



15 – 17 April 2015
Slovenj Gradec
Slovenia

Biopolymer Materials and Engineering

Conference Programme



Investing in your future

OPERATION PART FINANCED BY THE EUROPEAN UNION
European Regional Development Fund



REPUBLIC OF SLOVENIA
**MINISTRY OF EDUCATION,
SCIENCE AND SPORT**



visoka šola za tehnologijo polimerov
polymer technology college

WEDNESDAY, 15. 4. 2015

13:00 - 15:00	REGISTRATION
15:00 - 15:15	OPENING AND WELCOME ADDRESS

CHAIR: A. KRŽAN

15:15 - 16:00	PL: FUNCTIONAL DEGRADABLE NANOFIBERS FOR REGENERATIVE MEDICINE M. L. BECKER J. Zheng, G. M. Policastro, F. Lin, S. Li, Y. Gao, E. P. Childers
16:00 - 16:30	IL: THERMAL STABILIZATION OF PLA S. LASKE W. Ziegler, C. Holzer
16:30 - 17:00	COFFEE BREAK

CHAIR: M. ŽIGON

17:00 - 17:30	IL: BIO-AEROGELS T. BUDTOVA C. Rudaz, A. Demilecamps, G. Pour, M. Alves, A. Rigacci, C. Beauger, H. Sallée, G. Reichenauer
17:30 - 18:00	IL: FUNCTIONALIZATION AND GRAFTING OF CARBOHYDRATES VIA CLICK REACTION AND SYNTHESIS OF TEMPERATURE RESPONSIVE POLYMERS E. KHOSRAVI
18:00 - 18:20	L: STUDY OF COLD CRYSTALLIZATION BEHAVIOR OF POLY(LACTIC ACID) S. BOLKA
20:00 - 22:00	WELCOME PARTY (Gallery Koroška galerija likovnih umetnosti, Glavni trg 43, Slovenj Gradec)

THURSDAY, 16. 4. 2015

CHAIR: S. LASKE

9:00 - 9:30	IL: PRODUCTION OF POLY(HYDROXYALKANOATE) (PHA) BIOPOLYESTERS FROM AGRO-INDUSTRIAL WASTE- AND SURPLUS STREAMS: CLOSING THE MATERIAL CYCLES M. KOLLER
9:30 - 9:50	L: CRYSTALLIZATION BEHAVIOUR AND THERMAL PROPERTIES OF BIO-BASED PHB/NFC NANOCOMPOSITE BLENDS P. SAMYN V. K. Rastogi, T. Herberger
9:50 - 10:10	L: NANOTECHNOLOGIES IN BIOPOLYMER COMPOSITES TO PREPARE ACTIVE BIODEGRADABLE FILMS FOR FOOD PACKAGES AND COATINGS E. POVERENOV H. Arnon
10:10 - 10:30	L: MORPHOLOGY AND RHEOLOGY OF TPS/TiO₂ AND PCL/TiO₂ COMPOSITES A. OSTAFIŃSKA D. Micháľková, J. Mikešová, M. Nevorálová, J. Kratochvíl, I. Fortelný, M. Šlouf
10:30 - 11:00	COFFEE BREAK

CHAIR: V. MUSIL

11:00 - 11:30	IL: SYNTHETIC PROTEINS IN SYNTHETIC MEMBRANE ASSEMBLIES E. K. SINER
11:30 - 11:50	L: NANOSTRUCTURED FLY ASH AS REINFORCEMENT IN A PLASTOMER-BASED COMPOSITE: A NEW STRATEGY TO REDUCE GREEN HOUSE EMISSION FROM THERMAL POWER STATION SOLID WASTE A. MAHENDRAN A. G. Patil, S. Anandhan, H. Lammer
11:50 - 12:10	L: GREEN METAL? A HOLISTIC COMPARISON OF COMPOSITES BASED ON THE BIOCONCEPT CAR C. HABERMANN H. J. Endres
12:10 - 12:30	L: INTERNATIONAL COLLABORATION FOR THE IDENTIFICATION AND CHARACTERISATION OF BIOPOLYMERS FROM MARINE OR AGRICULTURAL SOURCES (WASTE) WITH POTENTIAL OPHTHALMOLOGICAL APPLICATIONS: THE BIOPMAT NETWORK

