



Polymer Meeting 14

Graz University of Technology

Aug. 30-Sept. 2, 2021



PROGRAM


Monday, Aug. 30, 2021 – Morning-Session

10:00-10:15	Opening
	Lecture room P1 // Chairman: G. Trimmel
10:15-10:40	IL-1: <i>Strong made weak: Composites with controllable stiffness and shape memory</i> Alexander Bismarck
10:40-11:05	IL-2: <i>Photo-switchable polymer networks</i> Sandra Schlögl
11:05-11:30	IL-3: <i>Additive manufacturing of polymer/composite-metal hybrid structures</i> Sergio T. Amancio-Filho
11:30-11:55	IL-4: <i>Polymer development for 3D printing: highest demands on components require designed materials</i> Klaus Bretterbauer
11:55-12:10	Company talk <i>Shimadzu</i>
60 min	Lunch

Monday, Aug. 30, 2021 – Afternoon-Session

	Lecture room P1 // Chairwoman: K. Stana-Kleinschek	
13:10-13:35	IL-5: <i>Degradable all-aliphatic polyurethane films</i> Jiří Kotek	
13:35-14:00	IL-6: <i>Cationic frontal polymerization</i> Patrick Knaack	
14:00-14:25	IL-7: <i>Cascade use of wood - from boards to fibers and chemicals</i> Andreja Kutnar	
14:25-14:50	IL-8: <i>Lifetime modelling of heritage polymers</i> Matija Strlič	
35 min	Coffee	
	P1 // Chairwoman: S. Schlögl	P2 // Chairman: S. T. Amancio-Filho
15:25-15:40	CL-A1: <i>High-performance photo-curable adhesives for bone repair</i> Lisa Sinawehl	CL-B1: <i>Polymeric composites and hybrids with 2D nanofillers</i> Mária Omastová
15:40-15:55	CL-A2: <i>Multi-material digital light processing 3D printing based on a dual-curing acrylate-epoxy system: Myth or reality?</i> Ines Cazin	CL-B2: <i>High CNT loading nano and hierarchical composites</i> Neptun Yousefi
15:55-16:10	CL-A3: <i>Frontal photopolymerization of photobleachable resins based on long-chain polyetherpolyol dimethacrylates</i> Catharina Ebner	CL-B3: <i>Influence of filler and matrix on the thermal conductivity and mechanical properties of the composite</i> Nina Wolfsgruber
5 min	Break	
16:15-16:30	CL-A4: <i>Changing morphological features in a semi-crystalline polymer in material-extrusion based additive manufacturing</i> Sandra Petersmann	CL-B4: <i>Optical reflectivity of fiber-reinforced epoxy laminates modified by nanoparticle decorated carbon fibers</i> Lukas Haiden
16:30-16:45	CL-A5: <i>Digital light processing 3D-printing of covalent adaptable networks</i> Elisabeth Rossegger	CL-B5: <i>Polymer electrolyte as separator for structural super-capacitors</i> Olivier Hubert
16:45-17:00	CL-A6: <i>Difunctional low shrinkage monomers performing light-induced cyclopolymerization</i> Larissa Alena Ruppitsch	CL-B6: <i>Functional hierarchical composites for structural applications</i> Michael Feuchter
17:00-17:40	Poster session // even numbers	
17:40-18:25	Public lecture: <i>The Role of Plastics in Navigating the Great Societal Transformation. A story on the future of plastics narrated as "Wag the Dog" puzzle</i> Reinhold W. Lang	
18:25-19:05	Poster session // odd numbers	
19:10-	Conference party	






