

BioMedD' 2026

**PROGRAM**

# WELCOME

Dear Colleagues and Friends,

I have the pleasure to announce the 11<sup>th</sup> International Conference “Biomaterials, Tissue Engineering & Medical Devices” BIOMMEDD’2026 which will be held in Brasov, Romania, July 2<sup>nd</sup> - 4<sup>th</sup>, 2026.

The aim of this event is to bring together scientists from biomaterials, medical devices and tissue engineering research with clinicians from medical fields who use in clinical practice the implants and prostheses made from various biomaterials. Clinicians from different specialties (dentistry, orthopedics, neurosurgery, cardiovascular and other surgery) will be here to present their results on the clinical performance of current medical devices and debates on the translation of biomaterials and tissue engineering research into clinical practice.

The choice of the plenary, keynote and invited speakers will bring on stage some of the best scientists from the field of biomaterials, tissue engineering and medical devices.

Round table discussions intended to promote interdisciplinary research projects will be organized and a technical exhibition will run in parallel with the scientific sessions.

The conference will also host a Young Scientists Forum who could promote new ways of communicating and thinking on the research and educational aspects, and the General Assembly of the Romanian Society for Biomaterials.

We look forward to seeing you all in Brasov!

Yours sincerely,

**Antoniuc Iulian**



**Chair of the BIOMMEDD 2026  
Conference**

**Munteanu Daniel**



**Co-Chair of the BIOMMEDD 2026  
Conference**

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# **BIOMMEDD'2026- CONFERENCE INFORMATION**

## **Topics**

- Biomaterials
- Tissue engineering
- Clinical applications of biomaterials, medical devices and their performance in cardiovascular surgery
- Clinical applications of biomaterials, medical devices and their performance in orthopedic surgery
- Clinical applications of biomaterials, medical devices and their performance in neurosurgery
- Clinical applications of biomaterials, medical devices and their performance in dentistry
- Biomechanics
- Surface engineering
- Scaffolds
- Pharmacology and drug delivery
- Biocompatibility
- Nanotechnology
- Regenerative medicine
- Biofabrication

BioMedD' 2026

# PROGRAM

## **Thursday, July 2<sup>nd</sup>**

**AULA MAGNA "Sergiu T. Chiriacescu" of the TRANSILVANIA University of Braşov, Romania, Iuliu Maniu Street no. 41A**

**09:00-10:00 Participant registration**

**10:00-10:30 Opening Ceremony**

**(Room A)**

**ABRUDAN Ioan Vasile**, Rector of the Transilvania University of Brasov, Romania

**ANTONIAC Iulian**, Chair of the BIOMMEDD 2026 Conference

**MUNTEANU Daniel**, Co-Chair of the BIOMMEDD 2026 Conference

**VIDU Ruxandra**, President of the American Romanian Academy of Arts and Sciences

**10:30-11:30 Plenary Session 1**

**(Room A)**

**Chairs: ANTONIAC Iulian, MUNTEANU Daniel**

**10:30-11:00**

**PS.1. Emerging Materials in Biomedicine: Antimicrobial, Bioactive, and Implantable Solutions**

**Julietta V. RAU**

*Istituto di Struttura della Materia, Consiglio Nazionale delle Ricerche, Rome, Italy*

**11:00-11:30**

**PS.2. Microfluidics in gene therapy**

**Ciprian ILIESCU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**11:30-12:00 Coffee Break & Poster Session**

**(Foyer)**

**12:00-14:00 Workshop “Smart Healthcare Engineering: new concept and intelligent technical innovations”**

**(Room B)**

**12:00-14:00 Scientific Sessions 1 – Biomaterials for clinical applications**

**(Room A)**

**Chairs: SAROŞI Codruţa, GRECU Dan Cristian**

**12:00-12:20**

**KS.1. Scrotum Nephroptosis Associated with a Bilateral Inguinoscrotal Hernia in an Orthopedic Patient with Bilateral Knee Osteoarthritis - A Multidisciplinary Case Report Proving the Different Biomaterials Used on the Same Patient**

**Sebastian GRADINARU**

*Titu Maiorescu University, Bucharest, Romania*

**12:20-12:40**

**KS.2. Cementation and interface analysis by different microscopically techniques of failure cases after BHR hip-resurfacing arthroplasty**