Conference Programme

12:30 - 14:00	J. CORTÉS-ZÁRATE A. M. Gómez LUNCH
CHAIR: E. KHOSRAVI	
14:00 - 14:45	PL: FUNCTIONALIZATION OF POLYMERS, FILLERS AND FIBRES - STRATEGIES TOWARDS ADVANCED APPLICATIONS W. KERN
14:45 - 15:15	IL: CREATING DIFFERENT LEVELS OF POROSITY WITH EMULSION TEMPLATING AND LAYER BY LAYER PHOTOPOLYMERISATION P. KRAJNC M. Sušec, R. Liska, J. Stampfl
15:15 - 15:35	L: MULTI-LIPOSOMAL CONTAINERS BASED ON BIODEGRADABLE POLYLACTIDE PARTICLES STABILIZED BY POLYETHYLENEGLYCOL CHAINS A. A. EFIMOVA A. V. Sybachin, A. A. Yaroslavov, S. N. Chvalun, A. I. Kulebyakina, E. V. Kozlova
15:35 - 15:55	L: BIOCOMPATIBLE pH-SENSITIVE CARRIERS BASED ON ANIONIC LIPOSOME-POLYCATIONIC PARTICLE COMPLEXES O. ZABOROVA A. Sybachin, V. Samoshin, A. Yaroslavov
15:55 - 16:10	PRESENTATION OF THE PROJECT "BIOPOLYMERS FOR EMERGING INDUSTRIES" Poly4EmI L. ŽIVIĆ
16:10 - 17:00	POSTER SESSION AND COFFEE BREAK
17:00 - 18:00	SIGHTSEEING TOUR AROUND SLOVENJ GRADEC TOWN CENTRE
20:00 - 22:00	DINNER (Hotel Korošica, Otiški vrh 25d, Šentjanž pri Dravogradu)

FRIDAY, 17. 4. 2015

CHAIR: A. HANČIČ	
9:00 - 9:30	L: EXTRUSION FOAMED EXTERNALLY PLASTICIZED CELLULOSE ACETATE FOR THERMOFORMED TRAYS S. ZEPNIK S. Hendriks, C. Hopmann, S. Kabascl, H.-J. Radosch, F. van Lück
9:30 - 9:50	L: TPE-MODIFICATION OF WOOD PLASTIC COMPOUNDS FOR ADVANCED RHEOLOGICAL AND IMPACT PROPERTIES T. HARTMANN S. Bürgermeister, R. Rinberg, L. Kroll
9:50 - 10:10	L: INJECTION MOLDING OF BIOPOLYMERS IN INDUSTRIAL ENVIRONMENT G. GANTAR A. Glojek, B. Šmuc
10:10 - 10:30	L: OPTIMIZATION OF OPTICAL PROPERTIES OF RUTHENIUM OXYGEN SENSORS IN POLYMER MATRIX AND OXYGEN PERMEATION MEASUREMENTS FOR PHARMACEUTICAL PACKAGING A. HOLOBAR P. Brglez
10:30 - 11:00	COFFEE BREAK
CHAIR: T. LUCYSHYN	
11:00 - 11:20	L: SYNTHESIS OF BIOCOMPATIBLE NVP-BASED MATERIALS WITH DESIGNED ARCHITECTURE R. E. SIMNETT I. J. Johnson, E. Khosravi
11:20 - 11:40	L: GRAFTING OF CAPROLACTONE ON HYPERBRANCHED POLYESTER M. HUSKIĆ I. Pulko
11:40 - 12:00	L: EFFECT OF BIO-DEGRADABLE COMPATIBILIZER ON MECHANICAL PROPERTIES OF PLA-BASED COMPOSITES S. HUŠ S. Bolka, I. Pulko
12:00 - 12:20	L: CUTINASES FOR ALIPHATIC-AROMATIC POLYESTER BIODEGRADATION V. PERZ K. Haernvall, J. Ihssen, C. Sinkel, U. Kueper, M. Bonnekesel, D. Ribitsch, G. M. Guebitz
12:20 - 12:30	CONFERENCE CLOSING
12:40 - 15:00	LUNCH

