



**OPEN DOOR TO THE FUTURE
SCIENTIFIC COMMUNICATIONS OF
YOUNG RESEARCHERS**

5th Edition

Marking the Romanian Researcher's Day

**Dedicated to the 75th anniversary of the
Petru Poni Institute of Macromolecular Chemistry**

Program

In memoriam Acad. Bogdan C. SIMIONESCU (1948-2024)

**ICMPP – Petru Poni Institute of Macromolecular Chemistry
Iasi | Romania | November 15, 2024
<https://icmpp.ro/macroyouth2024>**



Edited by

Marcela MIHAI
Marius-Mihai ZAHARIA
Bianca-Iustina ANDREICA

Cover by

Diana SCHWAB

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Welcome to the OPEN DOOR TO THE FUTURE
Scientific Communications of Young Researchers with international participation,
MacroYouth 2024

It is a great pleasure to welcome you in Iasi, on 15.11.2024, on the occasion of the 5th Edition of the Scientific Communications of Young Researchers - OPEN DOOR TO THE FUTURE, MacroYouth 2024. The scientific communications event is organized by the Petru Poni Institute of Macromolecular Chemistry - ICMPP, to mark the Romanian Researcher's Day, and offers the opportunity for the doctoral students and young scientists to present the results of their studies. The scientific program gives a broad overview of the topics in organic and macromolecular chemistry and physics, and more.

Best wishes for a professionally rewarding scientific meeting!

Dr. Valeria HARABAGIU, Dr. Marcela MIHAI and
Chairpersons of MacroYouth 2024

Acad. Bogdan C. SIMIONESCU





CHAIRPERSONS of MacroYouth 2024

Dr. Valeria HARABAGIU, Dr. Marcela MIHAI and Acad. Bogdan C. SIMIONESCU

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Petru Poni Institute of Macromolecular Chemistry, Conference Hall		
Friday 15.11.2024		
https://us06web.zoom.us/j/89518488259?pwd=GWxXi5VB3TVXlx11j9108FpKbdrYYW		
	9:00-9:30	Registration of Participants
S1	9:30-10:00	Opening Ceremony Romanian Chemical Society
	10:00-10:30	European Polymer Federation
	10:30-11:15	Invited Lecture: Prof. Katja LOOS
	11:15-11:45	Coffee break
S2	11:45-12:00	OC1: Larisa-Maria PETRILA
	12:00-12:15	OC2: Robert BOTEAN
	12:15-12:30	OC3: Bianca CIUBOTARU
	12:30-12:45	OC4: Paula LORENT (CUCU)
	12:45-13:00	OC5: Ioana-Sabina TRIFAN
	13:00-14:30	Lunch break - ICMPP Library
S3	14:30-14:45	OC6: Diana RUSU (online)
	14:45-15:00	OC7: Petru TIRNOVAN OC7: Andra-Cristina ENACHE
	15:00-15:15	OC8: Isabella NACU
	15:15-15:30	OC9: Codruta FRINCUL
	15:30-15:45	OC10: Irina APOSTOL
	15:45-16:00	OC11: Alexandru-Constantin STOICA
S4	16:00-17:30	Coffee break & POSTER SESSION
	17:30-18:00	Analysis, Awarding and Closing Ceremony
	18:00-:::	Dinner - ICMPP Library





The scientific program includes:

- oral presentations (15 minutes, Q & A included)
- poster presentations (A1 size, portrait orientation)
- all posters will be exhibit after registration and will remain displayed during the entire MacroYouth day
- the conference language will be English.



Location:

Conference hall of ICMPP.

A small number of online presentations will be accepted.



INVITED LECTURE

Prof. Katja LOOS is Professor at the Zernike Institute for Advanced Materials of the University



of Groningen, holding the chair of Macromolecular Chemistry and New Polymeric Materials. She currently serves as the President of the European Polymer Federation for the period of 2023 to 2025. She specialized in Organic Chemistry and Polymer Chemistry during her university studies at the Johannes Gutenberg Universität in Mainz, Germany and the University of Massachusetts in Amherst, USA. She moved into the field of Enzymatic Polymerizations during her doctoral research at the University of Bayreuth, Germany and the Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil. After a postdoctoral research stay at Polytechnic University in Brooklyn, NY, USA she started an independent research group at the University of Groningen. Katja Loos pioneered the field of enzymatic polymerization, especially the

