan Nutshell Powder Biofiller. **Najoia Aribou**, Zakia Aribou, Asma Triki, Antonio J. Paleo, Mohammed Essaid Achour
- 15:45-16:00 Comparative effect of unmodified and surface-modified nanocellulose on the characteristics of nanoemulsions. **Gabriela - Mădălina Oprică**, Cătălina - Diana Uşurelu, Adriana Nicoleta Frone, Cristina Firincă, Cristian - Andi Nicolae, Radu Claudiu Fierăscu, Denis Mihaela Panaitescu
- 16:00-16:15 Nanotechnology Based Medical Devices: Potentialities, Risk and Regulation. **Rupak Kumar**
- 16:15-16:30 Gelatin methacryloyl (GELMA) microneedles for localized delivery of antiepileptic drugs loaded on bismuth ferrite (BFO) and polylactic-co-glycolic acid (PLGA) particles. **Yeliz Guldorum**, Sule Ilgar, Zekiye Akdag, Esra Pilavci, Songul Ulag, Emine Alarcin, Ayse Akkaya, Banu Aydin Omay, Zehra Kanli, Oguzhan Gunduz
- 16:30-16:45 Analyzing the Conductivity and Dielectric properties of carbon nanofibres reinforced polyvinylidene fluoride composite films. **Yassine Nioua**, V. M. Serrato, A. Triki, A. J. Paleo, Z. Samir, N. Aribou, M. Hdidar, M. Arous, K. Lozano and M. E. Achour

16:45 - 18:00 – Poster SESSION**Chairs: Chairs – Carlos MARQUES, Jörg OPITZ,****Denisa FICAI, Irina FIERASCU**

- 1 Cerium oxide nanoparticles: uses and perspectives in nanomedicine. **Cezara-Marina Bolocan**, Ecaterina Andronescu
- 2 Strategies to obtain PVA alignment layers for nematic liquid crystals used in biosensing. **Cristina-Delia Nechifor**, Marian Luțcanu, Alexandra Tamara Sutic
- 3 Pigment Based Composites with Polyolefin Matrix and Surface Modified Aramid Fibers. **Cristina-Elisabeta Pelin**, Maria Sonmez, George Pelin, Adriana Ștefan, Maria Daniela Stelescu, Mihai Georgescu
- 4 Alginate-pullulan composites as candidates for skin wound healing applications. **Emma Bobu**, Klara Magyari, Monica Baia
- 5 Biopolymer Composite Supports, a New Perspective in the Medical Field. **Elena Berteanu**, Iordachel Catalin, Maria Paraschiv, Manoiu Sorin, Andreea Iosageanu, Enache Mihaela Ionica, Alexandrina Rugina, Adina-Lidia Zuav
- 6 Development of New Biodegradable Polymers for Selected Biomedical Applications. **Hend Behour**, Sherif Kandil, Labiba El-khardagui
- 7 Structural, optical and electrical properties of spray deposited Sr doped SnO₂ thin films. **Imene Saoula**, Chahinez Siad, Nassiba Allag, Nourelhouda Bounedjar
- 8 The Effect of Extracts Obtained from Viticulture Wastes on the Grapevines Maturity Degree. **Ionela-D. Toma (Sărdărescu)**, Diana E. Vizitiu, Irina Fierăscu, Anda M. Baroi, Alin Din, Radu C. Fierăscu
- 9 Bone Tissue Engineering Scaffolds Based on Pure and Zn Doped Merwinite Obtained by 3D Printing. **Maria-Eliza Pușcașu**, Florentina-Gabriela Ioniță, Cristina Busuioc
- 10 Impact of the glucose metabolism disorders on the indicators of oxidative stress in patients with pulmonary tuberculosis. **Lesnic Evelina**, Igor Semianiv, Malic Alina
- 11 Antimicrobial composite packaging films. **Gabriela Petrisor**, Ludmila Motelica, Denisa Fikai, Ovidiu Oprea, Trusca Roxna, Ecaterina Andronescu, Alina Holban, Anton Fikai
- 12 Characterization and synthesis of 45S5 bioactive glass via the sol-gel method. **Marian Rașcov**, Anton Fikai, Ovidiu Cristian Oprea, Otilia-Ruxandra Vasile, Roxana Doina Trușcă, Ecaterina Andronescu

