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## **THE INTERNATIONAL CONGRESS OF APOLLONIA UNIVERSITY OF IASI**

**BY PROMOTING EXCELLENCE,  
WE PREPARE THE FUTURE**



*Cal, Lucian Constantin SMĂU*

**E. ADVANCED MATERIALS IN  
MODERN MEDICINE**

## E. ADVANCED MATERIALS IN MODERN MEDICINE

<https://zoom.us/j/99769036111>

Tuesday, March 2, 2021

13<sup>00</sup>-14<sup>50</sup> – Presentations

**Moderators: Prof. Habil. PhD Leonard Ionut Atanase and  
Prof. PhD Marcel Popa**

### **1. Multifunctional biomaterials for bone tissue engineering (conference)**

Anton Ficai<sup>1,2</sup>, Denisa Ficai<sup>1</sup>, Bogdan Stefan Vasile<sup>1</sup>, Roxana Truscă<sup>1</sup>, Madalina Georgiana Albu-Kaya<sup>3</sup>, Ecaterina Andronescu<sup>1,2</sup>

<sup>1</sup>Faculty of Applied Chemistry and Materials Science, Polytechnic University of Bucharest, Romania

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

<sup>3</sup>Collagen Department, National Research & Development Institute for Textiles and Leather (INCDTP) – division: Leather and Footwear Research Institute, Bucharest, Romania



### **2. pH/temperature-sensitive microspheres for drug delivery to the tumors (communication)**

Gheorghe Fundueanu<sup>1</sup>, Marieta Constantin<sup>1</sup>, Bogdan Cosman<sup>1</sup>, Sanda Bucatariu<sup>1</sup>

<sup>1</sup>“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania



### **3. Synthesis of reduced graphene oxide in N,N-Dimethylformamide for future polymer-based composites (communication)**

Raluca Tarcan<sup>1</sup>, Madalina Handrea-Dragan<sup>1</sup>, Otto Todor-Boer<sup>1</sup>, Ioan Petrovai<sup>1</sup>, Cosmin Farcau<sup>1</sup>, Mihai Rusu<sup>1</sup>, Adriana Vulpoi<sup>1</sup>, Milica Todea<sup>1</sup>, Simion Astilean<sup>1</sup>, Ioan Botiz<sup>1</sup>

<sup>1</sup>Babes-Bolyai University, Interdisciplinary Research Institute on Bio-Nano-Sciences



**4. Synthesis and solution self-assembly of polysaccharide-based block copolymers** (*communication*)

Magdalena-Cristina Stanciu<sup>1</sup>, Marieta Nichifor<sup>1</sup>, Florica Doroftei<sup>1</sup>

<sup>1</sup>"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania



**5. Electrospun membranes loaded with bioglass as coatings for metallic implants** (*communication*)

Guadalupe Rivero<sup>1</sup>, Gianina A. Kloster<sup>1</sup>, Gustavo A. Abraham<sup>1</sup>

<sup>1</sup>INTEMA (UNMdP-CONICET), University of Mar del Plata, Argentina



**6. Bioinspired materials for dynamic thermal comfort and all weather homeostasis** (*communication*)

George Stiubianu<sup>1</sup>, Maria Cazacu<sup>1</sup>, Carmen Racles<sup>1</sup>, Mihaela Dascalu<sup>1</sup>, Alexandra Bargan<sup>1</sup>, Adrian Bele<sup>1</sup>, Codrin Tugui<sup>1</sup>, Cristian Ursu<sup>1</sup>

<sup>1</sup>"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania



14<sup>50</sup>-15<sup>00</sup> – Discussions

15<sup>00</sup>-16<sup>50</sup> – Presentations

**1. How surface modification techniques can influence the biological activity of a polymer?**

(*conference*)

Magdalena Aflori<sup>1</sup>, Mioara Drobotă<sup>1</sup>

<sup>1</sup>"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania



**2. pH-sensitive controlled release of Ciprofloxacin from natural/synthetic polymeric hybrid systems** (*communication*)