Tuesday, Aug. 31, 2021 – Morning Session

	Lecture room P1 // Chairman: R. Liska
8:35-9:00	IL-9: <i>Bicontinuous nanophasic amphiphilic polymer conetworks with broad composition range: A novel nanostructured material platform</i> Béla Iván
9:00-9:25	IL-10: <i>Development of devices based on stimuli-responsive polymer thin films deposited by iCVD</i> Anna Maria Coclite
9:25-9:50	IL-11: <i>Fracture of layered polymers</i> Florian Arbeiter
9:50-10:15	IL-12: <i>Raman spectroscopy: A tool for polymer characterization from the macroscopic to the microscopic scale</i> Sabine Hild
35 min	Coffee
	Lecture room P1 // Chairman: J. Kotek
10:50-11:15	IL-13: <i>Enzymatic polymerizations – Making polymer synthesis more sustainable</i> Katja Loos
11:15-11:40	IL-14: <i>Additive-manufactured polymer-based biomaterials for regenerative medicine</i> Stefan Baudis
11:40-12:05	IL-15: <i>Viscoelastic modelling of polymer melt flow for thermoplastics and rubber compounds</i> Walter Friesenbichler
12:05-12:30	IL-16: <i>Challenges and approaches for specification-compliant plastics recycling</i> Jörg Fischer 
60 min	Lunch

Tuesday, Aug. 31, 2021 – Afternoon Session

	P1 // Chairman: C. Paulik	P2 // Chairman: W. Friesenbichler
13:30-13:45	CL-A7: <i>Diels-Alder cycloaddition for the preparation of highly aromatic polyimide copolymers</i> Doris Cristurean	CL-B7: <i>Simulating a multistage polymerization process in a bench-scale setup</i> Gerold Rittenschober
13:45-14:00	CL-A8: <i>Water as monomer: Polymerizing divinyl sulfone and water via oxa-Michael addition</i> Karin Ratzenböck	CL-B8: <i>A hybrid approach for modelling polymer processing problems</i> Wolfgang Roland
14:00-14:15	CL-A9: <i>Preparation of functional polymers for glycan purification based on hydrazone solid phase extraction</i> Davide Ret	CL-B9: <i>Effect of processing and filtering in a two-stage injection molding process on thermos-analytical, rheological, and mechanical properties</i> Ines Traxler
5 min	Break	
14:20-14:35	CL-A10: <i>3D printing of pure phenolic resins by hot lithography</i> Raffael J. B. A. Wolff	CL-B10: <i>Influence of the material on the melt filtration using different screens</i> Kerstin Koller
14:35-14:50	CL-A11: <i>Bottlebrush, high molecular weight poly-phosphazene-g-poly(L-glutamic acid) fully biodegradable polymer therapeutics with enhanced biodistribution profiles</i> Paul Strasser	CL-B11: <i>Modeling of the devolatilization process in an extruder</i> Chi Nghia Chung
14:50-15:05	CL-A12: <i>Exploration of synthetic strategies to access catechol-based monomers for application in bioinspired adhesives</i> Manuel Pühringer	CL-B12: canceled
35 min	Coffee	
	Lecture room P1 // Chairman: I. Lacik	
15:40-16:05	IL-17: <i>Cationic UV-curing of epoxidized biobased resins and composites</i> Marco Sangermano	
16:05-16:30	IL-18: <i>The quest for sustainable polymers - contributions from furan-based polyesters</i> Andreia F. Sousa	
16:30-16:55	IL-19: <i>Binary molecular stamps – a novel data storage technique: imprinting polymers with sequence-defined polymeric templates</i> Oliver Brüggemann	
16:55	Bus ride to the conference dinner	
17:50	Conference dinner – Weinschloss Koarl Thaller	

