

19<sup>TH</sup> NATIONAL SYMPOSIUM  
POLYMERS 2019  
OPEN TO INTERNATIONAL  
PARTICIPATION

PROGRAMME

September 9 - 12, 2019

Pomorie, Bulgaria

## Monday, September 9<sup>th</sup>

14:00 - 19:00	Registration
16:15 - 16:30	Opening remarks
SESSION 1	
Chairpersons: S. Turmanova & E. Vassileva	
16:30 - 17:15	PL-1: Nick Tsarevsky Southern Methodist University, Dallas <b><i>Hypervalent iodine compounds in the synthesis of functional and dynamic polymers</i></b>
17:15 - 17:35	OP-1: <u>M. Ignatova</u> , N. Manolova, I. Rashkov, N. Markova Institute of Polymers, Bulgarian Academy of Sciences <b><i>Novel caffeic acid-containing electrospun polymeric fibrous materials with antibacterial and antioxidant activity</i></b>
17:35 - 17:55	OP-2: <u>A. Utrata-Wesołek</u> , W. Wałach, N. Oleszko, D. Szwed, J. Anioł, A.L. Sieroń, A. Klama-Baryła, M. Nowak, B. Trzebicka, A. Dworak Centre of Polymer and Carbon Materials, Polish Academy of Sciences <b><i>Biocompatible thermosensitive or hydrophilic polymer layers: Synthesis and possible application</i></b>
17:55 - 18:15	OP-3: <u>D. Christova</u> Institute of Polymers, Bulgarian Academy of Sciences <b><i>Design of amphiphilic copolymer networks and tailoring the properties for specific biomedical applications</i></b>
19:00	Dinner

## Tuesday, September 10<sup>th</sup>

SESSION 2	
Chairpersons: S. Rangelov & D. Christova	
9:00 - 9:45	PL-2: Kazunori Kataoka Innovation Center of NanoMedicine (iCONM), Kawasaki Institute of Industrial Promotion & Institute for Future Initiatives, the University of Tokyo <b><i>Self-assembled supramolecular nanosystems for treating cancer and brain disorders</i></b>
9:45 - 10:15	KL1: Tarik Eren Yıldız Technical University, İstanbul <b><i>Synthetic polymers for new generation antibiotic</i></b>
10:15 - 10:35	OP-4: K. Ruseva, K. Ivanova, K. Todorova, M. Gabrashanska, T. Tzanov, M. Argirova, <u>E. Vassileva</u> Sofia University "St. Kl. Ohridski" <b><i>Polyzwitterionic hydrogels as wound dressing</i></b>
10:35 - 11:00	Coffee break
11:00 - 11:30	KL2: <u>B. Trzebicka</u> , M. Kaspro, L. Otulakowski, A. Dworak Centre of Polymer and Carbon Materials, Polish Academy of Sciences <b><i>HEMA and OEGMA copolymers: Synthesis and thermoresponsiveness</i></b>



11:30 – 11:50	OP-5: <u>N. Koseva</u> M. Popova, I. Tsacheva, V. Mitova, I. Trendafilova, P. Shestakova, Á. Szegedi, D. Momekova, G. Momekov Institute of Polymers, Bulgarian Academy of Sciences <b><i>Design of drug delivery systems based on hybrid mesoporous nanocarriers</i></b>
11:50 – 12:10	OP-6: M. Smolíček, E. Haladjova, Z Kroneková, F. Dorchei, D. Treľová, L Kleščíková, I Lacík, S. Rangelov, <u>J. Kronek</u> Polymer Institute of the Slovak Academy of Sciences <b><i>Cationic poly(2-oxazolines) for biomedical applications</i></b>
12:10 - 12:30	OP-7: <u>M. Spasova</u> , O. Stoilova, N. Manolova, I. Rashkov Institute of Polymers, Bulgarian Academy of Sciences <b><i>Study on the possibilities for improving the mechanical properties of poly(3-hydroxybutyrate)-based electrospun materials</i></b>
12:30 – 14:00	Lunch
SESSION 3	
Chairpersons: M. Spasova & R. Bryaskova	
14:00 – 14:45	PL-3: Andrzej Dworak Centre of Polymer and Carbon Materials, Polish Academy of Sciences <b><i>Stimuli responsive polymers as nanocarriers of drugs</i></b>
14:45 – 16:15	KL3: <u>O. Yilmaz</u> , Ç. K. Özkan, Catalina N. Cheaburu-Yilmaz Ege University, Izmir, & ACADEMICHEM Chemicals R&D Ind. Trad. Ltd. Co., Izmir <b><i>Crosslinkable acrylic latexes. Effect of particle morphology on performance properties</i></b>
16:15 – 16:35	Coffee break
16:35 – 16:55	OP-8: <u>G. Grancharov</u> , M.-D. Atanasova, R. Kalinova, P. Petrov, R. Gergova, C. Dikov, G. Popkirov, M. Sendova-Vassileva Institute of Polymers, Bulgarian Academy of Sciences <b><i>Polymer based solar cells - preparation, characteristics and stability</i></b>
17:00 – 19:00	Poster presentation
20:00	Official Dinner
<b>Wednesday, September 11<sup>th</sup></b>	
SESSION 4	
Chairpersons: N. Koseva & P. Petrov	
9:00 – 9:45	PL-4: Stergios Pispas Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens <b><i>Triblock terpolymers by RAFT polymerization: Synthesis and nanostructure formation in solutions</i></b>
9:45 – 10:05	OP-9: N. <u>Toncheva-Moncheva</u> , P. Bakardzhiev, S. Rangelov, B. Trzebicka, A. Forsys, P. Petrov Institute of Polymers, Bulgarian Academy of Sciences <b><i>Novel linear amphiphilic polyglycidol/poly(<math>\epsilon</math>-caprolactone) copolymers via click chemistry</i></b>
10:05 – 10:25	OP-10: B. Özsarıkaya, <u>S. Hakan Yetgin</u> , H. Ünal, A. Durmuş Kütahya Dumlupınar University <b><i>Investigation of the tribological properties of carbon fiber and multi walled carbon nanotube filled polyamide 66</i></b>