Daniela Pamfil<sup>1</sup>, Elena Butnaru<sup>1</sup>, Cornelia Vasile<sup>1</sup>, Mihai Brebu<sup>1</sup>

<sup>1</sup>"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania



### 3. Bioelectric-responsive biomaterials for scarless wound repair (communication)

*Nowsheen Goonoo<sup>1</sup>, Fanny Gimié<sup>2</sup>, Imade Ait Arsa<sup>2</sup>, Colette Cordonin<sup>2</sup>, Dhanjay Jhurry<sup>1</sup>, Archana Bhaw-Luximon<sup>1</sup>*

*<sup>1</sup> Biomaterials, Drug Delivery & Nanotechnology Unit, UoM Pole of Innovation for Health, Centre for Biomedical and Biomaterials Research, University of Mauritius, Réduit, Mauritius*

*<sup>2</sup> Animalerie, Plateforme de Recherche CYROI, Ile de La Réunion, France*



### 4. Sand/polyelectrolyte composites with affinity for different water pollutants (communication)

*Florin Bucatariu<sup>1</sup>, Marius Zaharia<sup>1</sup>, Larisa Petrila<sup>1</sup>, Marcela Mihai<sup>1</sup>*

*<sup>1</sup> "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania*



### 5. Combined singular value decomposition and linear regression methods in QSAR modelling: a case study for predicting HIV-1 and HCV biological activities (communication)

*Ismail Hdoufane<sup>1</sup>, Daoud Ounaissi<sup>2</sup>, Azzouz Dermoune<sup>2</sup>, Driss Cherqaoui<sup>1</sup>*

*<sup>1</sup> Department of Chemistry, Faculty of Science Semlalia, Marrakech, Morocco*

*<sup>2</sup> Laboratoire de Probabilités et Statistique, UFR de Mathématiques, USTL, Villeneuve d'Ascq, France*



### 6. Electrospun fibrous coatings with antimicrobial/antioxidant properties (communication)

*Raluca P. Dumitriu<sup>1</sup>, Anamaria Irimia<sup>1</sup>, Elena Stoleru<sup>1</sup>, Mihai Brebu<sup>1</sup>*

*<sup>1</sup> "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania*



*16<sup>50</sup>-17<sup>00</sup> – Discussions*

*17<sup>00</sup>-18<sup>30</sup> – Presentations*

**1. Evaluation of bone regeneration in critical-sized mouse calvaria defects implanted with chitosan – graphene oxide porous 3D scaffolds** (*conference*)

Anca Hermenean<sup>1</sup>, Hildegard Herman<sup>1</sup>, Cornel Balta<sup>1</sup>, Marcel Rosu<sup>1</sup>, Ciprian Mihali<sup>1</sup>, Mariana Ionita<sup>2</sup>

<sup>1</sup>Vasile Goldis Western University of Arad, Romania

<sup>2</sup>Polytechnic University of Bucharest, Romania



**2. Oil-loaded chitosan coatings towards a bioactive food contact material** (*communication*)

Elena Stoleru<sup>1,2</sup>, Mihai Brebu<sup>1</sup>, Raluca P. Dumitriu<sup>1</sup>, Anamaria Irimia<sup>1</sup>

<sup>1</sup>“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania

<sup>2</sup> Faculty of Chemistry, “Alexandru Ioan Cuza” University of Iasi, Iasi, Romania



**3. New hydrogels based on polymers and zeolite containing l-arginine and caffeine** (*communication*)

Simona Gherman<sup>1</sup>, Daniela Zavastin<sup>1</sup>, Lăcrămioara Ochiuz<sup>1</sup>, Alina Ipate<sup>2</sup>, Adrian Bele<sup>2</sup>

<sup>1</sup>Faculty of Pharmacy, “Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

<sup>2</sup>“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania



**4. Design of chitosan films via solvent free thermal cross-linking method** (*communication*)

Sanda Bucătariu<sup>1</sup>, Bogdan Coșman<sup>1</sup>, Gheorghe Fundueanu<sup>1</sup>, Marieta Constantin<sup>1</sup>

