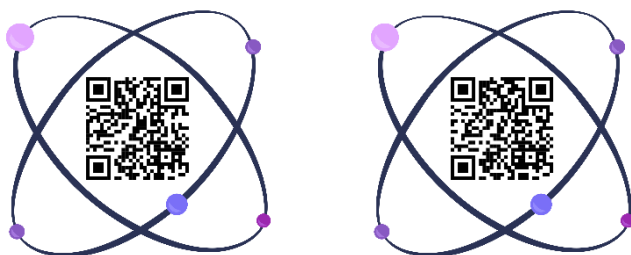


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November 13, 2024

18:00 **Glass of wine, unofficial opening**

Vinný újezd
Újezd 19, 150 00 Malá Strana

November 14, 2024

8:00 – 9:00 **Registration**

9:00 – 9:10 **Opening Ceremony**

- Keynote lecture: 30+10 min. discussion
- Oral presentation: 10+5 min. discussion
- Poster size is recommended max. width 90 cm and max. height 110 cm.

9:00 **WELCOME**
JANA ČOPÍKOVÁ and MILAN POSPÍŠIL, UNIVERSITY OF CHEMISTRY
AND TECHNOLOGY, PRAGUE

ORAL SESSION

9:10 – 12:30 **Oral session 1**
Chairwoman: Isabela Pawlaczyk-Graja

9:10 – 9:50 *Manuel Antonio Coimbra*
Keynote lecture: Polysaccharides and food industry under a circular economy

9:50 – 10:05 *L. Seres*, N. Varga, Á. Juhász, E. Csapó*
Insights into the formation of self-assembled colloids containing alginate and cationic surfactants

10:05 – 10:20 *P. Carmona*, S. Leonhartsberger, B. Seidl, M. Karl-Juergen, M. Kozich, I. Sulaeva, C. Stanetty, M. Mihovilovic*
Green flocculants in action: Unlocking and understanding the power of cationized polysaccharides for water purification

10:20 – 10:30 *P. Drašar* Chemistry Europe

10:30 – 11:00 **Coffee break / poster section**

- 11:00 – 11:40 Nadya Pesce Da Silveira
Keynote lecture: Agarose nanoparticles: preparation and properties
- 11:40 – 11:55 Kui Luo*
 Polysaccharide-based conjugates as drug delivery systems for cancer therapies
- 11:55 – 12:10 N. M. Jose*, T. Nicolai, F. Renou, L. Benyahia
 Rheological and structural characterization of acetylated κ -carrageenan and its binary mixtures
- 12:10 – 12:25 L. Wang*, Z.-W. Maa, J.-Y. Moub, Q. Yuanc, J.-W. Tang, Q.-H. Liu, Z.-Y. Wang
 The fragility and stability of liver glycogen structure: characterization and discrimination

12:30 – 13:30 **Lunch break**

13:30 – 16:00 **Oral session 2**
Chairwoman: Michaela Havrlentová

- 13:30 – 14:10 Andreas Mautner
Keynote lecture: Properties and applications of chitin-glucan and nanocellulose
- 14:10 – 14:25 I.-E. Raschip*, N. Fifere, I.-V. Platon, M. V. Dinu
 Recent advances in the development of xanthan-based intelligent packaging films
- 14:25 – 14:40 M. V. Dinu*, M. M. Lazar, C.-A. Ghiorghita, I.-V. Platon, I. E. Raschip
 Cutting-edge developments in porous chitosan-based composite hydrogels: design, properties and emerging applications
- 14:40 – 14:55 E. Coelho*, S. P. Silva, A. Gonzalez, D. Roupar, A. F. Salvador, M. Mota, S. S. Ferreira, M. J. Alegria, C. Nobre, M. A. Coimbra
 Recovery of polysaccharides and oligosaccharides with prebiotic activity from insoluble matrices
- 14:55 – 15:10 M. Tsirigotis-Maniecka*, M. Zoumpantioti, I. Pawlczyk-Graja
 The influence of polysaccharide matrix on the protection of antioxidant activity of phytonutrients under unfavorable conditions
- 15:10 – 15:25 S. C. Fry*, L. Franková, E. Whale
 Using hetero-trans- β -glucanase (HTG) to enhance the properties of cellulose in the circular economy
- 15:25 – 15:40 A. Ray*, R. S. Singhal
 Laccase crosslinked hydrogel from water-extractable *Secale cereale* L. rye arabinoxylans efficiently absorbs rose petal anthocyanins and provide enhanced functional, prebiotic and cytotoxicity against A375 and CaCO₂ cell lines
- 15:40 – 15:55 R. G. Candido, M. Malmali, R. Wickramasinghe, A. R. Gonçalves*
 Removal of inhibitors from sugarcane bagasse acid hydrolysate using polymeric membranes