**Răzvan ADAM**

*Clinical University Emergency Hospital Elias, Bucharest, Romania*

**12:40-13:00**

**KS.3. Engineering the Future Vessel: Electrospun Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) Scaffolds for Small-Diameter Vascular Grafts in Bypass Surgery**

**Oana DOBRE**

*University of Glasgow, United Kingdom*

**13:00-13:10**

**O1. Biointerface and Biomechanical Determinants of Tendon Adhesion After Phalangeal Fracture Osteosynthesis: A Translational Review of Low-Profile Plates, Intramedullary Fixation, and Emerging Bioresorbable Materials**

**Cosmin-Ioan MOHOR**, Vicentiu-Vasile Veres, Calin-Ilie Mohor, Alexandru Florin Diconi, Nicolas Catalin Ionut Ion, Iustin-Ilie Tutuianu, Mihai Faur, Vanesa-Maria Veres, Sorin Radu Fleaca  
*Lucian Blaga University of Sibiu, Romania*

**13:10-13:20**

**O2. The Future of Orthopedic Surgery: Additive Manufacturing, Bioprinting and AI-Assisted Regenerative Medicine toward 2035**

**Razvan Nicusor PETA**, Dan Cristian Grecu

*University of Medicine and Pharmacy, Craiova, Romania*

**13:20-13:30**

**O3. Trabecular Metal as a Biomaterial for Acetabular Reconstruction in Revision Total Hip Arthroplasty**

**Monica Georgiana ROMAN**, Răzvan Ene, Alexandru Lisias Dimitriu

*“Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania*

**13:30-13:40**

**O4. Biomaterial-Based Reconstruction of Bone Defects Around the Knee After Tumor Resection**

**Alexandru Lisias DIMITRIU**, Răzvan Ene, Monica Georgiana Roman

*“Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania*

**13:40-14:00**

**Debates**

**14:00-15:00 Lunch & Group Photo**

**(Foyer)**

**15:00-16:30 Plenary Session 2**

**(Room A)**

**Chairs: RAU V. Julietta, GRUIONU Gabriel**

**15:00-15:30**

**PS.4. From Conventional Dosage Forms to Sustainable Plant-Based Capsules: Engineering the Future of Pharmaceutical Biomaterials**

**Gultekin GOLLER**

*Istanbul Technical University, Istanbul, Turkey*

**15:30-16:00**

**PS.5. Multifunctional self-assembled Polyvinylalcohol materials for biomedical applications**

**Mircea Alexandru MATEESCU**

*Université du Québec à Montréal, Québec, Canada*

**16:00-16:30**

**PS.6. Vascularized Biomaterial Constructs and Computational Network Models: From Microvascular Fragment Self-Assembly to AI-Powered Clinical Translation**

**Gabriel GRUIONU**

*Indiana University, Indianapolis, IN, USA*

**16:30-17:00 Coffee Break & Poster Session**

**(Foyer)**

**17:00-19:00 Scientific Sessions 2 -Advanced Technologies & Therapies for Medicine**

**(Room A)**

**Chairs: MICULESCU Florin, MUNTEANU Corneliu**

**17:00-17:20**

**KS.4. Connectome Theory and Virtual Reality Exposure Therapy: An Integrative Perspective**

**Horățiu MICLEA**

*Psychiatrist, PhD in Psychology; Visiting Professor UMF Carol Davila Bucharest; Psychiatrist expert for the French Ministry of Justice*

**17:20-17:40**

**KS.5. An Open-Source AI-Assisted Workflow for Bone Defect Segmentation, Implant Planning and Biomechanical Loading Integration**

