

International Workshop

“Progress in antimicrobial materials”

Iasi, Romania, March 30, 2017

Organizer: “Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania

Venue: “Petru Poni” Institute of Macromolecular Chemistry, Congress Hall
41A Gr. Ghica Voda Alley, 700487, Iasi, ROMANIA

PROGRAMME

8:45 – 9:00	Registration of Participants
9:00 – 9:10	Welcome at PPIMC Project Director, <u>Dr. Cornelia Vasile</u>
	<i>I. ORAL PRESENTATIONS – chair dr. Morten Sivertsvik</i>
9:10 – 9:20	1. Novel Multifunctional Polymeric Materials for Food Packaging and Medical Applications Developed in the Framework of National and International Projects <u>Cornelia Vasile</u> ^a , <u>Maria Râpă</u> ^b ^a “Petru Poni” Institute of Macromolecular Chemistry, Iași, Romania ^b ICPAO S.A., Mediaș, Romania
9:20 – 9:30	2. Multifunctional PLA Materials for Market Applications <u>Maria Râpă</u> ACTIBIOSAFE Consortium: Research Institute of Auxiliary and Organic Products S.A. (ICPAO), Mediaș, Sibiu, Romania “Petru Poni” Institute of Macromolecular Chemistry, (PPIMC), Iași, Romania NOFIMA AS, Dept. Processing Technology (NOFIMA), Stavanger, Norway S.C. RODAX IMPEX SRL (RODAX), Bucharest, Romania University of Agronomic Sciences and Veterinary Medicine, Faculty of Biotechnology (USAMVB), Bucharest, Romania
9:30 – 9:40	3. The effect of Actibiosafe materials on the shelf-life of smoked salmon <u>Morten Sivertsvik</u> , <u>Bjørn Tore Rotabakk</u> , <u>Miriam Høie</u> , <u>Leena Shinde</u> , <u>Jan Thomas Rosnes</u> NOFIMA AS, Stavanger, Norway
9:40 – 9:50	4. The anti-microbial effect of Actibiosafe materials: case <i>Listeria monocytogenes</i> inoculated smoked salmon <u>Jan Thomas Rosnes</u> , <u>Miriam Høie</u> , <u>Leena Shinde</u> , <u>Morten Sivertsvik</u> NOFIMA AS, Stavanger, Norway
9:50 – 10:00	5. The processability and food contact safety of the Actibiosafe tray <u>Bjørn Tore Rotabakk</u> , <u>Morten Sivertsvik</u> NOFIMA AS, Stavanger, Norway
10:00 – 10:10	6. Shelf life trials on PLA/chitosan based active food packaging tray: chicken breast case study