16:00 – 16:30 **Coffee break / poster section**

16:30 – 18:45 **Oral session 3**
Chairwoman: Elisabete Coelho

- 16:30 – 16:45 E. Prakash*, D. Wilflingseder
Aloe derived polysaccharide protects respiratory epithelial integrity, in an air liquid interface model
- 16:45 – 17:00 D. Lourdin*, A. Lescher, K. Kansou, G. D. Valle, H. Petite
Extruded starch-based foams for glucose-generating biomaterials
- 17:00 – 17:15 S. Tornaci*, B. G. Avci, H. Çamoğlu, G. Kaçar, E. Erken, E. T. Öner
Oleuropein loaded levan nanoparticles for the healing of gastrointestinal system wounds
- 17:15 – 17:30 E. Toksoy Öner*, L. Biçer, A. Tekin, S. Tornaci, Y. Güldorum, O. Gündüz
3D printed levan microneedles for drug delivery
- 17:30 – 17:45 H. Baptista*, M. Dekker, P. Ferreira, C. Nunes
Polysaccharide-based screen-printable ink as colorimetric sensor for fish packaging
- 17:45 – 18:00 Á. Juhasz*, L. Seres, B. Torma, N. Varga, A. Turcsanyi, E. F. Varkonyi, E. Csapo
Formation and characterization of protein/hyaluronic acid colloidal complexes and their use in drug delivery
- 18:00 – 18:15 O. Hamzah*, H. Curmi, C. Darpentigny, B. Jean, L. Heux
Passerini three-component reaction for the hydrophobization of microfibrillated cellulose: a green strategy toward advanced paper packaging
- 18:15 – 18:30 M. Marciniak*, M. Tomšič, J. Cieśla, J. Cybulska, A. Zdunek
Behaviour of low-methoxylated pectin of onion (*Allium cepa* L.) in the salt solutions
- 18:30 – 18:45 F. Netzer*, A. P. Manian, T. Bechtold, T. Pham
Understanding dye-fibre interactions on cationised cellulose paves the way for alternative reactive dyeing routes
- 18:45 – 19:00 J. Lewandowicz*, H. M. Baranowska, M. Gania, J. Le Thanh-Blicharz
Amylose content affect sol-gel transtion of potato strach: rheological, textural and light scattering studies

20:00 – 24:00 **Conference dinner**
Pilsner Urquell: The Original Beer Experience