**Lucian Gheorghe GRUIONU**

*University of Craiova, Romania*

**17:40-18:00**

**KS.6. Engineering Regeneration Through Light: Modular Biomaterial Platforms for 3D Biofabrication**

**Nele PIEN**

*Ghent University, Belgium*

**18:00-18:20**

**KS.7. Advances in therapy and diagnostic systems using a microfluidics approach**

**Catalin POPA**

*Technical University of Cluj-Napoca, Romania*

**18:20-18:40**

**K.S.8. Enhanced antibacterial and mechanical performance of 3D printed bone reconstruction implants**

**Florin MICULESCU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**18:40-19:00**

**KS.9. From Surface Engineering to osseointegration: The role of multifunctional coatings**

**Cosmin COTRUT**

*National University of Science and Technology Politehnica Bucharest, Romania*

## **Friday, July 3<sup>th</sup>**

**AULA MAGNA "Sergiu T. Chiriacescu" of the TRANSILVANIA University of Braşov, Romania, Iuliu Maniu Street no. 41A**

**08:30-09:00 Participant registration**

**09:00-10:30 Scientific Session 3 - Biodegradable Metals**

**(Room A)**

**Chairs: MICULESCU Marian, CIMPOESU Nicanor**

**09:00-09:20**

**KS.10. The Role of Ca, Sr, and Zn in the Main Properties of Mg-Based Biodegradable Alloys for Biomedical Applications**

**Corneliu MUNTEANU**

*Gheorghe Asachi Technical University of Iasi, Romania*

**09:20-09:40**

**KS.11. The Interplay Between Corrosion, Mechanical Properties and Fracture Behavior in Magnesium Alloys**

**Marian MICULESCU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**09:40-10:00**

**KS.12. Biodegradation of Zinc Alloys in Different Surface Conditions**

**Brânduşa GHIBAN**

*National University of Science and Technology Politehnica Bucharest, Romania*

**10:00-10:20**

**KS.13. Electro-chemical corrosion behavior of Zn-based alloys for medical applications**

**Nicanor CIMPOESU**

*Gheorghe Asachi Technical University of Iasi, Romania*

**10:20-10:30**

**O5. Anti-Sparking alloys for occupational health and safety: advanced materials for tools used in potentially explosive atmospheres**

**Costică Bejinariu, Gabriel Romeu Chelariu, Alin Marian Cazac, Alexandru Maxiniuc, Nicanor CIMPOESU**

*Department of Materials Science, Materials Science and Engineering Faculty, Gheorghe-Asachi Technical University of Iasi, Romania*

**10:30-11:00 Workshop RONEXPRIM - Progress through retraction: The Stood-up drop as novel method to characterize biomedical surfaces (Room A) & Coffee Break (Foyer)**

**11.00-13.00 Scientific Sessions 4 - Dental Biomaterials  
(Room A)**

**Chairs: MANOLEA Horia Octavian, EARAR Kamel**

**11:00-11:20**

**KS.14. Artificial Intelligence in Dentistry and Dental Research**

**Horia Octavian MANOLEA**

*University of Medicine and Pharmacy Craiova, Romania*

**11:20-11:40**

**KS.15. Digital versus Conventional Workflows in Prosthodontics and Implant Dentistry: A Comparative Analysis of Accuracy & Time**

**Marius MANOLE**

*“Iuliu Hațieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania*

**11:40-12:00**

**KS.16. Ceramic Biomaterials in Dental Prosthetics: From Scientific Foundations to Clinical Applications**

**Kamel EARAR**

*Dunărea de Jos University of Galati, Galati, Romania*

**12:00-12:10**

**O6. Laser Photobiomodulation in Temporomandibular Disorder Management: A clinical protocol**

**Larisa COJOCARU**, Rîpaș Ioan-Iustin, Iancu Veronica, Novac Andreea Codruța, Baderca (Stoian) Alexandra Denisa, Draî Ana-Maria, Popovici Alexandra-Elena, Yahyazadeh Armin, Pătrulescu Diana Bianca, Negruțiu Meda Lavinia, Mostovei Andrei, Amăricăi Elena Constanța, Sinescu Cosmin

*University of Medicine and Pharmacy “Victor Babeș” Timișoara, Romania*

**12:10-12:20**

**O7. Synthesis and Characterization of Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> Core-Shell Magnetic Nanoparticles for Potential Application in Experimental Dental**