biocatalytic synthesis of polysaccharides and polyamides, and the synthesis and self-assembly of PVDF containing block copolymers. Already early in her career Katja Loos was awarded two travel scholarships of the German Academic Exchange Service (DAAD) and she received the very prestigious Feodor Lynen Fellowship award of the Alexander von Humboldt Foundation to conduct her postdoctoral research. During her independent research career, on the basis of her unique approach in combining modern polymer synthesis, (macro) molecular self-assembly, and utilization of the arising structures the Netherlands Organization for Scientific Research (NWO) has awarded her the prestigious VIDI grant in 2009 and VICI grant in 2014 and the German Research Council (DFG) the Eleonore Trefftz guest professorship within the scope of its excellency initiative. Among others she was awarded the Friedrich Wilhelm Bessel Research Award of the Alexander von Humboldt Foundation, the IUPAC Distinguished Women in Chemistry and Chemical Engineering Award and the Team Science Award of the Dutch Research Council (NWO). In 2023 she received the title of Knight of the Order of the Netherlands Lion. Katja Loos is a Fellow of the Dutch Polymer Institute (DPI) and the Royal Society of Chemistry (RSC).







PROGRAM

ICMPP Conference Hall

<https://us06web.zoom.us/j/89518488259?pwd=GWxXi5VB3TVXlx11j9108FpKbdrYYW.1>

09⁰⁰ – 09³⁰ **Registration of Participants**

09³⁰ – 11¹⁵

Session 1

Chairs: Dr. Valeria HARABAGIU and Dr. Marcela MIHAI

Opening Ceremony

Dr. Valeria HARABAGIU

09³⁰ – 10⁰⁰

Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

Romanian Chemical Society

Dr. Marcela MIHAI

Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

European Polymer Federation

10⁰⁰ – 10³⁰

Prof. Katja LOOS

*Zernike Institute for Advanced Materials of the University of Groningen,
Netherlands*

10³⁰ – 11¹⁵

INVITED LECTURE

Unleashing the Potential of Enzymes for Green Furan-Based Polymer Synthesis

Prof. Katja LOOS

*Zernike Institute for Advanced Materials of the University of Groningen,
Netherlands*

11¹⁵ – 11⁴⁵

Coffee break



11⁴⁵ – 13⁰⁰

Session 2

Chairs: Dr. Bianca-Iustina ANDREICA and Dr. Catalin-Paul CONSTANTIN

11⁴⁵ – 12⁰⁰ **OC1. Laccase/polysaccharide hybrid nanostructures for efficient dye degradation**

Larisa-Maria PETRILA^{1*}, Maria KARAYIANNI¹, Stergios PISPAS^{1,2},
Marcela MIHAI¹

¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*

²*Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece*

12⁰⁰ – 12¹⁵ **OC2. Strategic synthesis of mono- and binuclear complexes using polydentate ligands with extended π systems**

Robert I. BOTEA^{*}, Augustin MADALAN

Faculty of Chemistry, University of Bucharest, Bucharest, Romania

12¹⁵ – 12³⁰ **OC3. Emerging compounds with cancer inhibitory activity to widen the medicinal chemistry field**

Bianca-Iulia CIUBOTARU^{1,2*}, Mirela-Fernanda ZALTARIOV¹,
Alexandra BARGAN¹, Maria CAZACU¹

¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*

²*Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania*

12³⁰ – 12⁴⁵ **OC4. Chitosan-dextran matrix for delivery of curcumin**

Paula LORENT (CUCU)^{1,2*}, Irina APOSTOL², Narcis ANGHEL²

¹*Ion Ionescu de la Brad University of Life Sciences, Faculty of Veterinary Medicine, Iasi, Romania*

²*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*

12⁴⁵ – 13⁰⁰ **OC5. Synthesis, characterization and fluorescent behavior of a chemosensor based on a derivative of pullulan and benzonitrile**

Ioana-Sabina TRIFAN^{*}, Mioara MURARIU, Gabriela BILIUTA,
Sergiu COSERI

Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

13⁰⁰ – 14³⁰

Lunch break - ICMPP Library

14³⁰ – 16⁰⁰

Session 3

Chairs: Dr. Andra-Cristina ENACHE and Dr. Bogdan-George RUSU

14³⁰ – 14⁴⁵ **OC6. Luminescent hybrid liquid crystalline systems**

Diana O. RUSU^{*}, Carmen CRETU, Adelina A. ANDELESCU,
Elisabeta I. SZERB

Coriolan Dragulescu Institute of Chemistry, Romanian Academy, Timisoara, Romania

14⁴⁵ – 15⁰⁰ ~~**OC7. UV-induced radical formation from urocanic acid: a combined experimental and theoretical study on their role in skin cancer development**~~

Petru TIRNOVAN^{1*}, Dragos ISAC¹, Mihaela SILION¹, Adina COROABA¹,
Teodora RUSU¹, Mariana PINTEALA¹, Aatto LAAKSONEN^{1,2}

¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*

²*Division of Physical Chemistry, Department of Materials and Environmental Chemistry, Arrhenius Laboratory, Stockholm University, Stockholm, Sweden*



- 14⁴⁵– 15⁰⁰ **OC7. Design Thinking - a way to transform the plastic industry to circularity (Plan-C Project)**
 Andra-Cristina ENACHE
Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania
- 15⁰⁰– 15¹⁵ **OC8. Complex polymeric 3D structures for drug release and skin tissue regeneration**
 Isabella NACU^{1,2*}, Simina LASLAU¹, Florina Daniela COJOCARU¹,
 Maria BUTNARU¹, Loredana Elena NITA², Liliana VERESTIUC¹
¹*Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania*
²*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
- 15¹⁵– 15³⁰ **OC9. Toward a new Indolo[2,3-e]Benzazocine-based ligand and its metal complexes as tubulin inhibitors**
 Codruța FRINCUL^{1,2*}, Irina KUZNETCOVA¹, Bianca CIUBOTARU¹,
 Sergiu SHOVA¹, Alexandru STOICA¹, Vladimir B. ARION¹
¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
²*Alexandru Ioan Cuza University of Iasi, Faculty of Chemistry, Iasi, Romania*
- 15³⁰– 15⁴⁵ **OC10. Polysaccharide matrices for skin applications**
 Irina APOSTOL^{1*}, Paula LORENT (CUCU)^{1,2}, Ioana PLAESU³
¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
²*Ion Ionescu de la Brad University of Life Sciences, Faculty of Veterinary Medicine, Iasi, Romania*
³*Alexandru Ioan Cuza University of Iasi, Faculty of Chemistry, Iasi, Romania*
- 15⁴⁵– 16⁰⁰ **OC11. Two-dimensional coordination polymer sensitive to organic solvent vapors**
 Alexandru-Constantin STOICA^{*}, Adrian BELE, Mihaela DASCALU,
 Maria CAZACU
Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

**Coffee break &
 POSTER SESSION**

16⁰⁰– 17³⁰

Chairs: Dr. Daniela PAMFIL and Dr. Bogdan-Constantin CONDURACHE

- PP1 ENHANCING BIOPOLYMER BIODEGRADABILITY FOR FOOD PACKAGING APPLICATIONS THROUGH IRRADIATION AND NATURAL EXTRACTS INCORPORATION**
 Madalina-Casandra COVORAN^{*}, Adina Magdalena MUSUC
Institute of Physical Chemistry – Ilie Murgulescu, Bucharest, Romania
- PP2 HYBRID CRYOGELS AS DERMAL DRUG DELIVERY SYSTEMS**
 Bianca-Elena-Beatrice CRETU^{1*}, Vera BALAN², Irina ROSCA¹,
 Alexandru M. SERBAN¹, Alina Gabriela RUSU¹, Loredana Elena NITA¹
¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
²*Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania*
- PP3 POLY(VINYL ALCOHOL)/POLYURETHANE-BASED HYDROGELS FOR THIAMINE RELEASE**
 Alexandra LUPU^{1*}, Luiza Madalina GRADINARU¹, Mihaela AVADANEI¹,
 Vasile-Robert GRADINARU², Daniela RUSU¹, Maria BERCEA¹
¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
²*Alexandru Ioan Cuza University, Faculty of Chemistry, Iasi, Romania*