10:25 – 10:45	OP-11: <u>M. Simeonova</u> , N. Dishovsky University of Chemical Technology and Metallurgy, Sofia <b><i>A simple green approach for surface modification of microcrystalline cellulose</i></b>
10:45 – 11:15	Coffee break
11:15 – 11:45	KL4: Stanislav Rangelov Institute of Polymers, Bulgarian Academy of Sciences <b><i>Synthetic approaches to spherical nucleic acids with polymeric cores</i></b>
11:45 – 12:05	OP-12: <u>Z. Todorova</u> , O. Tumurbaatar, I. Ugrinova, N. Koseva Institute of Polymers, Bulgarian Academy of Sciences <b><i>New polyphosphoramidate-based glycopolymer materials for biomedical application</i></b>
12:05 – 12:25	OP-13: R. Halacheva Institute of Polymers, Bulgarian Academy of Sciences <b><i>Intellectual properties as intangible asset</i></b>
12:30 – 14:00	Lunch
14:15 – 16:45	Popular science lecture: <b><i>Ancient salt extraction technology</i></b> & tour of the Salt Museum in Pomorie
17:00 – 19:00	Poster presentation
19:00	Dinner
<b>Thursday, September 12<sup>th</sup></b>	
SESSION 5	
Chairpersons: N. Dishovsky	
9:00 – 9:45	PL-5: Petar Petrov Institute of Polymers, Bulgarian Academy of Sciences <b><i>Block copolymer-based carriers of natural polyphenols and insulin</i></b>
9:45 – 10:15	KL5: <u>Catalina Natalia Cheaburu –Yilmaz</u> , Onur Yilmaz Petru Poni Institute of Macromolecular Chemistry of the Romanian Academy, Iasi, & ACADEMICHEM Chemicals R&D Ind. Trad. Ltd. Co., Izmir <b><i>Chitosan-graft-poly(N-isopropylacryl amide) and polyvinyl alcohol hydrogels for in vitro delivery of Voriconazole: Stability studies</i></b>
10:15 – 10:35	OP-14: <u>M. Simeonov</u> , Z. Daskalova, Ch. Tzachev, E. Vassileva Sofia University "St. Kl. Ohridski" <b><i>Polyacrylic acid/poly(2-dimethylaminoethyl methacrylate) copolymer hydrogels as drug delivery systems for quercetin</i></b>
10:35 – 10:50	Closing remarks
12:00 – 13:00	Lunch

