



24-26 MAY, 2023
SMOLENICE CASTLE

**9TH INTERNATIONAL CONFERENCE ON
POLYMERIC MATERIALS IN AUTOMOTIVE PMA 2023**

AND

THE 25TH SLOVAK RUBBER CONFERENCE SRC 2023

PROGRAM



STU
FCHPT

SLOVAK UNIVERSITY OF
TECHNOLOGY IN BRATISLAVA
FACULTY OF CHEMICAL
AND FOOD TECHNOLOGY



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AUSPICES



10.30	CHODÁK Ivan	OPENING CEREMONY	
Chairperson	HUDEC Ivan		
10.40 – 10.55	Opening Lecture	HÍVEŠ Ján STU Bratislava	History and research activities of the Slovak University of Technology in Bratislava
10.55 – 11.10	Opening Lecture	ŠAJGALÍK Pavol SAS Bratislava	History and research activities of the Slovak Academy of Sciences Bratislava
11.10 – 11.40	Opening Invited Lecture	KEBÍSEK Ivan Yanfeng International Automotive Technology Tech Center Trenčín	Technology transformation – Keeping user experience at the heart of innovation
11.40 – 12.10	Opening Invited Lecture	GIESE Ulrich Deutsches Institut für Kautschuktechnologie DIK, Hannover	Overview - challenges for the rubber industry (CO ₂ , substitutes for some chemicals/REACH,- PFASA, PAH, 6PPD...)
12.10 - 13.30	Lunch		
Chairperson	CHODÁK Ivan		
13.30 – 13.45	Invited Lecture	MOSNÁČEK Jaroslav Polymer Institute SAS Bratislava	60 years of research activities of the Polymer Institute of SAS
13.45 – 14.00	Invited Lecture	HUDEC Ivan STU in Bratislava, Faculty of Chemical and Food Technology	80 years of education of polymer chemistry and technology at STU in Bratislava
14.00 – 14.20	Invited Lecture	RODA Jan UCT Prague, Faculty of Chemical Technology	History of macromolecular chemistry at UCT Pragu4
14.20 – 14.40	Invited Lecture	ŠŇUPÁREK Jaromír University of Pardubice, Faculty of Chemical Technology	Polymer chemistry at VSCHT and UPa
14.40 – 15.00	Invited Lecture	ČERMÁK Roman Tomas Bata University in Zlín Faculty of Technology	Brno – Gottwaldov - Zlín: From Leather, Rubber and Plastics to Food, Engineering and Biomaterials
15.00 – 15.20	Invited Lecture	VESELÝ Michal Brno University of Technology Faculty of Chemistry	Polymer chemistry at the Brno University of Technology
15.20 – 15.40	Coffee Break		
Chairperson	MOSNÁČEK Jaroslav		
15.40 – 16.10	Invited Key Lecture	BENKOVÁ Zuzana	Tuning the adhesive properties of PEO-modified surfaces in the presence of free PEO chains: a molecular Dynamics simulation study
16.10 – 16.40	Invited Key Lecture	ŠPITALSKÝ Zdenko	Antibacterial polymer composites based on hydrophobic carbon quantum dots for public transport applications
16.45 – 18.00	Poster Session		
18.00 – 20.00	Excursion in Honey Craft Meadery		

LIST OF POSTERS

1. **PEIDAYESH H.**
Effects of varying humidity conditions on the mechanical properties of thermoplastic starch-montmorillonite nanocomposite during aging
2. **ONDRIŠ L.**
Effect of plasticizers on structure and molecular mobility of thermoplastic starch-based nanocomposites
3. **NÓGELLOVÁ Z.**
Chemical modification of poly(ethylene-propylene) copolymer used in hot-melt adhesives
4. **VÍROSTKOVÁ K.:**
Spectroscopic study of elemental and molecular emissions from polymer matrixes by laser induced breakdown spectroscopy (LIBS)
5. **PREŤO J.**
Impact of silanising agents on the rheological, vulcanization and physico-mechanical properties of EPDM rubber blends containing layered double hydroxides
6. **PLAVEC R.**
The material recycling possibilities of biodegradable materials suitable for 3d printing
7. **KONIOS N.**
Modification of silicon substrates with functional polymers via photo induced ATRP
8. **TOMČÍKOVÁ Z.,:**
Research in preparation of pla cast films with a content of photoluminescent pigment
9. **PETKOVÁ M.**
Properties of pla masterbatches with inorganic pigments
10. **HRICOVÁ M.**
Properties of pigmented pla fibres
11. **ŠKROBÁK A.**
Chemical Methods for removal of Rubber Residues from Molds
12. **VAŠKOVÁ I.**
Cytotoxicity testing of composite scaffolds prepared by 3D – printing
13. **DŽUGANOVÁ M.**
Application of plasticizer in calcium lignosulfonate-filled rubber compounds
14. **HUDECOVÁ A.**
Rheological and thermal properties of colour masterbatches prepared from PLA
15. **KVASNIČKOVÁ A.**
Combined sulfur and peroxide vulcanization of elastomer compounds based on EPDM and IIR
16. **NOVÁK I.**
Oxygen permeation through EPDM rubber containing various layered nanoparticles
17. **CHODÁK I.**
Recycling of truck tyres
18. **CZÍMEROVÁ A.**
The use of recycled polyethylene in asphalt mixture