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- 13 Development of nanocomposites based on recycled high-density polyethylene and organically modified montmorillonite. **Maria Daniela Stelescu**, Ovidiu Cristian Oprea, Doina Constantinescu, Maria Sonmez, Mihai Georgescu, Ludmila Motelica, Denisa Ficai, Dana Florentina Gurau
- 14 NMR study of cinnamaldehyde thiosemicarbazones derivatives with biological potential. **Rusnac Roman**, Ciursin Andrei, Gulea Aurelian
- 15 Biopolymer-Based Food Packaging: Techniques for Incorporating Functional Ingredients and Enhancing Food Quality. **Pir Mohammad Junaid**, Sadaf Zaidi
- 16 Effect of egg white in biogenic elaboration of ZnO. **Adriana-Gabriela Schiopu**, Elena Andreea Vijan
- 17 Synthesis and Characterization of Polymeric Membranes Enhanced with Hydrothermally Activated Titanium Dioxide Nanoparticles. **Simona Căprărescu**, Roxana Gabriela Zgârian, Grațiela Teodora Tihan, Alexandru Mihai Grumezescu
- 18 Integration of Sol-Gel Synthesis and Additive Manufacturing Techniques for fabrication of walstromite-based scaffolds. **Ștefania Chiriac (Caramarin)**, Mihnea Pele, Georgeta Voicu, Roxana Popescu, Andreia Cucuruz, Cristina-Daniela Ghițulică, Izabela-Cristina Stancu, Lucian-Toma Ciocan, Ruxandra-Elena Geanaliu-Nicolae
- 19 Preparation, characterization and mechanical testing of PMMA/TiO₂ film nanocomposite. **Yasmina Khane**, Zoulikha Hafsi, Abdelhalim Zoukel
- 20 Developing Chemically Modified Collagen Bone Graft Materials for Use in 3D Bioprinted Scaffolds. **Mihriban Aydoğan-Gemici**, Beyza Çay
- 21 Ultrasound-assisted synthesis of Silver@Chitosan nanocomposites and its photocatalytic activity. **Harekrishna Mahato**, Brajesh Kumar
- 22 Smart graphene oxide-based hydrogels with photothermal effect for wound healing applications. **Alexa-Maria Croitoru**, Anton Ficai, Roxana Trusca, Ludmila Motelica, Bianca-Maria Tihauan
- 23 A Comparative Investigation of the Size-Strain Plot, Williamson-Hall, and Halder-Wagner X-Ray Diffraction Analytical Methods of MnO₂-GO Nanoparticles. **Balarabe El-Yaqub**, Mohd Haniff Wahid, Zulkarnain Zainal, Abdul Halim Abdullah, Wan Azlina Wan Ab Karim Ghani
- 24 Molecular Profiling of Streptomyces Extracts for Novel Antibiotic Discovery. **Muzammil Sharief Dar**, Iqbal Ahmad
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Friday, 21 June 2023

10:00 - 13:00 – SESSION VIII. Natural, Green and Biomimetic Materials - [link](#)