**Sergiu BOTA**, Codruța Eliza Ille, Larisa Cojocar, Elena-Alina Moacă, Cosmin Sinescu

*University of Medicine and Pharmacy “Victor Babeș” Timișoara, Romania*

**12:20-12:30**

**O8. From Selection to Success: How Biomaterials and Medical Devices Shape Clinical Outcomes in Dentistry**

**Alexandra-Elena POPOVICI**, Cojocar Larisa, Rîpaș Ioan-Iustin, Iancu Veronica, Novac Andreea Codruța, Draî Ana-Maria, Yahyazadeh Armin, Pătrulescu Diana Bianca, Negruțiu Meda Lavinia, Duma Virgil-Florin, Sinescu Cosmin

*University of Medicine and Pharmacy “Victor Babeș” Timișoara, Romania*

**12:30-12:40**

**O9. CAE Evaluation of Open and Closed Additive Systems: Engineering Risks in Post-Processing Resins for Provisional Restorations**

**Miruna ANGHEL**, Ioana Mitruț, Mihaela Ionescu, Alexandru Andrei Iliescu, Petre Costin Mărășescu, Cristian Zaharia, Horia Octavian Manolea  
*University of Medicine and Pharmacy, Craiova, Romania*

**12:40-12:50**

**O10. The Acrylic Resin-Oral Mucosa Interface in Removable Prosthodontics: Biological, Clinical and Preventive Aspects**

**Sonia Teodora STATESCU-MANAILA**

*Dunarea de Jos University of Galati, Romania*

**12:50-13:00**

**O11. Assessment of the diagnostic accuracy of an AI-Based System for dental caries and periapical lesions detection**

**Alexandra ROIBAN**, Popa Cătălin, Anghel Miruna, Slăvoiu Radu, Slăvoiu Horia, Mitruț Ioana, Manolea Horia

*University of Medicine and Pharmacy, Craiova, Romania*

**13:00-14:00 Lunch & Poster Session**

**(Foyer)**

**14:00-15:00 Plenary Session 3**

**(Room A)**

**Chairs: VOICU Stefan, BIRU Iuliana**

**14:00-14:30**

**PS.7. Advanced 3D-Bioprinting for Synthesis of Various Biomedical Devices: from Biomimetic Tissues to Breast Phantoms**

**Horia IOVU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**14:30-15:00**

**PS.8. Amphiphilic Polycaprolactone Diblock Copolymers for Delivery of Anticancer Drugs**

**Mihaela STEFAN**

*University of Texas at Dallas, U.S.A.*

**15:00-17:30 Scientific Sessions 5 -Clinical Applications of Materials in Medicine**

**(Room A)**

**Chairs: IOVU Horia, ENE Razvan**

**15:00-15:20**

**KS.17. Calcium Sulphate as a Biodegradable Antibiotic Carrier Used in Osteomyelitis and Septic Arthritis Treatment**

**Razvan ENE**

*“Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania*

**15:20-15:40**

**KS.18. From Porous Polymeric Films to Artificial Kidney - A Historical and Clinical Journey of Hemodialysis Membranes**

**Stefan VOICU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**15:40-16:00**

**KS.19. Ultrafast-Gelling Multifunctional Hydrogels for Integrated Self-Healing and Strain-Sensing Applications**

**Iuliana BIRU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**16:00-16:20**

**KS.20. The Biomechanical and Biological Advantages of a New Polyaxial Angular Stable Plate for Stable Fixation of Transfemoral Osteotomy in Acetabular Revision Arthroplasty**

**Paul-Dan SÎRBU**

*“Grigore T. Popa” University of Medicine and Pharmacy, Iasi, Romania*

**16:20-16:40**

**KS.21. Customized cranioplasty using cranial repair system implants from biomaterials and recovery for the patients after severe traumatic brain injury - case study and report**

**Aurel-George MOHAN, Adrian GHIURAU**

*University of Oradea, Romania*

**16:40-16:50**

**O13. When Local Antibiotic Delivery Is Not Enough: Recurrent MRSA Native Hip Infection Despite Sequential Preformed PMMA Spacers**

**Eduard Catalin GEORGESCU, Razvan Ene, Elisa Georgiana Popescu, Monica Georgiana Roman, Alexandru Lisias Dimitriu**

*“Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania*

**16:50-17:00**

**O14. Dual Mobility Cups as an Implant Design Strategy for Prevention of Instability in Total Hip Arthroplasty**

**Elisa POPESCU, Razvan Ene, Catalin Eduard Georgescu, Monica Roman, Alexandru Lisias Dimitriu**

*“Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania*

**17:10-17:20**

**O15. Polysaccharide-based composite membranes with enhanced biomineralization properties for potential applications in implantology**

