

POLYMERS FOR SUSTAINABLE FUTURE 2024

How to get to the Conference venue

Address: Institute of Macromolecular Chemistry CAS (IMC), Heyrovského nám. 2, Prague 6

From the Prague Airport (Letiště Václava Havla)

a) Take direct bus **191** to **Sídliště Petřiny** stop (the stop is on request), which is situated in front of the Institute (interval approx. 24 min, 21 min. journey).

b) Take a trolley bus **59** to **Divoká Šárka** stop (interval 3–5 min, 14 min. journey). At the same stop, change to the bus **191** (interval here is 8-10 min) and go 3 stops to **Sídliště Petřiny** (6 min journey, the stop is on request).

c) Take a trolley bus **59** to **Nádraží Veleslavín** (terminus, interval 3–5 min, 17 min. journey). Here, change to **metro A** (green line) and go in the direction of Nemocnice Motol 1 stop to **Petřiny** station. From there take **any tram** to **Sídliště Petřiny** (1 stop, terminus close to the IMC), or **any bus** in the same direction (1 stop – in front of IMC, the stop is on request).

From the main railway station (Hlavní nádraží)

In the entrance hall of the railway station enter the **metro C** (red line) and go 1 stop to **Muzeum** station (direction Háje).

Note: If you manage to get to the opposite platform at Hlavní nádraží station (the tracks are between platforms there), don't panic, go 1 stop to Florenc, change there on the same platform to the opposite direction and go 2 stops to Muzeum).

In Muzeum, change to **metro A** (green line) and go in the direction of Nemocnice Motol to **Petřiny** station (approx. 15 min. journey).

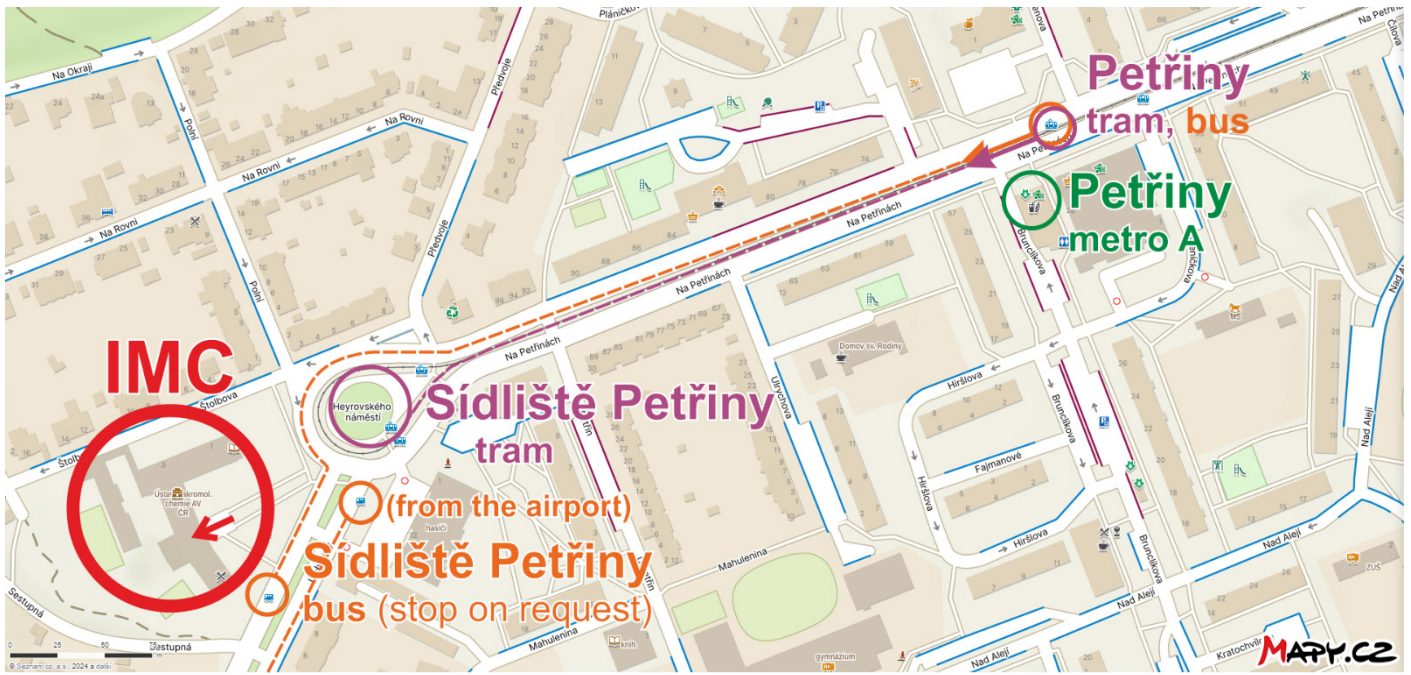
From there take **any tram** to **Sídliště Petřiny** (1 stop, terminus close to the IMC), or **any bus** in the same direction (1 stop – in front of IMC, the stop is on request).