- ~~PP4~~ ~~ENHANCEMENT OF SUPRAMOLECULAR HYDROGELS PROPERTIES: SYNTHESIS AND TESTING OF GUANOSINE QUARTET-BASED MATERIALS~~
Tecla DULGHERIU^{1*}, Alexandru ROTARU¹, Monica SARDARU¹,
Sebastian ALUPOAIE², Mariana PINTEALA¹
¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
²*Alexandru Ioan Cuza University of Iasi, Faculty of Chemistry, Iasi, Romania*
- PP5 **DESIGN, SYNTHESIS AND ANTICANCER POTENTIAL OF NOVEL FUSED HETEROCYCLIC COMPOUNDS**
Roxana CIORTEANU^{1,3*}, Catalina CIOBANU², Vasilichia ANTOCI¹,
Ionel I. MANGALAGIU¹, Ramona DANAC¹
¹*Faculty of Chemistry, Alexandru Ioan Cuza University of Iasi, Iasi, Romania*
²*Alexandru Ioan Cuza University of Iasi, Institute of Interdisciplinary Research-CERNESIM, Iasi, Romania*
³*Alexandru Ioan Cuza University of Iasi, RECENT-AIR, Iasi, Romania*
- PP6 **FERRITE/PVDF COMPOSITE MEMBRANES WITH HIGH PHOTOCATALYTIC PROPERTIES**
Ionela GRECU^{*}, Andra-Cristina ENACHE, Petronela PASCARIU, Petrisor SAMOILA,
Corneliu COJOCARU, Adrian BELE, Valeria HARABAGIU
Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania
- ~~PP7~~ ~~INNOVATIVE GOLD NANOPARTICLE-BASED NON-VIRAL VECTORS FOR PRECISION GENE THERAPY IN BREAST CANCER: IN VITRO DEVELOPMENT AND EVALUATION~~
Denisse-Iulia BOSTIOG^{*}, Bogdan-Florin CRACIUN, Dragos PEPTANARIU,
Mariana PINTEALA
Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania
- PP8 **MODIFIED CHITOSAN NANOFIBERS FOR BIOABSORBABLE WOUNDS DRESSING**
Ramona LUNGU^{*}, Alexandru ANISIEI, Irina ROSCA, Andreea-Isabela SANDU,
Daniela AILINCAI, Luminita MARIN
Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania
- PP9 **CO-ASSEMBLY OF CHITOSAN-g-POLY(N-ISOPROPYLACRYLAMIDE) COPOLYMER WITH DNAs**
Elena-Daniela LOTOS^{1*}, Maria KARAYIANNI^{1,2}, Marcela MIHAI¹, Stergios PISPAS^{1,2}
¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
²*Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece*
- PP10 **TARGETING CANCER: THE ROLE OF PYRROLO-FUSED HETEROCYCLES**
Ashraf AL-MATARNEH^{1*}, Natalia SIMIONESCU², Rafaela VRABIE³,
Ramona DANAC¹, Maria-Cristina AL-MATARNEH², Mariana PINTEALA²,
Ionel I. MANGALAGIU¹
¹*Alexandru Ioan Cuza University of Iasi, Faculty of Chemistry, Iasi, Romania*
²*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*
³*Gheorghe Asachi Technical University of Iasi, Cristofor Simionescu Faculty of Chemical Engineering and Environmental Protection, Iasi, Romania*
- PP11 **A NEW APPROACH FOR OBTAINING MATERIALS BASED ON FORMYLATED POLYSULFONE AND CHITOSAN LINKED BY IMINE OR AMINE UNITS**
Oana DUMBRAVA^{*}, Daniela AILINCAI, Alexandru ANISIEI, Luminita MARIN
Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania



PP12 GRAFT COPOLYMERIZATION OF POLY(N-ISOPROPYLACRYLAMIDE) ONTO AMYLOPECTIN

Melinda-Maria BAZARGHIDEANU^{1*}, Marius-Mihai ZAHARIA¹,
Camelia-Georgiana MARANDIS^{1,2}, Stergios PISPAS³, Marcela MIHAI¹

¹*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*

²*Alexandru Ioan Cuza University of Iasi, Faculty of Chemistry, Iasi, Romania*

³*Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece*

~~**PP13 POLYCYCLIC AROMATIC HYDROCARBONS. A COMPUTATIONAL STUDY**~~

~~Petru TÎRNOVAN, Răzvan PUF^{*}, Dragos ISAC, Adina COROABA,
Narcisa MARANGOCI, Isabela C. MAN~~

~~*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*~~

PP14 ASSESSING THE ANTICANCER POTENTIAL OF COBALT COMPLEXES THROUGH THEORETICAL AND EXPERIMENTAL APPROACHES

Alexandru-Constantin STOICA^{*}, Madalin DAMOC, Mirela-Fernanda ZALTARIOV,
Mihaela DASCALU, Maria CAZACU

Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

PP15 NEW CHIMERIC AZAHETROCYCLIC COMPOUNDS WITH PYRROLO[1,2-*a*]QUINOLINE STRUCTURE

Camelia-Georgiana MARANDIS^{1,2*}, Dorina AMARIUCAI-MANTU¹,
Vasilichia ANTOCI¹, Dumitrelea DIACONU^{1,3}, Catalina-Ionica CIOBANU⁴,
Marcela MIHAI², Ionel I. MANGALAGIU¹

¹*Alexandru Ioan Cuza University of Iasi, Faculty of Chemistry, Iasi, Romania*

²*Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania,*

³*Alexandru Ioan Cuza University of Iasi, RECENT AIR, Iasi, Romania*

⁴*Alexandru Ioan Cuza University of Iasi, ICI-CERNESIM, Iasi, Romania*

17³⁰– 18⁰⁰ **ANALYSIS, AWARDING AND CLOSING CEREMONY**

18⁰⁰– :::: **Dinner – ICMPP Library**