Chairs: Ana ALCUDIA CRUZ; Danut-Ionel VAIREANU

- 10:00-10:15 Antibacterian and anticancer effects of cyanobacteria *Calothrix marctica*. **Alina Trofim**, Greta Balan and Valeriu Rudic
- 10:15-10:30 New biotechnologies for purification of phycobiliproteins with antibacterial and antifungal effect. **Alina Trofim**, Angela Rudacova
- 10:30-10:45 The in vivo Effects of Indigenous Biologically Active Compounds on Liver Biochemical Markers in Blood Plasma of Rats. **Valeriana Pantea**, Cristina Popușoi, Marina Reabîșeva, Mariana Jian, Ecaterina Pavlovschi, Inna Șveț, Oxana Nicolaeva, Veaceslav Popa
- 10:45-11:00 Green route Concoction and Characterization of MgO Nanoparticles and Guesstimate of their Antimicrobial Activity. **Sambandam Thamizharasan**, Karuppasamy Gurunathan
- 11:00-11:15 Biogenically synthesized zinc oxide nanoparticles: A promising paradigm for effective therapy. **Devi-Nair Gunasegavan Rathi**, Norhaizan Mohd Esa and Che Azurahaman Che Abdullah
- 11:15-11:30 Slow Release Properties of Bioglass Impregnated with Essential Oils and Surfactants. **Ioana Lavinia Lixandru Matei**, Bogdan Alexandru Sava
- 11:30-11:45 Biological applications of bis-thiosemicarbazones with a cyclohexyl ring. Andrei Ciursin; Ion Bulimestru; Roman Rusnac
- 11:45-12:00 In Vitro Characterization and Evaluation of 3D-Printed *Styrax Liquidus* (*Liquidambar orientalis* Miller)-Loaded Poly(L-lactic acid)/Chitosan Based Wound Dressing Material. **Hanife Yuksel Cakmak**, Hasan Ege, Senanur Yilmaz, Gokhan Agturk, Fulya Dal Yontem, Gozde Enguven, Abdurrahman Sarmis, Zeren Cakmak, Oguzhan Gunduz, Zeynep Ruya Ege
- 12:00-12:20 Ultra-Slippy Wetting-Repellent Aerophilic Surfaces. **Alexander B. Tesler**, et al.
- 12:20-12:40 Enhancing bioactivity of nanostructured TiO₂: interplay of morphology and surface chemistry. **Anca Mazare**

10:00 - 13:00 – SESSION IX. MATERIALS WITH ANTIOXIDANT, ANTIMICROBIAL, AND ANTICANCER PROPERTIES (II) - [link](#)

Chairs: Jorg OPITZ; Radu FIERASCU

- 10:00-10:15 Synthesis, characterization and In-vitro investigation of the activity of Doxorubicin-loaded PLA-based nanofibers. **Natavan Ismayilova**, Songul Ulag, Ali Sahin, Firat Baris Barlas, Erol Ince, Oguzhan Gunduz
- 10:15-10:30 Development of hydroxyapatite-based drug delivery devices loaded with doxorubicin for the treatment of breast cancer. **Reyhan Yanıkoğlu**, Sahar Dinparvar, Adil Allahverdiyev, Cem Bülent Üstündağ
- 10:30-10:45 Carbon Nanomaterial Based Drug Delivery Systems and Applications. **Reyhan Yanıkoğlu**, Cem Bülent Üstündağ
- 10:45-11:00 *Docetaxel-Loaded Polymer Coated Iron Oxide Nanoparticles Intended for Prostate Cancer Treatment.* **Romesa Soomro**, Che Azurahamanim Che Abdullah
- 11:00-11:15 *Development and Characterization of Biomaterials Using Electrospinning Method.* **Sude Göktuğ**, Tubanur Avcı, Canan Doğan, Oğuzhan Gündüz
- 11:15-11:30 *Production of Nanofibers by Coaxial Electrospinning Method Using Bacterial Cellulose Synthesized Using Orange Peel Extract and PCL/PLA Composite.* **Aysenur Avcı**, Melike Naz Sayan, Rabia Betül Sulutas, Aslihan Calhan, Sumeyye Cesur, Oguzhan Gunduz
- 11:30-11:45 Development and Characterization of Biomaterials by Adding Henna Using Electrospinning Method. **Tubanur Avcı**, Emre Uygur, Canan Doğan, Oğuzhan Gündüz
- 11:45-12:00 Production of Biomaterial with Controlled Drug Release System Developed with Hybrid System for Laryngeal Cancer Treatment. **Yaren Inal**, Sude Toptas, Yagmur Kazancıoğlu, Fatma Ozdemir

12:40-13:00 – CLOSING CEREMONY - [link](#)

Chair: Ecaterina ANDRONESCU