**Madalina OPREA, Andreea Madalina Pandeale, Adrian Ionut Nicoara, Stefan Ioan Voicu**

*National University of Science and Technology Politehnica Bucharest, Romania*

**17:20-17:30**

**O16. Multifunctional Sustainable PLA Nanocomposites Modified with Natural and Inorganic Fillers**

**Stanca CUC, Sonia Balint, Gertrud-Alexandra Paltinean, Codruta Sarosi**

*Babes Bolyai University - Raluca Ripan Institute for Research in Chemistry*

**20:00-24:00 Gala Dinner (ARO Hotel, 8th Floor Horizon Restaurant, Brasov)**

## **Saturday, July 4<sup>th</sup>**

AULA MAGNA "Sergiu T. Chiriacescu" of the TRANSILVANIA University of Braşov

**08:30-09:00 Participant registration**

**09:00-11:00 Scientific Session 6 - Biomaterials in Healthcare Applications (Room A)**

**Chairs: MOHAN Aurel-George, SACELEANU Vicentiu**

**09:00-09:20**

**KS.22. 3D Reconstruction in Neurosurgical Training**

**Vicentiu SACELEANU**

*Lucian Blaga University of Sibiu, Romania*

**09:20-09:40**

**KS.23. Engineering Smart Hydrogels for Oral Healthcare Applications Combined with Photodynamic Therapy**

**Marioara MOLDOVAN**

*Babes Bolyai University, Raluca Ripan Institute of Research in Chemistry, Cluj-Napoca, Romania*

**09:40-09:50**

**O17. Anticancer and Antimicrobial Properties of Silymarin from Milk Thistle (*Silybum marianum*): Phytochemical Analysis and Bioactivity Evaluation**

**Mohammad Asif GAWHARI, Baljinder Kaur**

*Punjabi University, Patiala, Punjab, India*

**09:50-10:00**

**O18. Finite element analysis of a simplified nitinol stent model under variable axial loading conditions**

**Alexandra VELICAN, Marian MICULESCU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**10:00-10:10**

**O19. Simulation-Guided Design and Experimental Validation of ZnO-Based Optical Microcavities**

**Eliseia Anne-Marie PETRE, Marian MICULESCU, Raluca IVAN, Luiza STINGESCU, Nicu SCARIŞOREANU, Marian ZAMFIRESCU**

*National University of Science and Technology Politehnica Bucharest, Romania*

**10:10-10:20**

**O20. Nanoparticle-Enhanced Poly(lactic acid) Composites: Aging and Degradation Behavior in Different Simulants**

**Andrei MOLDOVAN, Stanca Cuc, Ioan Sarosi, Ovidiu Nemes**

*Technical University of Cluj-Napoca, Romania*

**10:20-10:30**

**O21. Advanced PLA Nanocomposite Films with Antibacterial Functionality**

**Ioan SAROSI, Andrei Moldovan, Rahela Carpa, Ioana Perhaita, Ioan Petean, Ovidiu Nemes**

*Technical University of Cluj-Napoca, Romania*

**10:30-10:40**

**O22. Light-Activated Antibacterial GO-Based Hydrogels for Oral Biomedical Applications**

**Gertrud-Alexandra PALTINEAN**, Rahela Carpa, Laura Silaghi-Dumitrescu, Gabriel Furtos, Codruta Sarosi, Marioara Moldovan

*Babes Bolyai University, Raluca Ripan Institute for Research in Chemistry, Cluj-Napoca, Romania*

**10:40-11:00**

**Debates**

**11:00-11:30 Workshop**

**(Room A)**

**Project MAGREBONE**

**11:30-12:00 SEMINAR:**

**The Future of Education on Materials Engineering & Medical Engineering in the AI Era**

**(Room A)**

**12:00-13:00 Closing Ceremony**

**(Room A)**

## POSTER SESSION (e-poster)

### **P1. Development of Biodegradable Magnesium-Based Composites through Advanced Spark Plasma Sintering Techniques**

**Alexandru-Stefan MANEA**<sup>1</sup>, Gultekin Goller<sup>2</sup>, Iulian Vasile Antoniac<sup>1</sup>, Ion Ciucă<sup>2</sup>