Wednesday, Sept. 1, 2021 – Morning Session








	Lecture room P1 // Chairman: C. Slugovc	
8:55-9:20	IL-20: <i>New trends in functional porous and permeable polymer materials for sustainability and life sciences</i> Benjamin Carbonnier 	
9:20-9:45	IL-21: <i>Porous polymers prepared by ring-opening polymerization</i> David Pahovnik 	
9:45-10:10	IL-22: <i>Compensation of volumetric shrinkage by expanding monomers</i> Frank Wiesbrock	
30 min	Coffee	
	P1 // Chairman: R. Kargl	P2 // Chairman: C. Slugovc
10:40-10:55	CL-A13: <i>A novel mechanical meta-material with customizable stiffness distribution</i> Mathias Fleisch	CL-B13: <i>Hypercrosslinked polymers for visible-light-driven CO₂ photoreduction</i> Robert T. Woodward 
10:55-11:10	CL-A14: <i>Investigation of shape memory-assisted self-healing of thiol-acrylate vitrimers</i> Walter Alabiso	CL-B14: <i>Understanding intermolecular bonding in organic materials and its impact on electronic properties</i> Egbert Zojer 
11:10-11:25	CL-A15: <i>Bismuth- and pyrylium-based onium salts as initiators for radical induced cationic frontal polymerization</i> Roland Taschner	CL-B15: <i>Hypercrosslinked polyHIPEs as Pd-catalyst supports</i> Hande Barkan-Öztürk 
5 min	Break	
11:30-11:45	CL-A16: <i>Curing of epoxidized plant oils with solid acid hardener</i> Markus Schwaiger	CL-B16: <i>Anti-adhesive organosilane coatings functionalized with markers for visibility-on-demand</i> Christine Bandl
11:45-12:00	CL-A17: <i>3D printing and stabilization of nanofibrillated cellulose-alginate scaffolds by different crosslinking methods</i> Tamilselvan Mohan	CL-B17: <i>Water-borne model epoxy varnishes for μm-thin adhesive bonding of electrical steel laminates</i> Gernot M. Wallner
12:00-12:15	CL-A18: <i>Plastic or elastic: Fungi-derived composite nanopapers with tunable properties</i> Andreas Mautner	CL-B18: <i>Activation of polyamide fibers for subsequent metallization</i> Carolin Gleißner
12:15-12:30	CL-A19: <i>Catalytic metal bonding of phosphinated cellulose and formation of nanocellulose in the process</i> Philip Verdross	CL-B19: <i>A study on the mechanism of blistering of pigmented organic coatings in warm-humid environments</i> Barbara Obereigner
60 min	Lunch	



Wednesday, Sept. 1, 2021 – Afternoon Session

	P1 // Chairman: D. Pahovnik	P2 // Chairwoman: S. Hild
13:30-13:45	CL-A20: <i>Biomimetic models of the aortic arch for surgical planning</i> Rupert Kargl	CL-B20: <i>Software-based simulation and method optimization for polymer- and nanoparticle separations by Field-Flow Fractionation</i> Gerhard Heinzmann
13:45-14:00	CL-A21: <i>Balancing strength and ductility – Tough and transparent nanopapers through mercerisation</i> Florian Mayer	CL-B21: <i>Effect of sequence blockiness on the retention behavior of gradient copolymers with various liquid chromatographic techniques</i> Blaž Zdovc
14:00-14:15	CL-A22: <i>Fully bio-based high-performance composite</i> Andrea Todorovic	CL-B22: <i>Degradation of monomers during hydroxyl-terminated polyester synthesis and their influence on the polymer structure</i> Viktoria Kreuzer
5 min	Break	
14:20-14:35	CL-A23: <i>Solvent and operating condition effects on the reaction rates of typical lignin bond cleavage during organosolv pretreatment</i> Tina Ročnik	CL-B23: <i>Differential Scanning Calorimetry with pressure cell for determining the polymer crystallinity changes in presence of gaseous penetrant</i> Martina Kukrálová
14:35-14:50	CL-A24: <i>Bio-Pulping: Delignification and hybridisation of lignocellulosic material utilising fungi</i> Kathrin Weiland	CL-B24: <i>Sulfonation of unsaturated polyester – analytical challenges due to solubility change</i> Klara M. Saller
14:50-15:05	CL-A25: <i>Bio-based polymers for transport packaging – possibilities & limitations</i> Nadine Wild	CL-B25: <i>Integrative material characterization of crystalline nanocellulose reinforced filaments for fused filament fabrication</i> Helena Weingrill
30 min	Coffee	
Lecture room P1 // Chairman: W. Kern		
15:35-16:00	IL-23: <i>Impact of counterions on the propagation rate coefficient in radical polymerization of ionized monomers</i> Igor Lacík	
16:00-16:25	IL-24: <i>Improving the quality of recycled polymer waste through advanced mechanical sorting</i> Gernot Oreski	
16:25-16:50	IL-25: <i>Engineering catalytic conversion pathways of lignocellulose to functional alcohol or carboxylic monomers</i> Blaž Likozar	
16:50-17:15	IL-26: <i>Modeling macro-effects of micro-structures</i> Martin Pletz	
17:15-17:40	IL-27: <i>Polyheterocyclics by hydrothermal synthesis</i> Miriam M. Unterlass	