<sup>1</sup>“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania



**5. Controlled release dynamics of multiple biologically active agents from layered double hydroxides** (*communication*)

Laura Romila<sup>1</sup>, Gabriela Carja<sup>2</sup>, Vasile Burlui<sup>1</sup>

<sup>1</sup>“Apollonia” University of Iași, Romania

<sup>2</sup> “Gh. Asachi” Technical University of Iași, Romania



Wednesday, March 3, 2021

<https://zoom.us/j/99769036111>

9<sup>00</sup>-10<sup>50</sup> – Presentations

*Moderator: Prof. Habil. PhD Leonard Ionut Atanase*

**1. Using protein mechanics toward biological-like motion**  
(conference)

*Ionel Popa<sup>1</sup>*

*<sup>1</sup>Department of Physics, University of Wisconsin-Milwaukee,  
Milwaukee, Wisconsin, United States of America*



**2. General structure activity relationship for antimicrobial chitosan derivatives and chitosan conjugates** (conference)

*Már Másson<sup>1</sup>, Sigríður Ólafsdóttir<sup>1</sup>, Vivien Nagy<sup>1</sup>, Sankar Rathinam<sup>1</sup>*

*<sup>1</sup>Faculty of Pharmaceutical Sciences, School of Health Sciences,  
University of Iceland, Iceland*



**3. Design and characterization of polymeric nanoplatfoms for potential applications of inner ear diseases** (communication)

*Delia M. Rață<sup>1</sup>, Anca N. Cadinoiu<sup>1</sup>, Leonard I. Atanase<sup>1</sup>, Marcel Popa<sup>1,2</sup>*

*<sup>1</sup> Faculty of Medical Dentistry, „Apollonia” University of Iasi,  
Romania*

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



**4. Structured polymeric platforms for bio-applications**  
(communication)

*Madalina Handrea-Dragan<sup>1</sup>, Raluca Tarcan<sup>1</sup>, Otto Todor-Boer<sup>1</sup>, Adriana Vulpoi<sup>1</sup>, Ioan Botiz<sup>1</sup>*  
*<sup>1</sup>Babes-Bolyai University, Interdisciplinary Research Institute on Bio-Nano-Sciences*



## 5. Towards tumour-selective nanomedicines using stealth particles (*communication*)

Antons Sizovs<sup>1,2</sup>, Rinalds Serzants<sup>3</sup>, Maija Dambrova<sup>1</sup>

<sup>1</sup>Latvian Institute of Organic Synthesis,

<sup>2</sup>Baltic Biomaterials Centre of Excellence

<sup>3</sup>Riga Stradins University



10<sup>50</sup>-11<sup>00</sup> – Discussions

11<sup>00</sup>-12<sup>50</sup> – Presentations

## 1. Electrospun polymer-based scaffolds for tissue engineering and drug delivery applications (*conference*)

Gustavo A. Abraham<sup>1</sup>

INTEMA (UNMdP-CONICET), University of Mar del Plata, Argentina



## 2. Electrospun bi-layer membrane of PCL nanofibers with IBU/HA deposited on GE/HA film for wound dressing application (*communication*)

Tabinda Riaz<sup>1,2</sup>, Christelle Delaite<sup>1</sup>, Dominique Adolphe<sup>2</sup>, Delia M. Rata<sup>3</sup>, Leonard I. Atanase<sup>3</sup>

<sup>1</sup>LPIM, University of Haute Alsace, Mulhouse, France

<sup>2</sup>LPMT, University of Haute Alsace, Mulhouse, France

<sup>3</sup>Faculty of Medical Dentistry, „Apollonia” University of Iasi, Romania



## 3. Development of polyvinyl alcohol materials with plant extracts for biomedical applications (*communication*)

Mihaela Barbălată-Mândru<sup>1</sup>, Diana Serbezeanu<sup>1</sup>, Maria Spiridon<sup>1</sup>, Mioara Drobotă<sup>1</sup>, Magdalena Aflori<sup>1</sup>