9:00 – 12:00	Oral session 4 Chairwoman: Marta Tsirigotis-Maniecka
9:00 – 9:40	<u>Francisco Vilaplana</u> Keynote lecture: Enzymatic upcycling of biomass polysaccharides into functional materials and food ingredients
9:40 – 9:55	<u>J. Vicha*, L. Münster, Z. Vichová, O. Vašíček, P. Humpolíček</u> Spontaneous reaction of dialdehyde polysaccharides and pyrrole for fabrication of sustainable, conductive, and bioactive materials
9:55 – 10:10	<u>L. Ernst*, H. Offermann, A. Werner, D. Wefers</u> Homoexopolysaccharides from lactic acid bacteria – fermentative synthesis and detailed structural characterization
10:10 – 10:25	<u>N. Saha*, O. Zandraa, M. Chaudhuri, I. Jurgelāne, A. Dubnika, P. Saha</u> Bacterial cellulose based injectable hydrogel: a bioactive functional material
10:30 – 11:00	Coffee break / poster section
11:00 – 11:40	<u>Salwa Karboune</u> Keynote lecture: Integrated Approaches to Biotransform Biomasses into Carbohydrate-based Functional Ingredients: Oligo/polysaccharides and their Feruloylated derivatives
11:40 – 11:55	<u>E. G. Faggioli*, C. Punta, D. Ghirardello, A. Sacchetti</u> Nanocellulose-based additives for paper wet and dry strength
11:55 – 12:10	<u>A. De Santis*, G. Nicastro, L. Riva, D. Ghirardello, A. Sacchetti, C. Punta</u> Barrier properties of cellulose nanofibers-based coating agents in paper industry
12:10 – 12:25	<u>M. S. Mafa*, M. M. Mohotloane</u> Elucidating holocellulolytic enzymes of commercial secretome sourced from <i>Aspergillus Niger</i> and its saccharification of alkaline-pretreated mango seed husk
12:25 – 12:40	<u>E. Górska*, Z. Košťálová, A. Mazurek-Hoňys, M. Tsirigotis-Maniecka, P. Capek, I. Pawlaczyk-Graja</u> Choline chloride-based NADES: An efficient extraction medium for pectin isolation from fruit pomace
12:40 – 12:55	<u>X. Qing*, P. Fardim</u> Pullulan-enhanced PVA/NaCl conductive hydrogels for sustainable and high-performance wearable sensors
12:55 – 13:10	<u>A. Mazurek-Hoňys*, E. Górska, M. Tsirigotis-Maniecka, R. Bleha, A. Sinica, I. Pawlaczyk-Graja</u> Optimization of extraction of pectins from carrot root bio-waste supported by NADES - I-optimal vs. box-behnken design of experiment

13:10 – 14:00 *Coffee break / poster section*

14:00 – 17:30 **Oral session 5**
Chairman: Roman Bleha

- 14:00 – 14:40 Robert Gilbert
Keynote lecture: Starch and glycogen: molecular cousins of importance to human health
- 14:40 – 14:55 I. Gabriunaite*, T. Kavleiskaja, R. Gruškienė, J. Sereikaitė
Application of inulin for coating of β -carotene: preparation and characterisation
- 14:55 – 15:10 M. M. Mohotloane*, O. Alexander, V. N. Adoons, B. I. Pletschke, M. S. Mafa
Peroxidase application reduces microcrystalline cellulose recalcitrance towards cellulase hydrolysis in model cellulose substrates and rooibos biomass
- 15:10 – 15:25 C.-Y. Gan*, C. Beh, P.-G. Yap, I. Naharudin, T.-W. Wong
Microwave-assisted extraction of polysaccharides from *Cinnamomum verum* bark with anti-hyperpigmentation, antioxidant, and sun protection properties: Optimization, characterization, and efficacy studies
- 15:25 – 15:40 R. Buffa*, T. Klejch, M. Hermannová, L. Hejlová, V. Svozil, H. Vágnerová, H. Škubalová, K. Nešporová, V. Velebný
Less polar Hyaluronic acid derivatives – synthesis, analysis and applications
- 15:40 – 15:55 M. H. Shafie*, M. H. MD Yusoff
Unraveling the *Micromelum minutum* polysaccharide's structural properties on antioxidant and antidiabetic activities: Optimization and characterization studies
- 15:55 – 16:10 V. Chibrikov*, J. Cybuslka, A. Zdunek
Modeling of mechanical properties of hemicellulose-cellulose networks in plant cell wall analogues
- 16:10 – 16:25 F. Wurm*, M. Kozich, M. Karl-Juergen, B. Seidl, T. Bechtold, T. Pham
Cationic starch as a direct dye bath auxiliary in reactive dyeing of cellulosics
- 16:25 – 16:40 P. Mayer*, T. Bechtold, T. Pham
Formation of ionic bonds between cellulose fibres and conductive polymer poly(3,4-ethylenedioxythiophene) by modifying cellulose fibres with anionic groups
- 16:40 – 16:55 A. Macůrková*, D. Harkavchenko, I. Hyršlová, J. Štětina, L. Čurda
Application of β -galactosidase for production of oligosaccharides
- 16:55 – 17:10 K. Trigui*, O. Hamzah, B. Jean, L. Heux, Y. Nishiyama, F. Dhalem, J. P. C. Fernandes
Developing biobased proton exchange membranes derived from functionalized nanocellulose