You can find your connection at <http://dpp.cz/> or <https://pid.cz/en/search-connection/>.

Transport tickets

A ticket for a 30-min or 90-min journey costs 30 or 40 Czech Crowns (CZK) respectively and it is valid in all types of Prague public transport (trams, buses, metro and local trains – excluding the AE route and the Petřín funicular) for an unlimited number of transfers. The 24 hour ticket costs 120 CZK. Tickets are sold at the airport, at railway and metro stations, at newspaper stands, at hotel reception desks, etc. In trams and most of buses, tickets can be purchased using a contactless payment card (see <https://pid.cz/en/ticket-sale-places/>).

Persons over 65 years can travel for free; however, when checked by an inspector, they have to show passports.



CONFERENCE PROGRAMME

Monday, 24 June 2024

16:00 – 19:00 Registration and welcome buffet

Tuesday, 25 June 2024

08:30 – 08:45 **OPENING**
Jiří Kotek (Director of the Institute)
Hynek Beneš, Zdeněk Starý (Conference chairmen)
Igor Lacík (Representative of IUPAC)

LECTURE SESSION 1

Chaired by: Igor Lacík (Slovakia)

- 08:45 – 09:30 PL-01 **Anthony J Ryan** (*United Kingdom*)
Neofossils: Carbon sequestration by plastics
- 09:30 – 10:00 IL-01 **Maria Filomena Barreiro** (*Portugal*)
Natural polymer-based pickering emulsions: From particle production to innovative applications
- 10:00 – 10:15 O-01 **Erika Ghiglietti** (*Italy*)
Design of innovative strategies for the synthesis of bio-based nanocapsules: New perspectives
- 10:15 – 10:30 O-02 **Magdalena Hudek** (*United Kingdom*)
Design of novel chitosan nanoparticles for antimicrobial applications

10:30 – 11:00

Coffee break

LECTURE SESSION 2

Chaired by: Anthony J. Ryan (United Kingdom)

- 11:00 – 11:30 IL-02 **Maria Kurańska** (*Poland*)
Chemical recycling of biopolyurethane foams in line with the circular economy concept
- 11:30 – 11:45 O-03 **Krzysztof Polaczek** (*Italy*)
Preparation of self-blowing non-isocyanate polyurethane foams starting from soybean oil cyclic carbonate
- 11:45 – 12:00 O-04 **Liudmyla Gryshchuk** (*Germany*)
Bio-based hybrid polyurethane/indirect polyurea/epoxy foams for constructive applications
- 12:00 – 12:15 O-05 **Peter Krajnc** (*Slovenia*)
Poly(HIPE)s from bio-based monomers
- 12:15 – 12:30 O-06 **Mikelis Kirpluks** (*Latvia*)
Applying Michael 1.4-addition reaction to produce bio-based thermoset foams from rapeseed oil
- 12:30 – 12:45 O-07 **Federica Recupido** (*Italy*)
Building the future: Innovations in sustainable porous materials for smart and energy-efficient construction