<sup>1</sup>University Politehnica of Bucharest, Faculty of Material Science and Engineering, 313 Splaiul Independentei street, 060042, Bucharest, Romania, alexmanea0415@gmail.com

<sup>2</sup>Istanbul Technical University, Faculty of Chemical and Metallurgical Engineering, Maslak, Sariyer, 34469, Istanbul, Turkey

### **P2. Computed tomography applications in medical device industry**

**Octavian TRANTE**<sup>1</sup>, Aurora Antoniac<sup>1</sup>, Larisa Popescu<sup>1</sup>, Veronica Manescu (Paltanea)<sup>1,2</sup>, Iuliana Corneschi<sup>1</sup>, Anca Fratila<sup>3</sup>, Iulian Antoniac<sup>1,4</sup>

<sup>1</sup> Faculty of Materials Science and Engineering, National University of Science and Technology Politehnica Bucharest, Romania;

<sup>2</sup> Faculty of Electrical Engineering, National University of Science and Technology Politehnica Bucharest, Bucharest, Romania.

<sup>3</sup> Faculty of Medicine, Lucian Blaga University of Sibiu, Romania.

<sup>4</sup> Academy of Romanian Scientists, Bucharest, Romania;

### **P3. Evaluation of Mg-Nd and Mg-Zn Alloys as Biodegradable Material Structures for Bone Defect Repair**

**Veronica MANESCU (PALTANEA)**<sup>1</sup>, Aurora Antoniac<sup>1</sup>, Iulian Antoniac<sup>1</sup>, Gheorghe Paltanea<sup>1</sup>, Maria Cristina Moraru<sup>2</sup>, Sebastian Gradinaru<sup>3</sup>, Bogdan Sevastre<sup>2</sup>, Marius Manole<sup>4</sup>

<sup>1</sup> National University of Science and Technology Politehnica Bucharest, 313 Splaiul Independentei, District 6, RO-060042 Bucharest, Romania, veronica.paltanea@upb.ro

<sup>2</sup> University of Agricultural Sciences and Veterinary Medicine (USAMV), 3-5 Calea Manastur, RO-400372, Cluj-Napoca

<sup>3</sup> Department of Medical-Clinical Discipline, Faculty of Medicine, Titu Maiorescu University, 67A Gheorghe Petrascu, RO-031593, Bucharest

<sup>4</sup> Department of Prosthetics and Dental Materials, Faculty of Dentistry, Iuliu Hatieganu University of Medicine and Pharmacy, 400012 Cluj-Napoca, Romania

### **P4. Grain size measurements on stereoscopic versus microscopic image level, on Ti6Al4V alloy**

**Alexandru STREZA**, Mihai Branzei

Faculty of Materials Science and Engineering, National University of Science and Technology Politehnica Bucharest, Romania

### **P5. Degradation Behavior of Various Antibiotic-Loaded Biomaterials for Orthopedic Applications: An In Vitro Study**

Iulian Antoniac<sup>1,2</sup>, Aurora Antoniac<sup>1</sup>, **Robert BOLOLOI**<sup>1</sup>, Alexandru Stere<sup>1</sup>, and Dan Nelu Anusca<sup>3</sup>

<sup>1</sup> Faculty of Material Science and Engineering, National University of Science and Technology Politehnica Bucharest, Romania;

<sup>2</sup> Academy of Romanian Scientists, Bucharest, Romania;

<sup>3</sup> University of Medicine and Pharmacy of Craiova, Romania.