<sup>1</sup>„Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania



**4. Biodegradable PCL-PBS multiblock copolymers as a new material - effect of copolymer composition on their properties and degradation behavior** (*communication*)

Marijana Ponjavic<sup>1</sup>, Sanja Jevtic<sup>2</sup>, Marija S. Nikolic<sup>2</sup>

<sup>1</sup>*Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Serbia*

<sup>2</sup>*Faculty of Technology and Metallurgy, University of Belgrade, Serbia*



**5. Synthesis and characterization of biodegradable polyester-based block copolymers for the preparation of drug delivery systems** (*communication*)

Leonard I. Atanase<sup>1</sup>, Anca N. Cadinoiu<sup>1</sup>, Delia M. Rata<sup>1</sup>, Slim Salhi<sup>2</sup>, Christelle Delaite<sup>3</sup>

<sup>1</sup>*Faculty of Medical Dentistry, "Apollonia" University of Iasi, Romania*

<sup>2</sup>*Faculty of Sciences, University of Sfax, Sfax, Tunisia*

<sup>3</sup>*LPIM, University of Haute Alsace, Mulhouse, France*



**6. Development of production method for a bioactive chitosan derivative** (*communication*)

Vivien Nagy<sup>1</sup>, H el ene L. Lauzon<sup>2</sup>, M ar M asson<sup>1</sup>

<sup>1</sup>*Faculty of Pharmaceutical Sciences, School of Health Sciences, University of Iceland, Iceland*

<sup>2</sup>*Primex ehf, Iceland*



12<sup>50</sup>-13<sup>00</sup> – Discussions

13<sup>00</sup>-14<sup>50</sup> – Presentations

**1. Cryogenically-structured composite biomaterials** (*conference*)

Maria Valentina Dinu<sup>1</sup>, Maria Marinela Laz ar<sup>1</sup>, Irina Elena R aschip<sup>1</sup>

<sup>1</sup>*"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania*





**2. Chitosan-based hydrogel loaded with anti-inflammatory drug for local treatment of periodontitis (communication)**

Anca N. Cadinoiu,<sup>1</sup> Leonard I. Atanase<sup>1</sup>, Irina Popescu<sup>2</sup>, Delia M. Rata<sup>1</sup>

<sup>1</sup> Faculty of Dental Medicine, "Apollonia" University from Iasi, Romania

<sup>2</sup> "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania



**3. The effect of Gamma irradiation on morphology and properties of PLA/Cloisite 30B nanocomposite (communication)**

Mustapha Kaci<sup>1</sup>, Lynda Zaidi<sup>1</sup>, Nadjet Dehouche<sup>1</sup>, Stéphane Bruzaud<sup>1</sup>

<sup>1</sup>Laboratory of Advanced Polymeric Materials (LMPA), Bejaia, Algeria



**4. Chitosan/oxalic acid/poly(vinyl alcohol) cryogels for biomedical applications (communication)**

Irina Mihaela Pelin<sup>1</sup>, Irina Popescu<sup>1</sup>, Marieta Constantin<sup>1</sup>

<sup>1</sup> "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania



**5. Silica-gentamicin nanohybrids obtained by microwave synthesis (communication)**

Violeta Purcar<sup>1</sup>, Cornelia Nichita<sup>2</sup>, Adriana Bălan<sup>2</sup>, Valentin Rădițoiu<sup>1</sup>, Alina Rădițoiu<sup>1</sup>, Simona Căprărescu<sup>3</sup>, Monica F. Raduly<sup>1</sup>, Raluca Șomoghi<sup>1</sup>, Cristian-Andi Nicolae<sup>1</sup>, Mariana Călin<sup>1</sup>

<sup>1</sup>National Institute for Research & Development in Chemistry and Petrochemistry – ICECHIM, Bucharest, Romania