17:10 – 17:25 L. Gao*, G. Haesaert, F. Van Bockstaele, P. Vermeir, A. Skirtach,
M. Eeckhout
Combined application of nitrogen and sulfur fertilizers on the
structure and physicochemical properties of buckwheat starch

17:25 – 17:40 K. L. Baltrusch, M. D. Torres*, H. Domínguez
Continuous ultrasonic depolymerization and ultrafiltration for the
scalable production of low molecular weight carrageenans

17:40 – 17:55 *Young Science Award*

17:45 – 18:00 *ICPG closing*

POSTERS – THURSDAY 14TH NOVEMBER

1. M. Witek*, M. Krzystyniak,
I. Maciejaszek, J. Banaś
Starch-water interactions and viscoelastic properties influenced by egg components in rice dough
2. P. S.-Badr*, A. Foroughia,
M. Banimohammadb,
H. Pazoki-Toroudi
The role of fucoidan polysaccharide in enhancing skin flap survival by affecting inflammation factors: A data virtualized study
3. M. M. Lazar*, R. P. Damaschin,
I. Volf, M. V. Dinu
Innovative composite cryogels based on dextran and a spruce bark polyphenolic extract for efficient removal of cationic dyes from aqueous solutions
4. L. Huang*, J. Wu
Bifidogenic properties of polysaccharides isolated from mushroom *Lentinula edodes* and enhanced immunostimulatory activities through *Bifidobacterial* fermentation
5. L. Franková*, E. Whale,
S. C. Fry
An *Equisetum* endotransglucosylase capable of covalently grafting ‘cargo’ substances onto cellulose
6. K. Karppinen*, M. Furqan
Ashraf, H. Edema,
A. Samkumar, L. Jaakola
Characterization of pectinases from softening fruit for overcoming plant cell wall recalcitrance
7. M. Sturm*, K. Römhild,
S Hessberg
The lyocell process as a great possibility to recycle cellulosic fibers and fabrics
8. M. Gottschalk*, T. L. Lowary,
P.-J. Li, M. Jana, M. Lo Fiego,
R. P. Sweeney, P. Srimanote,
M. Lehoux, M. Segura
A new generation glycoconjugate vaccine against *Streptococcus suis*
9. R. Bozbay*, N. Orakdogan
Starch-integrated Sodium-alginate hydrogel beads loaded with Nutmeg (*Myristica fragrans Houtt*) seed extract
10. G. Grasso*, O. Hamzah,
V. Pasquale, B. Jean, T. Zotti,
L. Zerillo, J. R. Madera,
A. Tutela, L. Heux
Oxidized bacterial cellulose/porcine skin gelatin macroporous scaffold for cartilage tissue regeneration
11. C.-W. Zhang*, S.-Z. Shui,
S. Liao, Y.-C. Kuang, D.-Z. Yin,
Y. Gu, J. Banaz, M. Heinrich,
X.-F. Chen, Z.-Q. Yin,
M. L. Tian, Y.-F. Zou
Paeoniae Radix alba polysaccharide modulates gut microbiota to suppress colitis by restoring metabolites and promoting the enteric nervous system development
12. N. M. Jose*, T. Nicolai,
F. Renou, L. Benyahia
Microstructure and elasticity of κ -carrageenan in water-in-water emulsion
13. J. Myung*, Y. Cho
Valorization of mandarin peel waste into bioplastic blending with poly(vinyl alcohol): effects of pretreatment and blending ratio
14. A. D. Premarathna*,
R. Tuvikene
Fucoidan in wound healing and cytoprotection: a comprehensive analysis of bioactivities and cellular responses