Thursday, Sept. 2, 2021 – Morning Session

	Lecture room P1 // Chairman: B. Ivan	
8:35-9:00	IL-28: <i>Digital materials – Vision or reality? Applicability of micromechanical modeling for material design</i> Zoltan Major	
9:00-9:25	IL-29: <i>Environmental impact of the textiles sector and the role of bio-based resources</i> Avinash P. Manian	
9:25-9:50	IL-30: <i>Tricks with polyHIPES: Combined templating approaches for hierarchical porosity</i> Peter Krajnc 	
9:50-10:15	IL-31: <i>Processing of fibre-reinforced polymer composites based on phenomenological models</i> Ewald Fauster	
30 min	Coffee	
	P1 // Chairman: J. Fischer	P2 // Chairman: E. Fauster
10:45-11:00	CL-A26: <i>Investigation on the recycling of biobased polymers on the example of PHBV</i> Sabine Stockenhuber 	CL-B26: <i>Destiny of drag reducing agents in turbulent pipe flows</i> Hans Werner Müller
11:00-11:15	CL-A27: <i>Effect of different experimental setups on the removal efficiency of surface and matrix contamination in PE-LD</i> Konstanze Kruta 	CL-B27: <i>Impact of silver seed formation on electroless copper deposition for conductive textiles</i> Christian Biermaier
11:15-11:30	CL-A28: <i>Poison study based on chemically recycled plastic waste impurities and their influence on the performance of Ziegler-Natta catalysts</i> Daniel Christian Pernusch 	CL-B28: <i>Hydrophobically modified copolymer associations - A promising path to improve drag reduction?</i> Emina Muratspahic
5 min	Break	
11:35-11:50	CL-A29: <i>The influence of the sample preparation steps on the properties of pre-treated polyolefin waste – Problems & Solutions</i> M. Hassan Akhras 	CL-B29: <i>Viscosity reduction of magnesium alkyls used for Ziegler-Natta catalysts</i> Julia Schwarz
11:50-12:05	CL-A30: <i>Recycling of multilayer films from food packaging</i> Kateřina Plevová 	CL-B30: <i>Effects of different process parameters on improved comonomer incorporation distribution in Ziegler-Natta catalysis</i> Lukas Göpperl
12:05-12:20	CL-A31: <i>Comparison of chromatographic, spectroscopic, thermal, and mechanical measurement techniques for polyethylene recycle characterization</i> Paul J. Freudenthaler 	CL-B31: <i>Application of hybrid modeling in polymer processing</i> Ursula Stritzinger
70 min	Lunch // in parallel: Board meeting	

Thursday, Sept. 2, 2021 – Afternoon Session

	Lecture room P1 // Chairman: P. Krajnc
13:30- 13:55	IL-32: <i>Thermal conductive, electrical insulating polymer compounds using material extrusion additive manufacturing for electronic parts</i> Clemens Holzer
13:55- 14:20	IL-33: <i>Exploring thiol based photochemistry for the additive manufacturing of medical devices</i> Thomas Griesser
14:20- 14:45	IL-34: <i>Fracture mechanical design of new photopolymers for additive manufacturing</i> Jürgen Stampfl
14:45- 15:00	Award ceremony
15:00- 15:10	Closing