<sup>2</sup>University of Bucharest, Faculty of Physics, 3Nano-SAE Research Centre, Bucharest-Magurele, Romania

<sup>3</sup>Physical Chemistry and Electrochemistry Department, Faculty of Applied Chemistry and Materials Sciences, Inorganic Chemistry, Polytechnic University of Bucharest, Romania



**6. Development and validation of an HPLC method for determination of metformin hydrochloride (communication)**

*Sha'at Mousa<sup>1</sup>, Bujor Alexandra<sup>1</sup>, Stamate Monica Iliuța<sup>1</sup>, Șpac Adrian Florin<sup>1</sup>, Ochiuz Lăcrămioara<sup>1</sup>*

*<sup>1</sup>Faculty of Pharmacy, "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania*



*14<sup>50</sup>-15<sup>00</sup> – Discussions*

*15<sup>00</sup>-16<sup>50</sup> – Presentations*

**1. Development of polymer nanoparticles stabilized with a PVA-folate mixture and their potential use for the targeted delivery of antitumor agents (conference)**

*Roberto Olvera-Guillen<sup>1</sup>, Gabriela Rocha-Botello<sup>1</sup>, Karla Juarez-Moreno<sup>3</sup>, Martha Cruz-Soto<sup>1</sup>, **Jorge Herrera-Ordoñez<sup>2</sup>***

*<sup>1</sup>Universidad del Valle de México (UVM) Campus Querétaro, Juriquilla, Querétaro Qro., México*

*<sup>2</sup>Centro de Física Aplicada y Tecnología Avanzada (CFATA), Universidad Nacional Autónoma de México (UNAM) Campus Juriquilla, Juriquilla, Querétaro Qro., México*

*<sup>3</sup>Centro de Nanociencias y Nanotecnología (CNyN), Universidad Nacional Autónoma de México (UNAM), Ensenada, México; and CONACYT Research Fellow at CNyN, UNAM, Ensenada, Baja California, México*



**2. Cyclodextrin-oligolactide polyurethane hydrogels**

*(communication)*

*Alexandra-Diana Diaconu<sup>1</sup>, Valeria Harabagiu<sup>1</sup>, Cristian Peptu<sup>1</sup>*

*<sup>1</sup>"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania*



### 3. Oromucosal films loaded with polyphenol-rich extracts

(communication)

Alexandra Bujor<sup>1</sup>, Lăcrămioara Ochiuz<sup>1</sup>, Monica I. Stamate<sup>1</sup>,  
Ciprian Stamate<sup>2</sup>, Iulian Stoleriu<sup>3</sup>, Camelia Elena Iurciuc (Tincu)<sup>4</sup>,  
Mousa Sha'at<sup>1</sup>, Anca Miron<sup>1</sup>

<sup>1</sup>Faculty of Pharmacy, "Grigore T. Popa" University of Medicine  
and Pharmacy, Iași, Romania

<sup>2</sup>Faculty of Mechanical Engineering, „Gheorghe Asachi”  
Technical University, Iași, Romania

<sup>3</sup>Faculty of Mathematics, Alexandru I. Cuza University, Iasi,  
Romania

<sup>4</sup>Faculty of Chemical Engineering and Protection of the  
Environment, „Gheorghe Asachi” Technical University, Iasi,  
Romania.



### 4. Formation of 1D-oriented structure in chitosan-based hydrogels (communication)

Maria Marinela Lazăr<sup>1</sup>, Maria Valentina Dinu<sup>1</sup>

<sup>1</sup>“Petru Poni” Institute of Macromolecular Chemistry, Iasi,  
Romania



### 5. Biocomposites based on poly(3-Hydroxybutyrate-Co-3-Hydroxyhexanoate) (PHBHHx)/ chemically modified Agave fibers (communication)

Nadjet Dehouche<sup>1</sup>, Celia Idres<sup>1</sup>, Lynda Zaidi<sup>1</sup>, Mustapha Kaci<sup>1</sup>,  
Stéphane Bruzaud<sup>1</sup>