	<p>Amalia Carmen Miteluț^a, <u>Elisabeta Elena Popa</u>^a, Paul Alexandru Popescu^a, Mona Elena Popa^a, Maria Râpă^b, Laurențiu Moldovan^c</p> <p>^a University of Agronomic Sciences and Veterinary Medicine (USAMVB), Faculty of Biotechnology, Bucharest, Romania</p> <p>^b ICPAO S.A., Mediaș, Romania</p> <p>^c S.C. RODAX IMPEX SRL, Bucharest, Romania</p>
10:10 – 10:20	<p>7. Ecotoxicity assessment of soil after biodegradation of newly developed biobased materials</p> <p>Amalia Carmen Miteluț^a, Elisabeta Elena Popa^a, <u>Paul Alexandru Popescu</u>^a, Mona Elena Popa^a, Adina Alexandra Baicu^a, Mihaela Drăghici^a, Maria Râpă^b</p> <p>^a University of Agronomic Sciences and Veterinary Medicine (USAMVB), Faculty of Biotechnology, Bucharest, Romania</p> <p>^b ICPAO S.A., Mediaș, Romania</p>
10:20 – 10:30	<p>8. Sustainable Packaging Methods Using Bioactive Materials</p> <p>Gabriela Pantea, <u>Laurențiu Moldovan</u></p> <p>S.C. RODAX IMPEX SRL, Bucharest, Romania</p>
10.30- 10.50	COFFEE BREAK
	I. ORAL PRESENTATIONS – chair dr. Laurențiu Moldovan
10:50-11:00	<p>9. Studies of future markets for the developed compositions and materials</p> <p><u>Elena Grosu</u>, Maria Râpă</p> <p>ICPAO S.A., Mediaș, Romania</p>
11:00 – 11:10	<p>10. New arginine derivatives with improved antimicrobial effects</p> <p><u>Iacob Andreea-Teodora</u>, Drăgan Maria, Profire Lenuța</p> <p>Faculty of Pharmacy, "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania</p>
11:10 – 11:20	<p>11. Antimicrobial Poly(vinyl alcohol)/Hyaluronic acid cryogels</p> <p><u>Daniela Pamfil</u>^a, Cătălina Yilmaz^a, Nela Bibire^b, Raoul Lupușoru^b, Cornelia Vasile^a</p> <p>^a "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p> <p>^b Faculty of Pharmacy, "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania</p>
11:20 – 11:30	<p>12. Electrospun fibrous coatings containing poly(ε-caprolactone) and α-tocopherol for food packaging application</p> <p><u>Raluca Petronela Dumitriu</u>^a, G.R. Mitchell^b, Gabriela Elena Hitruc^a, Elena Stoleru^a, Cornelia Vasile^a</p> <p>^a "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p> <p>^b Centre for Rapid and Sustainable Product Development, Institute Polytechnic of Leiria, Rua de Portugal, Portugal</p>
11:30 – 12:30	<p>II. POSTER SESSION – moderator dr. Mihai Brebu</p> <p>(posters will be displayed from 9:00)</p>
	<p>1. Functional antimicrobial hybrid coatings based on crosslinked polyacrylic latex/silver nanoparticles</p> <p>Onur Yilmaz^{a,b}, Mikko Karesoj^a, Heikki Tenhu^a</p> <p>^a Chemistry Department, Laboratory of Polymer Chemistry, University of Helsinki, Finland</p> <p>^b Leather Engineering Department, Faculty of Engineering, Ege University, Izmir, Turkey</p>
	<p>2. Antimicrobial Resistance of Essential Oils Against <i>Staphylococcus aureus</i>, <i>E. coli</i> and <i>Listeria monocytogenes</i></p> <p>Gro H. Kleiberg^a, Jan Thomas Rosnes^a, Morten Sivertsvik^a, Cornelia Vasile^b, Mihai Brebu^b, Waqas Khan^c</p>

^a NOFIMA AS, Stavanger, Norway

^b "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

^c Centre for Organelle Research (CORE), Faculty of Science & Technology, University of Stavanger, Norway

3. Effects of essential oils on *Staphylococcus aureus*, *Escherichia coli* and *Listeria monocytogenes* in a food packaging system

Jan Thomas Rosnes^a, Morten Sivertsvik^a, Waqas Khan^b, Cornelia Vasile^c, Mihai Brebu^c

^a NOFIMA AS, Stavanger, Norway

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4. Influence of Accelerated Aging on the Physico-mechanical Properties of PLA Composites

Andrzej Iwańczuk, Anna Niechwiej

Wroclaw University of Technology, Poland

5. Surface-immobilized nano-compartments as active packaging systems for safeguarding food quality

Svetlana Stolarova, Ionel Adrian Dinu^{a,b}, Wolfgang Meier^a, Cornelia Palivan^a

^a Department of Chemistry, University of Basel, Klingelbergstrasse 80, Basel, Switzerland;

^b "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

6. Conjugated Polymers-Based Multifunctional Platforms as Potential Alternatives to Concomitant Bacterial Inhibition and Detection