12:45 – 14:00

Lunch

LECTURE SESSION 3

Chaired by: *Jannick Duchet-Rumeau (France)*

- 14:00 – 14:30 IL-03 **Paola Fabbri (Italy)**
The „full-bio“ strategy: The relevance of functional bio-based additives for the formulation of innovative plastics
- 14:30 – 14:45 O-08 **Léa Simonnet (France)**
Metal ionic liquids (MILs) as efficient catalytic curing agents of epoxy prepolymer
- 14:45 – 15:00 O-09 **Teresa Carranza (Spain)**
Valorisation of collagen as bio-based ink for advanced 3D printing applications
- 15:00 – 15:15 O-10 **Elena Buratti (Italy)**
Cutin-based coatings for enhanced hydrophobicity and anticorrosion properties
- 15:15 – 15:30 O-11 **Omar El Seoud (Brazil)**
Cellulose dissolution and acetylation in mixtures of ionic liquids and molecular solvents. The fruitful synergism of experiment and theory
- 15:30 – 15:45 O-12 **Claire Morand (Spain)**
Biosourced unsaturated polyesters for 3D-printing

15:45 – 16:15

Coffee break

LECTURE SESSION 4

Chaired by: *Maria Filomena Barreiro (Portugal)*

- 16:15 – 16:45 IL-04 **Jean-François Gérard (France)**
Being repairable as one of the features of sustainable polymers for circular economy – Illustration for high performances thermoset matrices
- 16:45 – 17:00 O-13 **Alex Maokhamphiou (France)**
Novel sustainable synthesis of formaldehyde-free phenolic resin by reactive extrusion
- 17:00 – 17:15 O-14 **Mohamed Yousfi (France)**
Improving thermal resistance and impact toughness of PLA via melt blending with PEICT: Effect of isosorbide comonomer ratio
- 17:15 – 17:30 O-15 **Jan Thiel (Germany)**
Melt spinning of bio-based thermoplastic polyurethanes in industrial environment
- 17:30 – 17:45 O-16 **Zeang Zhao (People's Republic of China)**
Smart polymers and structures: From 3D to 4D printing
- 17:45 – 18:00 O-17 **Søren Hvilsted (Denmark)**
HMF: The versatile key biobased building block

18:00 – 21:00 **Poster Session I. & Barbeque**

Wednesday, 26 June 2024

LECTURE SESSION 5

Chaired by: Haritz Sardon (Spain)

- 08:30 – 09:15 PL-02 **Katja Loos** (*Netherlands*)
Unleashing the potential of enzymes for green furan-based polymer synthesis
- 09:15 – 09:45 IL-05 **Robin Hutchinson** (*Canada*)
Incorporation of biorenewable monomers to acrylic resins produced by radical copolymerization
- 09:45 – 10:00 O-18 **Seok Min Yoon** (*Republic of Korea*)
Hierarchical metal-organic aerogel as a highly selective and sustainable CO₂ adsorbent
- 10:00 – 10:15 O-19 **Amit Kumar** (*Ireland*)
Biomass-derived high-performance polyimide: Strategies of aromatic diamines syntheses
- 10:15 – 10:30 O-20 **Beatriz Agostinho** (*Portugal*)
Sustainable approaches towards new furan-based polymers: New copolyesters based on 5,5'-oxybis(methylene)bis(furan-5,2-diyl)dimethanol (OBMF-H)

10:30 – 11:00

Coffee break

LECTURE SESSION 6

Chaired by: Robin Hutchinson (Canada)

- 11:00 – 11:30 IL-06 **Li Jia** (*United States of America*)
Carbonylative polymerizations – A potential platform for sustainable commodity plastics
- 11:30 – 11:45 O-21 **Angela Giunta** (*France*)
Itaconic acid: From oligomers to microgels
- 11:45 – 12:00 O-22 **Federico Mundo** (*France*)
From urethane bis-carbonate monomers to polyurethane-hydroxyurethane polymers
- 12:00 – 12:15 O-23 **Jens Gaitzsch** (*Germany*)
Responsive and green polyesters by radical ring-opening polymerisation
- 12:15 – 12:30 O-24 **Tatiana La Banca Schreiner** (*Portugal*)
High bio-based content waterborne polyurethane-ureas for footwear applications
- 12:30 – 12:45 O-25 **Kacper Mielczarek** (*Poland*)
Methods for synthesis high molecular weight poly(itaconic acid)