15. D. Wang*, X. Liu, K. Wang, L. Zhao, Z. Hu, S. S. Ferreira M. A. Coimbra
Interactive effects of pectic polysaccharides and EGCG on immunomodulation and intestinal barrier repair in cyclophosphamide-induced mice
16. A. A. Shatalov*
Kinetics of acid-catalyzed hydrolysis of model hardwood xylan in dilute aqueous solutions of keggin-type (Mo-V-P)-heteropolyacids
17. K. Piekarska*, M. Owczarek, E. Mnich, C. Hernandez, P. Król
Characteristics and application of materials based on biopolymers
18. M. J. Hellmann*, S. Cord-Landwehr, B. M. Moerschbacher
Methods for the fast and thorough characterization of enzymes acting on polysaccharides such as chitosans
19. M. Sikora*, K. Piekarska
Application of the alamarBLUE assay technique for cell control and multiplication on selected cell line
20. S. Cord-Landwehr*, M. J. Hellmann, B. M. Moerschbacher
Methods for the fast and thorough characterization of polysaccharides such as chitosans
21. R. Savastano*, N. V. De Gaulejac, M. P. E. Fouquet, N. Francesca, N. Vivas
Optimization of the precipitation protocol for wine polysaccharides analysis through Central Composite Design
22. S. Moreno-Mendieta, D. Guillén, N. Vásquez, R. Hernandez-Pando, S. Sánchez, R. Rodríguez-Sanoja*
Unlocking the potential: Utilizing α -glucans in vaccines. Preclinical study of starch microparticles
23. J. Rizo, T. E. Martínez-Oropeza, C. Wachter, G. Diaz, S. Sánchez, D. Guillén, R. Rodríguez-Sanoja*
Understanding polysaccharide degradation in Pozol, a traditional fermented food
24. M. Wojtczak*, A. Papiewska, K. Kowalewska, A. Antczak-Chrobot
The impact of sugar beet exopolysaccharides on sustainable sugar production
25. R. A. Maia*, A. R. Gonçalves, G. Ventorim
Characterization and production of cellulose from banana pseudostem via soda and kraft pulping processes
26. A. Mianehro*, P. P. I Rodríguez, M. Hakkarainen, F. Vilaplana
Production of nanofibers and porous biofilm from wheat bran extraction residue
27. G. H. Hyun*, S. W. Kwon
Immunoactive carbohydrate-based nanocomposites for enhancing immunotherapy
28. A. Rodríguez*, E. Espinosa, R. Morcillo, E. Rincón, F. Pérez-Rodríguez
Packaging solutions from lignocellulosic residues

POSTERS – FRIDAY 15TH NOVEMBER

1. M. Havrlentová*,
D. Mihálik, J. Hrouzek Cereal β -D-glucans in the food industry - challenges and limits
2. F. Latečka*, T. Juriňáková,
L. Münster, M. Muchová,
M. Masařík, P. Humpolíček,
M. Fojtů, J. Vicha Thermoresponsive dicarboxy-hyaluronate nanogels for enhanced drug delivery against ovarian cancer
3. I. Švec*, M. Sluková Chemometrics of RVA viscosity profile of selected hydrocolloids
4. Z. Košťálova*,
I. Uhliariková, P. Capek Investigation of extracellular polysaccharides produced by *Nostoc calcicola*
5. M. Janata*, M. Šimek,
Z. Černý, M. Čihák,
J. Jílková, H. Kovářová,
K. Vajčíková Metabolic insights into the lack of hyaluronic acid production by the non-mucoid phenotype of *Streptococcus equi* subsp. *Zooepidemicus*
6. Z. Černý*, V. Berka,
M. Čihák, J. Jílková,
M. Janata, H. Kovářová,
K. Vajčíková Impact of membrane cardiolipin on hyaluronan synthase activity in *Streptococcus zooepidemicus*
7. P. Smrčková*, I. Švec,
E. Šárka The nutrition parameters and the rheological properties of extruded products
8. I. Uhliariková*,
M. Matulová, J. Lukavský,
P. Capek Structure of α -D-galacturono- β -D-glucan produced by the *Cyanobacterium scytonema* sp.
9. J. Lewandowicz,
H. M. Baranowska,
P. Jankowska, J. Le Thanh-Blicharz* The effect of cosmotropic and osmoactive substances used in the food industry on pasting, rheological and textural properties of waxy starch pastes
10. N. Gerspitzerová*, J. Holub,
P. Sniegoňová, D. Špačková,
J. Obračaj, R. Mikulíková,
I. Márová Cultivation conditions for maximizing beta-glucan content in carotenogenic yeast
11. D. Špačková*, J. Holub,
N. Gerspitzerová,
J. Obračaj, P. Sniegoňová,
R. Mikulíková, I. Márová Optimization of exopolysaccharide production by red yeasts: carbon source impact on EPS yields
12. H. M. Baranowska*,
L. Masewicz, K. Walkowiak,
J. Lewandowicz, J. Le Thanh-Blicharz,
P. L. Kowalczewski Polysaccharide emulsions with coconut fat - temperature properties
13. N. Petkova, D. Vassilev*,
M. Ognaynov, D. Yaneva,
M. Krystijan, M. Todorova,
I. Vasileva, I. Petrova,
P. Denev Characterization and evaluation of functional properties of a pectic polysaccharide isolated from celery tubers by ultrasound-assisted extraction
14. I. Maciejaszek*, K. Surówka Storage stability of breadcrumbs determined by the accelerated method