Chairperson	RODA Jan		
8.30 – 9.00	Key Lecture	BIELINSKI Dariusz	The fluoride anion supported sulfur vulcanization of diene rubbers
9.00 – 9.30	Invited Lecture	KRUŽELÁK Ján	Electromagnetic interference shielding of rubber composites
9.30 – 9.50	Contributed Lecture	ČADEK Drahoš	The effect of zinc compounds on vulcanization of natural rubber
9.50 – 10.10	Contributed Lecture	ASCHEMANN Alexander	Digital rubber processing – Extrusion and digital twin of the extrudate
10.10 – 10.30	Contributed Lecture	KOLLÁR Miroslav	CAE simulation vs. part and mold design
10.30 – 10.50	Coffee Break		
Chairperson	STOČEK Radek		
10.50 – 11.20	Invited Key Lecture	BACCHELLI Fabio	Sustainable compounding through eco-design and recycling
11.20 - 11.50	Invited Lecture	ALBERS Antonia	Sustainable Processing Promoters for Functionalized Rubbers
11.50 – 12.10	Contributed Lecture	EVGIN Tuba	Electrical and mechanical properties of carbon-based elastomeric composites
12.10 – 12.30	Contributed Lecture	NADÁNYI Richard	Effect of isolation conditions on lignin properties towards lignin-based polymer materials
12.30 - 12.50	Contributed Lecture	JESZEOVÁ Klaudia	Application of calcium liginosulfonate as a component of rubber composites
12.50 – 14.00	Lunch		
Chairperson	ALEXY Pavol		
14.00 – 14.30	Invited Key Lecture	HJELM Rex	Critical tests of tube theory through experimental verification of polymer molecular architecture response in the linear and non-linear rheological domains
14.30 – 15.00	Invited Lecture	PODOBOVÁ Mária	New Trends in Tire Development at Continental
15.00 – 15.30	Invited Key Lecture	STOČEK Radek	A comprehensive view of tyre rubber degradation in service
15.30 – 16.00	Invited Lecture	BREJCHA Jiří	Sustainability aspects and solutions in tyre and rubber industry
16.00 – 16.20	Coffee Break		
Chairperson	ČERMÁK Roman		
16.20 – 16.50	Invited Key Lecture	KARL Christian	Recycled plastics for marine and automotive applications
16.50 – 17.10	Contributed Lecture	RESL Petr	Additive manufacturing of continuous fiber multi-directional reinforced composites
17.10 – 17.30	Contributed Lecture	HÁJOVSKÁ Pavla	Development of bioink for use in 3D extrusion bioprinting
17.30 – 17.50	Contributed Lecture	BACO Andrej	Biodegradable blends PLA/PHA for extrusion blow molding
17.50 – 18.10	Contributed Lecture	FOGAŠOVÁ Mária	PLA/PHB-Based Materials Fully Biodegradable under Both Industrial and Home-Composting Conditions
18.10 – 18.30	Contributed Lecture	MIKOLAJOVÁ Mária	Influence of PHB and TPS content on the biodegradation of PLA/PHB/(TPS) blends
18.30 - 18.50	Contributed Lecture	HORVÁTH Vojtech	Biopolymer based materials for 3d printing
19.00 – 22.00	Conference Gala Evening		

Chairperson	BACCHELLI Fabio		
9.00 – 9.30	Key Lecture	ZAMIR Ran	De-vulcanized Rubber on Industrial Use
9.30 – 9.50	Contributed Lecture	LAAGES Jannik	De-vulcanization efficiency for sulfur crosslinked natural rubber and styrene butadiene rubber
9.50 – 10.20	Invited Lecture	KRUMP Henrich	Foaming as a suitable tool for achieving the desired properties of thermoplastic cables
10.20 – 10.50	Invited Lecture	ČERMÁK Roman	Polypropylene Crystallization: Competition between Specific Nucleation, Self-Seeding and Processing
10.50 – 11.10	Contributed Lecture	VYKYDALOVÁ Anna	Study of epoxides with improved flame resistance by cone calorimetry
11.10 – 11.30	Coffee Break		
Chairperson	BIELINSKI Dariusz		
11.30 – 12.00	Invited Lecture	OSWALD Eduard	Thermal materials, adhesives, sealants & functional coatings for electric vehicles
12.00 – 12.30	Invited Lecture	ALEXY Pavol	Bioplastics in The Circular Economy
12.30 – 13.00	Invited Main Lecture	GIESE Ulrich	Elastomer composites using polysaccharide based fillers from renewable resources
13.00 - 13.10	MATADOR FOUNDATION	ŠTEFAN ROSINA AWARD	
13.10 - 13.20	HUDEC Ivan CHODÁK Ivan	CONFERENCE CLOSING CEREMONY	
13.10 – 14.00	Lunch		