12:45 – 14:00

Lunch

LECTURE SESSION 7

Chaired by: *Li Jia (United States of America)*

- 14:00 – 14:30 IL-07 **Igor Lacík (Slovakia)**
Radical polymerization in aqueous solutions
- 14:30 – 14:45 O-26 **Sara Mecca (Italy)**
Unlocking vegetable waste potential: A novel circular biorefinery approach in sustainable biofilm formation
- 14:45 – 15:00 O-27 **Ana Carolina Lima (Portugal)**
Optimisation of gelatine-alginate hydrogels synthesis for 3D printing
- 15:00 – 15:15 O-28 **Ringo Leung (New Zealand)**
Microstructure and mechanical properties of copolymer synthesised from PET and PCL transesterification
- 15:15 – 15:30 O-29 **Cesare Gallizioli (Germany)**
Ring-opening terpolymerisation of elemental sulfur waste with propylene oxide and carbon disulfide via lithium catalysis
- 15:30 – 15:45 O-30 **Hieu Do (France)**
Multicomponent polycondensation: A novel sustainable approach to polythiourea using elemental sulfur

15:45 – 16:15

Coffee break

LECTURE SESSION 8

Chaired by: *Paola Fabbri (Italy)*

- 16:15 – 16:45 IL-08 **Jannick Duchet-Rumeau (France)**
Polyvinyl chloride: A new material for tomorrow or how can it contribute to circular economy?
- 16:45 – 17:00 O-31 **Pedro Rodrigues Bizarro (France)**
Physical recycling of PVC: Pressurized fluid extraction for plasticiser removal
- 17:00 – 17:15 O-32 **Magda Silva (Portugal)**
Sustainable fibers based on recycled PET
- 17:15 – 17:30 O-33 **Marco Rollo (Italy)**
Depolymerization of polyethylene terephthalate (PET) based-complex waste plastics with Lewis/Brønsted acidic deep eutectic solvents
- 17:30 – 17:45 O-34 **Jose A Pomposo (Spain)**
Upcycling of PVC to efficient catalytic single-chain nanoparticles (SCNPs)
- 17:45 – 18:00 O-35 **Guido Grause (United Kingdom)**
Separation of ethylene glycol and BHET from the catalyst solution as part of a continuous glycolysis process for PET

18:00 – 21:00 **Poster Session II. & Czech beer and snack**

Thursday, 27 June 2024

LECTURE SESSION 9

Chaired by: *Katja Loos (Netherlands)*

- 08:30 – 09:15 PL-03 **Haritz Sardon (Spain)**
Chemical recycling of plastics where we are and how to improve the recycling rates
- 09:15 – 09:45 IL-09 **Alberto Fina (Italy)**
Melt processing of dynamic polymer networks
- 09:45 – 10:00 O-36 **Izaskun Larraza Arocena (Spain)**
Partially and fully bio-based vitrimers: Characterization and recyclability analysis
- 10:00 – 10:15 O-49 **Aileen Grace Mendoza Ongkiko (Philippines)**
Design of a natural-based polymer carrier matrix used for the fabrication of a biofertilizer prototype via a sustainable and microorganism-friendly process
- 10:15 – 10:30 O-38 **Stéphanie Engelen (Belgium)**
Biomass-rich epoxy-derived processablethermosets

10:30 – 11:00

Coffee break

LECTURE SESSION 10

Chaired by: *Maria Kurańska (Poland)*

- 11:00 – 11:30 IL-10 **Sébastien Livi (France)**
Design of new degradable networks using cleavable ionic liquid monomers
- 11:30 – 11:45 O-39 **Danuta Matykiewicz (Poland)**
The use of nettle fibers in the production of bioepoxy based composites
- 11:45 – 12:00 O-40 **Pauline Shamraienko (Voigt) (Germany)**
Development of sustainable polymer materials from bio-based monomers
- 12:00 – 12:15 O-41 **Jocyla Rosalí Manhique (Portugal)**
Thermoplastic polyurethanes formulated from biobased polyols for footwear applications
- 12:15 – 12:30 O-42 **Aleksander Prociak (Poland)**
The effect of selected bio-components on the properties of rigid polyurethane foams
- 12:30 – 12:45 O-43 **Eva Laureys (France)**
From single-use to multiple-use concept of epoxy-il networks : Study of the physical properties and valorization approach