**P6. Selective Laser Melting of Novel Ti-based Alloys: Fabrication and Preliminary Characterization for Biomedical Applications**

Petrica Vizureanu<sup>1,2</sup>, Madalina Simona BALTATU<sup>1,\*</sup>, Andrei-Victor Sandu<sup>1,2</sup>

<sup>1</sup> *Gheorghe Asachi” Technical University of Iasi-Romania, Faculty of Science and Material Engineering, 41 Prof. D. Mangeron Blvd., 700050, Iasi, Romania*

<sup>2</sup> *Academy of Romanian Scientists, 54 Splaiul Independentei St., Sect. 5, 050094 Bucharest, Romania*

**P7. Surface coatings for corrosion rate control of magnesium alloys**

Gabriel CRISTESCU<sup>1</sup>, Cosmin Cotruț<sup>1</sup>, Aurora Antoniac<sup>1</sup>, Iuliana Corneschi<sup>1</sup>, Elena-Eli Pieptea (Popescu)<sup>1</sup>, Ion Ciucă<sup>1</sup>, Iulian Antoniac<sup>1,2</sup>

<sup>1</sup> *Faculty of Material Science and Engineering, National University of Science and Technology Politehnica Bucharest, Romania;*

<sup>2</sup> *Academy of Romanian Scientists, Bucharest, Romania;*

**P8. Modification of titanium dental implants using bioactive glass coatings**

Violeta-Elena JILCU (LUCA)<sup>1,\*</sup>, Marian Miculescu<sup>1</sup>, Aurora Antoniac<sup>1</sup>, Iuliana Corneschi<sup>1</sup>, Larisa Popescu<sup>1</sup>, Ion Ciucă<sup>1</sup>, Iulian Antoniac<sup>1, 2</sup>

<sup>1</sup> *Faculty of Material Science and Engineering, National University of Science and Technology Politehnica Bucharest, Romania;*

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**P9. Corrosion mechanisms affecting different types of steels and the corrosion influence on their functional properties**

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**P10. Factors influencing time-to-failure in the case of water pipeline networks and their effect on human health**

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**P11. Micro CT and CT analysis on magnesium alloys as bone graft materials**

Radu-Mihai SLĂVOIU<sup>1</sup>, Cristina Munteanu<sup>1</sup>, Adrian Camen<sup>1</sup>, Eduard Ciucă<sup>1</sup>, Alex Sălan<sup>1</sup>, Horia Octavian Manolea<sup>2</sup>

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**P12. Orthodontic Scientific Simulator**

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**P13. Comparative Assessment of the Manufacturing Accuracy of Metal Prosthetic Copings Produced by Three Digital Technologies**

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**P14. Optimizing Clear Aligner Treatment Outcomes Through Innovative Materials and Modern Design Features**

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**P15. Analysis of Insertion Torque of Orthodontic Mini-Implants Depending on the System and the Morphological Substrate**

**Tamara-Rahela IOANA**<sup>1\*</sup>, Filip-George Boeru<sup>2</sup>, Ioana Mitruț<sup>3</sup>, Anne-Marie Rauten<sup>4</sup>, Mahmoud Elsaafin<sup>5</sup>, Ionela Elisabeta Staicu<sup>1</sup>, Horia Octavian Manolea<sup>6</sup>

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**P16. Copper incorporation into electrochemically deposited hydroxyapatite coatings on titanium**

Diana M. Vranceanu<sup>1</sup>, Georgiana Cioranu<sup>1</sup>, Andreea A. Lupu<sup>1</sup>, Elena Ungureanu (Poenu) <sup>1</sup>, Anca C. Parau<sup>2</sup>, M. Dinu<sup>2</sup>, Alina Vladescu (Dragomir)<sup>2</sup>, **Cosmin M. COTRUT**<sup>1</sup>

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**P17. Enhancing Operative Field Visualization through the Integration of Digital Technologies in Dental Practice**

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**P18. When Conventional Imaging Falls Short: OCT Assessment of a Complex Root Lesion**

**Ana-Maria DRAI**<sup>1,2</sup>, Adrian George Marinescu<sup>1</sup>, Larisa Cojocaru<sup>1,2</sup>, Ioan-Iustin Rîpaș<sup>3</sup>, Virgil-Florin Duma<sup>3</sup>, Meda-Lavinia Negruțiu<sup>1,2</sup>, Novac Andreea-Codruța<sup>1,2\*</sup>, Cosmin Sinescu<sup>1,2</sup>

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**P19. Biomaterials, Implant Design and Additive Manufacturing Approaches for Patient-Specific Resorbable Implants in Kienböck Disease Treatment**

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