<sup>1</sup>Laboratory of Advanced Polymeric Materials (LMPA), Bejaia,  
Algeria



### 6. Ordering of conjugated polymers in thin films

(communication)

Otto Todor-Boer<sup>1, 2</sup>, Ioan Petrovai<sup>1</sup>, Raluca Tarcan<sup>1</sup>, Leontin  
David<sup>1</sup>, Ioan Botiz<sup>1</sup>

<sup>1</sup>Babes-Bolyai University, Interdisciplinary Research Institute on  
Bio-Nano-Sciences, Cluj Napoca, Romania,

<sup>2</sup>INCDO-INOE 2000 subsidiary Research Institute for Analytical  
Instrumentation ICIA, Cluj-Napoca, Romania



16<sup>50</sup>-17<sup>00</sup> – Discussions

17<sup>00</sup>-18<sup>50</sup> – Presentations

**1. Conjugated electroactive polymers: a step forward to smarter and more advanced synthetic polymers biomaterials (conference)**

Anca-Dana Bendrea<sup>1</sup>, Luminita Cianga<sup>1</sup>, Ioan Cianga<sup>1</sup>

<sup>1</sup>”Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania



**2. Synthesis of a bio-based polyester acrylate resins crosslinked under UV (communication)**

Anne-Sophie Schuller<sup>1</sup>, Aymeric Champion<sup>1</sup>, Xavier Allonas<sup>1</sup>, Céline Crouxé-Barghorn<sup>1</sup>

<sup>1</sup>LPIM, University of Haute Alsace, Mulhouse, France



**3. Degradable Pluronic/alginate hydrogels for skin wound healing – *in vitro* studies (communication)**

Irina Popescu<sup>1</sup>, Mihaela Turtoi<sup>2</sup>, Raluca N. Darie-Nita<sup>1</sup>, Manuela Calin<sup>2</sup>

<sup>1</sup>”Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania

<sup>2</sup>Institute of Cellular Biology and Pathology „Nicolae Simionescu”, Bucharest, Romania



**4. Cross-reactive poly(ethylene oxide) and poly(ε-caprolactone) stars combining water and temperature triggered shape-memory for advanced biomedical applications (communication)**

Jérémie Caprasse<sup>1</sup>, Jean-Michel Thomassin<sup>1</sup>, Raphaël Riva<sup>1</sup>, Christine Jérôme<sup>1</sup>

<sup>1</sup>University of Liege, Liege, Belgium



**5. The influence of polymeric excipients and pH on ketoprofen-releasing therapeutic systems (communication)**

Monica Iliuta Cretan-Stamate<sup>1</sup>, Ciprian Stamate<sup>2</sup>, Carmen Gaftanu<sup>1</sup>, GrațIELa Eliza Popa<sup>1</sup>, Andreea Crețeanu<sup>1</sup>, Carmen Gaftanu<sup>1</sup>, Lacramioara Ochiuz<sup>1</sup>

<sup>1</sup>Faculty of Pharmacy, “Grigore T. Popa” University of Medicine and Pharmacy, Iași, Romania

<sup>2</sup>Faculty of Mechanical Engineering, „Gheorghe Asachi” Technical University, Iași, Romania



**6. Eco-friendly biopolymer membrane for zinc ions removal from a simulated wastewater (communication)**

Simona Căprărescu<sup>1</sup>, Violeta Purcar<sup>2</sup>, Cristina Modroga<sup>3</sup>, Annette Madelene Dăncilă<sup>3</sup>

<sup>1</sup>Inorganic Chemistry, Physical Chemistry and Electrochemistry Department, Faculty of Applied Chemistry and Materials Science, Polytechnic University of Bucharest, Romania

<sup>2</sup>National Institute for Research & Development in Chemistry and Petrochemistry-ICECHIM, Bucharest, Romania

<sup>3</sup>Analytical Chemistry and Environmental Engineering Department, Faculty of Applied Chemistry and Materials Science, Polytechnic University of Bucharest, Romania