12:45 – 14:00

Lunch

LECTURE SESSION 11

Chaired by: Sébastien Livi (France)

- 14:00 – 14:30 IL-11 **Alexander S. Shaplov** (*Luxembourg*)
High performance self-catalyzed epoxy-amine vitrimers for sustainable composites
- 14:30 – 14:45 O-44 **Adrian Wolf** (*Germany*)
Benzoxazine/amine-based polymer networks: A new type of vitrimer
- 14:45 – 15:00 O-45 **Tim Maiheu** (*Belgium*)
On-demand debonding of epoxy-based adhesives using β -amino ester chemistry
- 15:00 – 15:15 O-46 **Jian Liu** (*Netherlands*)
Preparation of lignin-based imine vitrimers and their potential application as repairable, self-cleaning, removable and degradable coatings
- 15:15 – 15:30 O-47 **Oihane Echeverria-Altuna** (*Spain*)
Advancing circularity: Exploring dynamic covalent bonds in bio-pur resin systems for structural composites
- 15:30 – 15:45 O-48 **Robin Tannert** (*Germany*)
How sustainable are monomers synthesized via an enzymatic pathway?

15:45 – 16:15

Coffee break

LECTURE SESSION 12

Chaired by: Igor Krupa (Qatar)

- 16:15 – 16:45 IL-15 **Andrew T. Slark** (*United Kingdom*)
Dissociative Diels-Alder networks and hybrids with non-covalent interactions
- 16:45 – 17:00 O-50 **Joel Fawaz** (*Austria*)
Heterophasic polypropylene polymer design for packaging applications

18:00 – 22:00 **Conference dinner & Poster awards**

Friday, 28 June 2024

LECTURE SESSION 13

Chaired by: Jean-François Gérard (France)

- 08:30 – 09:15 PL-04 **Bernhard von Vacano (Germany)**
Polymer recycling and sustainability at scale
- 09:15 – 09:45 IL-12 **Maidor Iturrondobeitia (Spain)**
End of life of polymer based products and environmental impact assessment
- 09:45 – 10:00 O-51 **Mateusz Dudziak (Germany)**
Wastewater phosphorus enriched algae as sustainable flame retardant in poly(lactic acid)
- 10:00 – 10:15 O-52 **Julen Ibarretxe (Spain)**
PHBH-alumina composites: Environmental impacts and toxicity
- 10:15 – 10:30 O-53 **Raquel Rodriguez (Spain)**
New waterborne biobased acrylic binders with water repellency without the use of PFAS

10:30 – 11:00

Coffee break

LECTURE SESSION 14

Chaired by: Bernhard von Vacano (Germany)

- 11:00 – 11:30 IL-13 **Ian Teasdale (Austria)**
Amino acid-phosphoramides: Biodegradable synthetic polymers from nature's building blocks
- 11:30 – 11:45 O-54 **Zhou Fang (Netherlands)**
Accurate Tg prediction by machine learning for accelerating the development of bio-based copolyester resins
- 11:45 – 12:00 O-55 **Sophia van Mourik (United Kingdom)**
Utilizing MALDI ToF MS as a tool to investigate the potential of biodegradable polyurethanes
- 12:00 – 12:15 O-56 **Vincent Monteil (France)**
Chemical recycling of silicones
- 12:15 – 12:30 O-57 **Valentine Delbruel (France)**
Recycling of orthopedic production scraps for the additive manufacturing of orthoses
- 12:30 – 12:45 O-58 **Nirmala Devi (India)**
Plant oil: A green platform for designed polymers and nanocomposites with versatile applications