Luminița Cianga^a, Anca-Dana Bendrea^a, Suna Timur^b, Ioan Cianga^a

^a Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

^b Department of Biochemistry, Faculty of Science, Ege University, Izmir, Turkey

7. Technological Process for Compounding with Alimentary Additives for Layers with Antimicrobial and Antioxidant Properties

Constantinescu Doina

ICEFS COM SRL Săvinești, Neamț, Romania

8. Research on chitosan and oil coated PLA as food packaging material

Amalia Carmen Miteluț^a, Elisabeta Elena Popa^a, Paul Alexandru Popescu^a, Mona Elena Popa^a, Bogdănel Munteanu^b, Cornelia Vasile^b, Georgiana Ștefănoiu^a

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9. The influence of newly developed biobased products after disintegration on cucumber and lettuce seedlings

Amalia Carmen Miteluț, Silvana Dănăilă-Guidea, Gabriela Neața, Elisabeta Elena Popa, Paul Alexandru Popescu, Mona Elena Popa

University of Agronomic Sciences and Veterinary Medicine (USAMVB), Faculty of Biotechnology, Bucharest, Romania

10. ACTIBIOSAFE – Conclusions and Perspectives

Cornelia Vasile

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

11. The Influence of the Structure of Several New ortho-hydroxy-ketone Derived Schiff Bases on their Antibacterial Activity

Gladiola Tantaru^a, Cornelia Vasile^b, Cristina Maria Popescu^b, Madalina Vieriu^a, Antonia Poiata^c

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^c "Grigore T. Popa" University of Medicine and Pharmacy, Faculty of Medicine, Iasi, Romania

12. The influence of the lignosulfonate on antimicrobial properties of polypropylene matrix

<p>Raluca Nicoleta Darie-Niță^a, Oana Chirilă^a, Gina Mihaela Pricope^b, Loredana Niță^a, Cristian Grigoraș^a, Georgeta Cazacu^a, Cornelia Vasile^a</p> <p>^a "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p> <p>^b Sanitary Veterinary and Food Safety Direction, Veterinary Diagnostic Laboratory, Iași, Romania</p>	
<p>13. Particular structures based on xanthan gum and lignin with application in food industry</p> <p>Irina E. Raschip, Oana M. Mocanu (Păduraru), Cornelia Vasile</p> <p>"Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p>	
<p>14. Cellulose-based hydrogels with antimicrobial activity</p> <p>Denisa G. Paraschiv^a, Gina Pricope^b, Georgeta Cazacu^a, Diana Ciolacu^a</p> <p>^a "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p> <p>^b Sanitary Veterinary and Food Safety Direction, Veterinary Diagnostic Laboratory, Iași, Romania</p>	
<p>15. Polymeric systems with antioxidant characteristics derived from the quercetin presence</p> <p>Alina Diaconu^a, Loredana Niță^a, Alina Rusu^a, Liliana Tarțău^b</p> <p>^a "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p> <p>^b Faculty of Medicine, "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania</p>	
<p>16. Effects of chitosan nanoparticles solutions on the impregnated cellulose Kraft paper</p> <p>Cătălina Natalia Cheaburu- Yilmaz, Diana Ciolacu, Cornelia Vasile</p> <p>"Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p>	
<p>17. New green materials based on PLA and biomass wastes</p> <p>Iuliana Spiridon^a, Raluca Nicoleta Darie-Niță^a, Irene Alexandra Cianga Spiridon^b, Ramona Gabriela Ursu^b, Luiza Gradinaru^a, Elena Marlica^a</p> <p>^a "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p> <p>^b "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania</p>	
<p>18. Polymer nanocomposites – recent trends in food packaging</p> <p>Fulga Tănasă, Mădălina Zănoagă</p> <p>"Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p>	
<p>19. Biocide polymers: from functionalized structures design to synergistic effects</p> <p>Fulga Tănasă^a, Mădălina Zănoagă^a, Ioana Tănasă^b</p> <p>^a "Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania</p> <p>^b Faculty of Biomedical Engineering, "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania</p>	
12:30	End of the Workshop

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