## POSTER SESSION 1

- 1 Injectable, pH-sensitive supramolecular hydrogel for controlled drug delivery**  
*A. Domiński, M. Krawczyk, T. Konieczny, M. Kasprów, A. Foryś, G. Pastuch-Gawołek, P. Kurcok*
- 2 Non-isothermal kinetics of high density polyethylene composites containing wood flour**  
*A. Ilieva, V. Georgieva*
- 3 Control of the crystalline properties of 2-isopropyl-2-oxazoline copolymers in condensed state and in solution depending on the composition**  
*N. Oleszko-Torbus, B. Mendrek, A. Utrata-Wesołek, A. Dworak, W. Wałach*
- 4 Antimicrobial star polymer nanolayers**  
*B. Mendrek, P. Teper, N. Oleszko-Torbus, A. Dworak, A. Kowalczyk*
- 5 The influence of PEO-b-PCL on formulation and morphology of niosomes**  
*A. Foryś, N. Pippa, N. Naziris, S. Pispas, C. Demetzos, A. Marcinkowski, B. Trzebicka*
- 6 Cationic (co)polymers based on novel N-substituted polyacrylamides as carriers for biomacromolecules**  
*E. Haladjova, I. Dimitrov, N. K. Davidova, I. Ugrinova, S. Rangelov*
- 7 Cationic polymer micelles bearing gold nanoparticles: effects on structure and cell viability of *Pseudomonas aeruginosa* biofilms**  
*Ts. Paunova-Krasteva, E. Haladjova, S. Stoitsova*
- 8 An approach for preparation of single and double compartment polymeric nanocapsules for drug and gene delivery**  
*E. Haladjova, M. Simeonova, D. Momekova, Ch. B. Tsvetanov, S. Rangelov*
- 9 Preparation and behavior at environmental changes of star-shaped PDMAEMA-based polyplexes**  
*E. Veleva-Kostadinova, E. Haladjova, A. Skandalis, S. Pispas, S. Rangelov*
- 10 Development of skin care formulations, containing bioactive compounds from aromatic plants**  
*G. L. Georgiev, P. D. Petrov*
- 11 Light - mediated thiol-ene coupling reaction induced by LED UV source**  
*N. Toncheva-Moncheva, M. Dangalov, N.G. Vassilev, C. P. Novakov*
- 12 Recycling of two-component polymer nanocomposites**  
*I. Petrova-Doycheva, R. Kotsilkova, P. Tuleshkov*
- 13 (Bio)degradation study of composites with natural fillers: Further directions at the forensic engineering of polyester-based materials**  
*J. Rydz, M. Musioł, W. Sikorska, M. Sobota, H. Janeczek, S. Jurczyk*
- 14 Polymeric mixed micelles for combination drug therapy**  
*K. Kamenova, G. Grancharov, P.D. Petrov*
- 15 The influence of the degree of acetalization on the optical and humidity sensing properties of poly(vinyl alcohol-co-vinyl acetal) thin films**  
*K. Lazarova, S. Bozhilova, S. Ivanova, T. Babeva, D. Christova*
- 16 Temperature and salt - responsive zwitterionic polyelectrolyte complexes**  
*K. Ruseva, N. Sanson, E. Vassileva*
- 17 Aggregation of PS-b-PGL in dioxane and water/dioxane solution**  
*Ł. Otulakowski, A. Dworak, M. Gadzinowski, S. Słomkowski, T. Basińska, B. Trzebicka*
- 18 Effect of anionic surfactant SDS on behaviour of thermoresponsive polymers**  
*L. Otulakowski, M. Kasprów, A. Dworak, B. Trzebicka*



- 19 Preparation and properties of PAN/clay nanocomposite membranes**  
*M. Miteva, D. Kiryakova, St. Petrov*
- 20 Multifaceted (bio)degradation studies of composites as smart food packaging materials. (Bio)degradable polymeric materials for sustainable future**  
*M. Musioł, W. Sikorska, J. Rydz, M. Sobota, H. Janeczek, S. Jurczyk, A. Šišková, M. Bučková*
- 21 Photosensitive hybrid copolymer/magnetic particles hydrogels as transdermal drug delivery systems**  
*M. Simeonov, Z. Daskalova, Ch. Tzachev, E. Vassileva*
- 22 Preparation of photoactivated polymer coatings possessing antibacterial activity**  
*N. Filipova, N. Georgiev, P. Velichkova, I. Lalov, R. Bryaskova*
- 23 Synthesis, characterization and potential biomedical applications of functional amphiphilic copolymers based on poly(allylglycidyl ether)**  
*M. Valchanova, I. Dimitrov, R. Kalinova, I. Ugrinova, S. Turmanova, E. Ivanova, S. Rangelov*