12:45 – 14:00

Lunch

- 14:00 – 14:30 IL-14 **Igor Krupa (Qatar)**
Utilization of recycled polyethylene waste for oil in water separation
- 14:30 – 14:45 O-59 **Tamara Calvo-Correas (Spain)**
Valorization of TPU waste as filtering membranes for water pollutants
- 14:45 – 15:00 O-60 **Elżbieta Malewska (Poland)**
Rebiopolyol-new component for synthesis of polyurethane foams
- 15:00 – 15:15 O-61 **Gabriel Perli (Spain)**
Heterogeneous catalytic system for advancing plastic circular economy
- 15:15 – 15:30 O-62 **Nikolaos Giakoumakis (Belgium)**
Enhancing styrene recovery and upcycling of the rubber phase of high impact polystyrene
- 15:30 – 15:45 O-63 **Dario Pindric (Austria)**
Determination of the cleaning efficiency for contaminated HDPE using solvent-based recycling

15:45 – 17:00 **FAREWELL & Oral awards**

LIST OF POSTERS

- P-01 V. Aleksandrovic-Bondzic**, M. Janschel (*Germany*)
Modified cellulose as an effective UV absorber
- P-02 M. Vera, S. Bischof**, B. L. Rivas, H. Weber, A. K. Mahler, M. Kozich, G. M. Guebitz, G. S. Nyanhongo (*Austria*)
Biosynthesis of highly flexible lignosulfonate–starch based materials
- P-03 C. Brooker**, T. Do, P. Thornton, G. Tronci (*United Kingdom*)
Microbially synthesised polyesters for biobased textile fibres
- P-04 G. Devkota**, M. Dušková-Smrčková, M. Steinhart, H. Beneš (*Czech Republic*)
Hydrogels based on renewable poly(itaconic) acid for extrusion–3D printing
- P-05 A. C. Restrepo-Montoya**, I. Larraza, A. Saralegi, **A. Eceiza** (*Spain*)
Bio-based recyclable thermosetting polyurethanes by Diels-Alder chemistry
- P-06 V. Pokorný**, K. Skleničková, O. Gotkiewicz, M. Halecký, H. Beneš (*Czech Republic*)
Biodegradation of aliphatic polyurethane foams: Factors of chemical composition and supramolecular structure
- P-07 H. Huang**, E. Chen, T. Shui, P. Gong (*People's Republic of China*)
Study on the humic acid based hydrogel membrane
- P-08 E. Arputharaj**, Y. H. Huang, **Y. L. Huang** (*Taiwan*)
Biopolymeric chitosan/polydopamine film as an sorbent for the preconcentration of trace metals in biological samples
- P-09 M. Singh**, L. Poláková, A. de los Santos Pereira, O. P. Georgievski, J. Svoboda, T. Riedel, V. Raus, S. Gupta, Z. Sedláková, R. Poręba (*Czech Republic*)
Poly(2-isopropenyl-2-oxazoline) brushes as a platform for versatile surface functionalization
- P-10 J. H. Park**, O. Y. Kim, B. D. Chin, **S. H. Hwang** (*Republic of Korea*)
The physical characterization of poly(3-hydroxybutyrate-co-4-hydroxybutyrate) blends with cellulose acetate butyrate depending on composition of 4HB comonomer
- P-11 J. Kim**, Y. Kim, J. Yoon, H.-J. Jin (*Republic of Korea*)
Eco-friendly fish gelatin nanofibrous membrane for ultra-fast cationic dye removal
- P-12 Y. Kim**, J. Kim, H. Kim, H.-J. Jin (*Republic of Korea*)
Multifunctional fructose-crosslinked fibroin film with developed beta-sheet structure for advanced food packaging
- P-13 Y. G. Ko** (*Republic of Korea*)
Environmental-friendly membranes made of biodegradable polymers: Innovative technique for regulating tubular or flat-plate pores
- P-14 S. Kouka**, V. Gajdosova, L. Rana, M. Konefał, Z. Stary, V. Ocelic-Bulatovic, D. Kucic-Grgic, E. Vidovic, M. Slouf (*Czech Republic*)
Thermoplastic starch: Influence of botanical origin and preparation conditions on themorphology and properties
- P-15 Z. L. Koutsogianni**, D. N. Bikiaris, K. S. Triantafyllidis (*Greece*)
Itaconic acid as renewable building block for thermosetting resins.
- P-16 M. Kudlacek**, L. Polomikova, J. Martinek, J. Navratilova (*Czech Republic*)
UV-treatment of gelatine films

