

## GENERAL INFORMATION

10<sup>th</sup> Bratislava Young Polymer Scientists conference – BYPOS2025 – is organized by the Young Scientist Council of the Polymer Institute of Slovak Academy of Sciences, and it is oriented on all fields of macromolecular chemistry and provides the ideal opportunity for young polymer scientists to present and discuss their results and knowledge in the field of polymer chemistry.

### Scopes

- Polymer synthesis, characterization and testing
- Biopolymers, biomaterials and bio-related applications
- Polymers from renewable resources, recycling and sustainability
- (Nano)composites
- Polymer theory, modeling and simulations

Invited lectures (IL): 40 min + 10 min for discussion

Contributed lectures (CL): 15 min + 5 min for discussion

### Best presentation awards

All students are automatically registered into a best presentation competition sponsored by Merck Life Science and BASF.

	Monday 10.3.2025	Tuesday 11.3.2025	Wednesday 12.3.2025	Thursday 13.3.2025	Friday 14.3.2025
7:00-8:50		Breakfast			
8:50-9:00		Opening			
9:00-9:50		IL1	IL2	IL3	IL4
9:50-10:10		CL1	CL15	CL20	CL29
10:10-10:30		CL2	CL16	CL21	CL30
10:30-11:00		Coffee break			AWARDS & Closing
11:00 - 11:20		CL3	CL17	CL22	
11:20 - 11:40		CL4	CL18	CL23	
11:40-12:00		CL5	CL19	CL24	
12:00-14:00		Lunch break			
14:00-14:20	Registration of Participants	CL6	TRIP (or individual free time)	CL25	
14:20-14:40		CL7		CL26	
14:40-15:00		CL8		CL27	
15:00-15:20		CL9		CL28	
15:20-15:50		Coffee break		Coffee break	
15:50-16:10		CL10		Social activity (optional)	
16:10-16:30		CL11			
16:30-16:50		CL12			
16:50-17:10		CL13			
17:10-17:30		CL14			
18:30-20:00	Welcome dinner	Dinner			
20:00 -	Individual free time	Social Activity (optional)	Social activity (optional)	Individual free time	

## SCIENTIFIC PROGRAMME

### Monday 10.3.2025

- 14:00 – 18:00 Registration of participants  
18:30 – 20:00 Welcome dinner

### Tuesday 11.3.2025

- 7:00 – 8:45 Breakfast  
8:50 – 9:00 Opening ceremony (Pavla Hájovská)

#### Session I

Chairperson: Pavla Hájovská

- 9:00 – 9:50 IL1 Patrick Knaack  
*Polymerization Initiation Systems – How to Start?*
- 9:50 – 10:10 CL1 Nikolaos Konios  
*Modification of substrates with functional polymers via photo induced ATRP*
- 10:10 – 10:30 CL2 Silke Andrä-Žmuda  
*Polymeric blends of phas with poly(glycerol sebacate) for biomedical applications*
- 10:30 – 11:00 Coffee break
- 11:00 – 11:20 CL3 Stanislav Kukla (Merck Life Science)  
*Polymer Science in Action: Synthesis, sustainability, solutions from Merck*
- 11:20 – 11:40 CL4 Hitesh Katariya  
*Synthesis of functional hydrogel used for wound dressings*
- 11:40 – 12:00 CL5 Ankita Meena  
*Aqueous phase propagation rate coefficient of 2-methoxy ethyl acrylate, methyl acrylate and methyl methacrylate*
- 12:00 – 14:00 Lunch break

## Session II

Chairperson: Szczepan Bednarz

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|---------------|------|---------------------|---|
| 14:00 – 14:20 | CL6  | Shima Kalantarifard | <i>Rheological behavior of dynamic hydrogels stabilized by dual reversible covalent bonds</i>   |
| 14:20 – 14:40 | CL7  | Pritam Guha         | <i>Nanoengineering of poly(2-oxazoline) based amphiphiles as an efficient intracellular delivery agent of hydrophobic drugs</i>   |
| 14:40 – 15:00 | CL8  | Mahsa Mostofizadeh  | <i>Development and characterization of biodegradable, photocurable phosphoramidate resins for 3D printing</i>   |
| 15:00 – 15:20 | CL9  | Paweł Chaber        | <i>Chemically modified PHB and PHBV as innovative material solutions for tissue engineering applications</i>  |
| 15:20 – 15:50 |      |                     | Coffee break  |
| 15:50 – 16:10 | CL10 | Ivan Klbik          | <i>Evaluation of PEG 400 and PEG-based oligomer for 3T3 fibroblast cryopreservation</i>   |
| 16:10 – 16:30 | CL11 | Nafiseh Babaei      | <i>Synthesis and characterization of biocompatible and 3D printable poly (OEGMA-stat-MMA) thermoplastic elastomers via ATRP polymerization suitable for tissue engineering applications</i> |
| 16:30 – 16:50 | CL12 | Kamil Dawid         | <i>Application of fungicide loaded polyester micelles in gardening</i>  |
| 16:50 – 17:10 | CL13 | Katarzyna Filipek   | <i>Biodegradable, thermoresponsive biomaterials based on oligo(ethylene glycol) methacrylate copolymers</i>   |
| 17:10 – 17:30 | CL14 | Adriana Marková     | <i>Delivery systems for DNA and RNA therapeutics, from proteins to polymers</i>   |
| 18:30 – 20:00 |      |                     | Dinner  |
| 20:00 –       |      |                     | Social activities (or individual free time)   |