15. K. Surówka*, I. Maciejaszek Protein – polysaccharide complexes from soy protein and carrageenan obtained by electrosynthesis
16. L. Kalitukha*, K. Klarova, R. Bleha Fungal biosorbents for anionic congo red and cationic methylene blue dyes
17. Z. Víchová*, J. Vicha, P. Humpolíček Multiactive chitosan/dialdehyde cellulose hydrogels for wound healing
18. A. Sinica*, R. Bleha, M. Canelas Pereira, Š. Horáčková, B. Vrchotová, I. Saloň, J. Štětina Fractionation of exopolysaccharides produced by *Limosilactobacillus fermentum* MM1V, an inhibitor of pathogenic bacterial growth
19. S. Jarzabek, I. Pawlaczyk-Graja* Optimization of ultrasounds-assisted extraction process of antidiabetic saccharide mimetics from white mulberry (*Morus alba* L.)
20. D. Harkavchenko*, A. Macůrková, L. Čurda, J. Štětina Preparation of novel galactooligosaccharides containing fucose
21. R. Korman*, R. Bleha, M. Jozífek, A. Sinica, J. Čopíková, P. Klouček Structural analysis of polysaccharides from Black pearl mushroom
22. M. Sogel*, R. Bleha, P. Skřivan, M. Sluková, A. Sinica Structural analysis of polysaccharide fractions from brewer's spent grain
23. R. Bleha*, L. Sushytskyi, L. Vannucci, J. Čopíková, A. Sinica, M. Jozífek, I. Jablonský, P. Klouček Polysaccharide fractions from mushroom *Hericium erinaceus*
24. L. Jurkaninova*, V. Dvoracek, J. Tauchen, I. Kucerova, A. Frankova, A. Sinica The polysaccharide composition of grape pomace
25. S. Leonhartsberger*, P. Carmona, B. Seidl, M. Karl-Juergen, M. Kozich, I. Sulaeva, Ch. Stanetty, M. Mihovilovic Nature's solution to water pollution: polysaccharides in flocculation
26. B. Vrchotová*, Š. Horáčková, M. Plocková, J. Štětina Isolation of lactic acid bacteria producing exopolysaccharides
27. J. Čopíková*, S. Kulfasová, R. Bleha, A. Sinica Polysaccharides and gelatine in confectionery jelly
28. J. Lagiewka*, I. Zawierucha Selective adsorption of anionic dyes with a novel chitosan composite based on cyclodextrin polymer

20th ICPG Sponsors



Thank you for joining our 20th ICPG conference, we look forward to meeting you at the anniversary **21th ICPG**, which will be from **5 to 7 November 2025** in Prague.

On behalf of the Scientific and Organising Committees
Roman Bleha, Jana Čopíková, Evžen Šárka