- P-17 K. Lewandowski, P. Panek, P. Siekierka (Poland)**
Research on the resistance of PLA to cosmetic products
- P-18 A. Mahmood, A. Erum, U. R. Tulain, N. S. Malik. (United Arab Emirates)**
Polymeric drug delivery systems: Bridging the gap between modern day tools and natural polymers
- P-19 E. Moran, J. Dvořáková, A. Golunová, V. Proks (Czech Republic)**
Development of biodegradable hydrogel-based bioinks for 3D printing
- P-20 N. Münstermann, O. M. Weichold (Germany)**
Chitosan-based coatings for the water-proofing of wood
- P-21 M. Dušková-Smrčková, A. Sharma, S. Natour, O. Kočková, S. Abbrent, Z. Morávková, J. Šomvářsky (Czech Republic)**
A model of gelation in aspartate-amine-isocyanate system: Effect of side reactions and unequal reactivities on gel point and network structure
- P-22 A. Rana, V. Lobaz, J. K. Elter, M. Hruby (Czech Republic)**
Biodegradable solid lipid particle carriers for polymer-ligand conjugates
- P-23 L. Rana, V. Gajdosova, S. Kouka, E. Pavlova, B. Strachota, M. Konefał, Z. Stary, M. Slouf (Czech Republic)**
Characterization of solid thermoplastic system made from wheat starch with addition of maltodextrin for bio-medical applications
- P-24 K. Skórczewska, K. Lewandowski, I. Wudarczyk, J. Mirowski, J. Szulc, S. Wilczewski, M. Osial (Poland)**
Application of waste coffee grounds as poly(vinyl chloride) modifier
- P-25 M. Uribarrena, P. Guerrero, K. de la Caba (Spain)**
Active films reinforced with chitin dissolved via natural solvents
- P-26 H. C. Wright, A. J. Ryan (United Kingdom)**
WHyGro-in-Me: Biobased polyurethane prepolymers for binding biobased waste into homogenous growing media
- P-27 T. Z. Abolibda, A. P. Abbott (Saudi Arabia)**
Plasticising starch with deep eutectic solvents: A sustainable approach for producing recyclable and biodegradable plastics
- P-28 F. Cramer, A. Korwitz, P. Voigt, B. Voit (Germany)**
Sustainable polyesters designed for recycling on demand
- P-29 S. Ferchichi, M. Rey-Bayle, N. Othman, V. Monteil (France)**
Polypropylene waste solvent-based recycling: Novel approach from *in-situ* spectral analysis
- P-30 D. Grzęda, G. Węgrzyk, M. Dobrowolski (Poland)**
Molded rigid polyurethane foams made from post-consumer waste foams used in refrigeration equipment
- P-31 J. Santos, M. Fernandes, P. Silva (Brazil)**
Scaffolds of polyurethane and cellulose acetate nanofibers
- P-32 M. S. Harris, H. C. Wright, J. Nickles, D. Cameron, A. J. Ryan (United Kingdom)**
Recycled polyurethane foams as new artificial soils