## Wednesday 12.3.2025

7:00 – 9:00      Breakfast

### Session III

Chairperson: Elena Tomšík

9:00 – 9:50      IL2                      Szczepan Bednarz  
*Renewable monomers: sustainable solutions for polymer science*

9:50 – 10:10      CL15                      Ondřej Mertlík  
*Correlation between batch and extruder foaming of PLA-based materials*

10:10 – 10:30      CL16                      Sambit Kumar Lenka  
*Acid-base properties of polyamidoamines derived from renewable tulipalin A and diamine monomers*

10:30 – 11:00      Coffee break

11:00 – 11:20      CL17                      Magdalena Martinka Maksymiak  
*Mass spectrometry in bioactive polyesters: molecular characterization for sustainable and biomedical applications*

11:20 – 11:40      CL18                      Emrah Celen  
*A template-assisted approach for the preparation of polydopamine/silk fibroin nanoparticles*

11:40 – 12:00      CL19                      Omid Moghaddam  
*Molecular dynamics study of proteins interacting with poly(ethylene oxide)-grafted layer in two setups*

12:00 – 14:00      Lunch break

14:00 – 18:00      Trip to Nestville Park  
(or individual free time)

18:30 – 20:00      Dinner

20:00 -              Social activities (or individual free time)

## Thursday 13.3.2025

7:00 – 9:00      Breakfast

### Session IV

Chairperson: Zdenko Špitalský

9:00 – 9:50      IL3                      Elena Tomšík  
*Novel synthetic route of semi-conducting polymer preparation for various applications*

9:50 – 10:10      CL20                      Christina Walliser  
*Catalyst-free curing of 3D printable silicone elastomers*

10:10 – 10:30      CL21                      Selina Bingel  
*3D Printing of star-shaped polyethylene macromonomers*

10:30 – 11:00      Coffee break

11:00 – 11:20      CL22                      Vít Guiglielmo Mišurec  
*Innovative applications of donor-acceptor Stenhouse adducts: probes and detectors for advanced biological and ecological research*

11:20 – 11:40      CL23                      Christyowati Primi Sagita  
*Synthesis of self-assembly polymer nanoparticles by photo-ATRP in a flow reactor*

11:40 – 12:00      CL24                      Verena Schinegger  
*Lewis-pairs as building blocks for dynamic covalent polymer networks of silicone elastomers*

12:00 – 14:00      Lunch break

### Session V

Chairperson: Patrick Knaack

14:00 – 14:20      CL25                      Erika Varga  
*Influence of the filler shape on the properties of polyethylene thermoplastic composites*

14:20 – 14:40	CL26	Anita Rana <i>Polyvinylpyrrolidone functionalized graphene oxide as a nanocarrier for dual drug delivery of quercetin and curcumin against HELA cancer cells: the synergistic effect</i>
14:40 – 15:00	CL27	Sahar Tavakkoli <i>Mechanical properties of novel plasticized PLA/PHB blend filled with bioglass for biomedical applications</i>
15:00 – 15:20	CL28	Přemysl Fajkus <i>Preparation and characterization of modified piezocomposite materials for piezofoams</i>
15:20 – 15:50	Coffee break	
15:50 – 18:00	Social activities (or individual free time)	
18:30 – 20:00	Dinner	
20:00 –	Individual free time	

### Friday 14.3.2025

7:00 – 9:00	Breakfast
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#### Session VI

Chairperson: Patrick Knaack

9:00 – 9:50	IL4	Zdenko Špitalský <i>3D printing of polymer composites</i>
9:50 – 10:10	CL29	Alžbeta Minarčíková <i>Smart clays: poly(2-oxazoline)-modified montmorillonites for decontamination of hazardous molecules</i>
10:10 – 10:30	CL30	Pavla Hájovská <i>Alginate-based microcapsules stabilized via polyelectrolyte complexation with novel biguanide-containing polycations</i>
10:30 – 10:40	Best presentation awards	
10:40 – 10:45	Closing	