Conference Programme

LIST OF POSTER PRESENTATIONS

P1	DEGRADATION OF THERMOSETTING MATERIALS VIA ACID HYDROLYSIS – A TRANSITION TO THERMOPLASTICS C. BLACKWELL E. Khosravi
P2	THE EFFECT OF COUPLING ON THE STRUCTURE, INTERFACIAL INTERACTIONS AND MECHANICAL PROPERTIES OF POLYPROPYLENE/LIGNIN BLENDS B. BOZSÓDI P. Dénes, D. Kun, B. Pukánszky
P3	COMPOSITES OF CROSSLINKED POLYURETHANES WITH CHITOSAN J. BRZESKA K. Albecka, W. Sikorska, M. Kowalczyk, M. Rutkowska
P4	ANTIBACTERIAL PROPERTIES OF AMINO-FUNCTIONALISED NANOSIZED ZINC OXIDE M. ČEPIN V. Jovanovski, Z. Crnjak Orel
P5	ARE ENVIRONMENTALLY FRIENDLY BEHAVIOUR AND ATTITUDES TOWARDS THE ENVIRONMENT DEPENDED ON DEMOGRAPHIC CHARACTERISTICS? V. DERMOL
P6	ELASTIC POLYMER SUBSTRATES FOR CELL MIGRATION RESEARCH D. DZIOB and T. KOŁODZIEJ J. Nowak, Z. Rajfur
P7	CHARACTERIZATION OF MODIFIED NANOCELULOZE N. ĐORĐEVIĆ A. Marinković, M. Stamenović, S. Putić
P8	ABSORPTION OF WATER IN NATURAL AND SYNTHETIC TEXTILE FIBERS STUDIED BY OPTICAL POLARIZATION MICROSCOPY G. GLAVAN M. Devetak, U. Maver, Z. Peršin, K. Stana Kleinschek, I. Drevenšek Olenik
P9	CHEMICAL MODIFICATION OF ORGANOSOLV EUCALYPTUS LIGNIN WITH FATTY ACIDS O. GORDOBIL I. Egüés, J. Labidi
P10	HIGH CELL-DENSITY PHB PRODUCTION IN A MEMBRANE BIOREACTOR C. HAAS L. Burgstaller, M. Smerilli, M. Neureiter
P11	ENHANCED ENZYMATIC MODIFICATIONS OF POLYESTERS BY MODULATION OF ENZYME ADSORPTION K. HAERNVALL S. Vecchiato, D. Ribitsch, E. Herrero Acero, H. Schwab, G. M. Guebitz
P12	FUNCTIONALIZATION OF POLY(L-LACTIC ACID) FILMS VIA A TWO-STEP ENZYMATIC PROCESS K. HAERNVALL A. Pellis, S. Vecchiato, E. Herrero Acero, R. Breinbauer, E. Srebotnik and G. M. Guebitz
P13	PLA-BASED BIOCOMPOSITES WITH EXCELLENT TRIBOLOGICAL PROPERTIES S. HUŠ S. Bolka, I. Pulko
P14	SYNTHESIS OF NANOCRYSTALLINE ZnO DECORATED WITH IONIC LIQUID MOIETIES AND THEIR ANTIMICROBIAL ACTIVITY V. JOVANOVSKI M. Čepin, Z. Crnjak Orel
P15	SYNTHESIS OF CARBON AEROGEL PRECURSOR POLYMERS IN DEEP EUTECTIC SOLVENT MEDIA M. JÓZÓ B. Nagy, K. László
P16	INTERFACIAL INTERACTIONS IN POLYLACTIC ACID/LIGNOCELLULOSIC COMPOSITES Z. KÁRPÁTI D. Kun, G. Faludi, J. Móczó, B. Pukánszky
P17	POLYMER/LIGNIN BLENDS: STRUCTURE, INTERACTION, PROPERTIES D. KUN G. Szabó, B. Bozsódi, V. Romhányi, B. Pukánszky
P18	THE INFLUENCE OF OZONE ON DEGRADATION PROCESS OF PLA – MMT COMPOSITES E. OLEWNIK-KRUSZKOWSKA J. Nowaczyk
P19	DETERMINATION OF ACID VALUE AND MICROMECHANICAL ANALYSIS OF MODIFIED NANOCELLULOSE S. PUTIĆ N. Đorđević, A. Marinković, M. Stamenović
P20	LIFE CYCLE OF BIODEGRADABLE POLYMERS AND THEIR IMPACT ON THE ENVIRONMENT M. STAMENOVIĆ D. Brkić, N. Đorđević, S. Putić
P21	IONOMER/LIGNOSULFONATE BLENDS: INTERACTION, STRUCTURE, PROPERTIES G. SZABÓ B. Bozsódi, B. Podolyák, D. Kun, B. Pukánszky
P22	BIOPOLYMER BASED DIAGNOSTICS FOR DETECTION OF WOUND INFECTION S. VECCHIATO A. Heinze, K. Haernvall, E. Sigl, G. Tegl, D. Schiffer, K. P. Schneider, G. M. Guebitz
P23	MODIFICATION OF LIGNOSULFONATES BY LACCASE S. VECCHIATO A. Ortner, K. Haernvall, O. Haske-Cornelius, G. S. Nyanhongo, Georg M. Guebitz

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