- P-33 Y. Hong, M. Goh (Republic of Korea)**
On-demand chemical recycling of carbon fiber reinforced plastic: Eco-friendly epoxy resin from natural sources
- P-34 A. A. Idris, S. Norsic, V. Dufaud, J. Raynaud, V. Monteil (France)**
PE functionalization towards metathetic depolymerization using IR-catalysis and mechanocatalysis
- P-35 J. Jeong, M. Goh (Republic of Korea)**
Oxidative chemical recycling of carbon fiber reinforced plastics with energy efficiency
- P-36 J. Jůza, I. Fortelný (Czech Republic)**
Polymer blend compatibilization using block copolymer: Three similar simple models
- P-37 P. Montag, A. Kalendova, O. Gotkiewicz, H. Beneš, V. Jasek, S. Figalla (Czech Republic)**
Chemical recycling of commercial polyurethane foams by glycolysis
- P-38 M. Nachbar, S. Livi, J. Duchet-Rumeau (France)**
Recycling and valorization of polyester (PET) textile waste through vitrimer chemistry
- P-39 J. Navratilova, L. Gajzlerova, M. Kudlacek, T. Miklikova (Czech Republic)**
Closed-loop recycling: Mechanical recycling of polypropylene cups
- P-40 M. Radoičić, A. Kovačević, D. Marković, Z. Šaponjić, M. Radetić (Serbia)**
Modification of recycled jute nonwoven material with PANI/TiO₂ nanocomposite for removal of Zn²⁺ ion from water
- P-41 I. Harismendy, A. De la Calle, O. Echeverria, S. García, C. Elizetxea (Spain)**
Reusing composites production waste into high-added value applications
- P-42 L. Äkräs, H. Baniyadi, F. Silvenius, Z. Manadi, M. Fazeli, S. Lipponen, M. Vahvaselkä, H. Ilvesniemi, J. Vapaavuori, J. Seppälä (Finland)**
Quantifying climate-friendliness: Carbon footprint of biocomposites through life cycle assessment
- P-43 S. Gupta, M. Janata, E. Čadová, V. Raus (Czech Republic)**
Straightforward synthesis of complex polymeric architectures using natural substrates
- P-44 H. Lim, Y. Lee, H. Lee (Republic of Korea)**
Metal-imprinted polymer hydrogel based on colorimetric azo-quinolinol for selective detection and separation of cobalt(ii) ions from aqueous solutions
- P-45 F. Scorcioni, T. Benelli, M. Nodari, L. Giorgini (Italy)**
Comprehensive data analysis of pyrolysis-based chemical recycling of mixed plastic waste through principal component analysis (PCA)
- P-46 A. Sharma, S. Natourová, O. Kočková, S. Abbrent, Z. Morávková, M. Dušková-Smrčková (Czech Republic)**
Investigating the structure of polyaspartate – based polyurea networks by swelling: Effect of transition of urea bonds on network density
- P-47 O. Gotkiewicz, M. Kirpluks, Z. Walterová, O. Kočková, P. Parcheta-Szwindowska, U. Cabulis, H. Beneš (Czech Republic)**
Advancing sustainability: Bio-based polyurethane foams designed for enhanced recyclability
- P-48 G. Giusti, E. Balducci, F. Parrinello, F. Pucci, G. Laghi, M. Gherardi, C. Gualandi (Italy)**
Hydrophobization of cellulose for packaging applications

- P-49 R. Jambor**, M. Novák, M. Srb (*Czech Republic*)
Hydrophobic films based on metallaboroxine polymers
- P-50 M. Novák**, R. Jambor, M. Srb (*Czech Republic*)
Metallaboroxines: Synthons for the hybrid inorganic-organic polymers
- P-51 J. Smorawska**, E. Głowińska (*Poland*)
Chemical structure, morphology and surface properties of sustainable polyurethanes with modified hard segments
- P-52 M. Souibgui**, J. Nováčková, V. Cimrová, V. Proks, H. Studenovská (*Czech Republic*)
Pioneering development of ultrathin nanofibrous membranes for tissue engineering applications
- P-53 H.-C. Tsai** (*Taiwan*)
Dissolvable microneedle and microcarrier for control release of drugs and cells in biomedical application
- P-54 M. Janschel**, V. Aleksandrovic-Bondzic (*Germany*)
Multivalent raw materials from enzymatically modified polysaccharides
- P-55 V. Jenčová**, K. Havlíčková, Š. Hauzerová, M. Štindlová, K. Zdeňková, M. Sivan, P. Kejzlar, E. Kuželová Košťáková, D. Lukáš (*Czech Republic*)
Enzyme driven restructuring of the surface of biodegradable polyester microfibers
- P-56 S.-Y. Chen**, Y.-J. Chou, **Y.-C. Yeh** (*Taiwan*)
Hydrogel immobilization of DOPA dioxygenase for enhanced catalysis of L-DOPA to betalamic acid
- P-57 M. B. Alshammari**, A. Ahmad (*Saudi Arabia*)
Study of lithiation of 1,1-dimethyl-3-(4-oxo-4H-chromen-6-yl)urea, Synthesis of various derivatives
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