## POSTER SESSION 2

- 24 Bulk heterojunction polymer solar cells based on PTB7-Fx copolymers**  
*M.-D. Atanasova, G. Grancharov, R. Kalinova, P. Petrov, R. Gergova, C. Dikov, G. Popkirov, M. Sendova-Vassileva*
- 25 Bio-based composite membranes by combining electrospinning with electrospaying**  
*N. Nachev, M. Spasova, O. Stoilova, N. Manolova, I. Rashkov*
- 26 Quercetin-containing electrospun polymer materials with antioxidant properties**  
*N. Stoyanova, M. Spasova, N. Manolova, I. Rashkov*
- 27 Synthesis and characterization of triethoxysilane derivatives for mesoporous silica modification**  
*O. Tumurbaatar, H. Lazarova, P. Tuleshkov, M. Popova, P. Shestakova, N. Koseva*
- 28 Oligomeric precursors of biomaterials - synthesis and characterization**  
*P. Chaber, M. Zięba, G. Adamus*
- 29 Natural rubber composites filled with low and high dielectric constant oxides and their application as substrates for compact flexible antennas**  
*A. G. Al-Sehemi, A.A. Al-Ghamdi, N.T. Dishovsky, P.A. Malinova, N. T. Atanasov, G. L. Atanasova*
- 30 Quantitative determination of residual vinyl chloride in commercial items**  
*P. Tuleshkov*
- 31 Novel polylactide-based block copolymer for biomedical applications: molecular design, self-assembly and in vitro evaluations**  
*R. Kalinova, D. Babikova, D. Momekova, I. Ugrinova, G. Momekov, I. Dimitrov*
- 32 Characterization of modified biomacromolecules by analytical ultracentrifugation**  
*R. Radeva, D. Nikolova, E. Haladjova, N. Koseva*
- 33 Temperature-responsive branched poly(N-isopropylacrylamide)s: Synthesis and properties in aqueous media**  
*S. Bozhilova, S. Ivanova, Ch. Novakov, J. Rydz, D. Christova*
- 34 Biodegradable polymer nanoparticles delivered in lung cells**  
*S. Bojilova, M. Y. Simeonova, G. Atanasov, M. Apostolova*
- 35 pH responsive fluorescent polymer micelles for biomedical applications**  
*S. Ismail, R. Bryaskova, N. Georgiev, V. Bojinov, R. Tzoneva*
- 36 Effect of the mixed – sulfur and peroxide vulcanization system on the curing, mechanical and dynamic properties of EPDM based composites**  
*S. Nikolova, M. Mihaylov, N. Dishovsky*

- 37 **Poly(N-isopropylacrylamide) copolymer networks designed for transdermal galantamine hydrobromide delivery**  
*S. Ivanova, K. Mileva, D. Georgieva, B. Kostova, D. Rachev, D. Christova*
- 38 **Polymer-conjugated oligonucleotides via “click chemistry”: Self-association and biological properties**  
*N. Toncheva-Moncheva, P. Bakardzhiev, K. Mladenova, P. Videv, R. Veleva, S. Petrova, T. Topouzova-Hristova, V. Moskova-Doumanova, J. Doumanov, S. Rangelov*
- 39 **Verapamil delivery systems based on hybrid mesoporous silica nanocomposites**  
*M. Popova, R. Mihaylova, G. Momekov, D. Momekova, H. Lazarova, I. Trendafilova, V. Mitova, N. Koseva, J. Mihályi, P. Shestakova, Á. Szegedi*
- 40 **Quantum-chemical calculations of complexes of molybdenyl cations with dendrimers**  
*V. Trifonova, A. Ahmedova, K. Vassilev*
- 41 **Structural characterization of branched poly(N-isopropylacrylamide)s**  
*W. Sikorska, P. Chaber, S. Bozhilova, J. Rydz, G. Adamus, D. Christova*
- 42 **Polyoxazoline scaffolds – formation by electrospinning and 3D printing, characterization and post-processing properties**  
*W. Wałach, N. Oleszko-Torbus, A. Utrata-Wesołek, E. Kijeńska, Ż. Górecka, A. Dworak*
- 43 **β-Cyclodextrin-based cryogels for delivery of hydrophobic drugs**  
*Y. Danov, P.D. Petrov*
- 44 **Poly(2-isopropenyl-2-oxazoline) for immunotherapeutical applications**  
*Z. Kroneková, M. Majerčíková, E. Paulovičová, L. Paulovičová, Juraj Kronek*
- 45 **Polymer nanocomposites based on compatibilized PP/HDPE blends and montmorillonite**  
*F. Ublekov, V. Georgiev, N. Kahramanov, N. Koseva*
- 46 **Self-assembling and activity of zwitterion containing photozymes**  
*I. Pashkuleva, J. Benesch, V. Toncheva, A. Sotirov, G. S. Georgiev, R. L. Reis*
- 47 **Ionic strength driven chemomechanical transformation of polyzwitterion hydrogels**  
*G. S. Georgiev, V. T. Toncheva*