CONFERENCE PROGRAMME

Sunday, 17 June 2018

16:00 – 19:00 **Registration and welcome buffet**

Monday, 18 June 2018

8:30 – 9:00 **OPENING**
Jiří Kotek (Director of the Institute)
Miroslava Dušková-Smrčková (Conference Chair)

Polymer Networks Group
Mitsuhiro Shibayama (Chair of PNG)

100 years M. Gordon and branching theory
Karel Dušek (Honorary Chair)

International Union of Pure and Applied Chemistry
Chi Wu (Representative of IUPAC)

LECTURE SESSION 1

Chaired by: Mitsuhiro Shibayama (Japan)

9:00 – 9:35 Main lecture ML-01
Jian Ping Gong *(Japan)*
Autonomous mechanical remodelling of double network hydrogels

9:35 – 9:55 Invited lecture IL-01
Richard Gerald Weiss *(USA)*
Molecular and polymeric hydro- and organo-gels. Examples showing the conceptual links with structurally simple gelators

9:55 – 10:15 *Coffee break*

LECTURE SESSION 2

Chaired by: Jian Ping Gong (Japan)

10:15 – 10:35 Keynote lecture KL-01
Yoshihito Osada *(Japan)*
Intelligent gels---Emergent motions of gel machine---

10:35 – 10:55 Invited lecture IL-02
Olga E. Philippova *(Russian Federation)*
Smart self-assembled networks

10:55 – 11:30 Main lecture ML-04
Jean-François Gérard *(France)*
Bismaleimide-based networks: Reaction mechanisms and toughening strategies

11:30 – 11:40 *Short break*

LECTURE SESSION 3

Chaired by: Olga E. Philippova (Russian Federation)

11:40 – 11:55 Oral communication O-03
Tomoki Yasui *(Japan)*
Ionic liquid-based gels with specific inorganic/organic double network

11:55 – 12:10 Oral communication O-04
Christine M. Papadakis *(Germany)*
pH responsiveness of hydrogels formed by telechelic polyampholytes

12:10 – 12:25 Oral communication O-05
Ralf Weberskirch *(Germany)*
A modular hydrogel platform with tunable mechanical and biological properties

12:25 – 12:40 Oral communication O-06
Takayuki Nonoyama *(Japan)*
Hydrogel possessing thermo reversible robustizing

12:40 – 14:00 *Lunch*

LECTURE SESSION 4A
Chaired by: Miroslava Dušková-Smrčková (Czech Republic) and Costas Patrickios (Cyprus)

14:00 – 14:20 Invited lecture IL-03
Costas Patrickios *(Cyprus)*
Discontinuous volume phase transitions in regular amphiphilic block polymer conetworks

14:20 – 14:40 Invited lecture IL-04
Kell Mortensen *(Denmark)*
Structural studies of four-armed star-block copolymer conetwork

14:40 – 15:00 Invited lecture IL-05
Béla Iván *(Hungary)*
Amphiphilic polymer conetworks and gels with bicontinuous nanophasic morphologies in broad composition ranges and their nanohybrids: From nanoreactors to intelligent drug release

15:00 – 15:15 Oral communication O-07
Jun Fu *(People's Republic of China)*
Tough and multi-responsive polymer hydrogels crosslinked by block copolymer micelles

15:15 – 15:30 Oral communication O-08
Jinhwan Yoon *(Republic of Korea)*
Programmable volume phase transition of the hydrogels for smart soft matter devices

15:30 – 15:50 *Coffee break*

LECTURE SESSION 5A

Chaired by: Costas Patrickios (Cyprus)

15:50 – 16:05 Oral communication O-09
Eva Pinho *(Portugal)*
Antimicrobial composite wound dressing

16:05 – 16:20 Oral communication O-10
Bradley David Olsen *(USA)*
Predictions and limitations of a purely topological method for calculating polymer network connectivity

16:20 – 16:35 Oral communication O-11
Kristóf Molnár *(Hungary)*
How to prepare gel fibers

16:35 – 16:50 Oral communication O-12
Tetsuharu Narita *(France)*
Non-linear rheological properties of rigid polymer network made of a giant polysaccharide

16:50 – 17:05 Oral communication O-13
Tomoyuki Koga *(Japan)*
Fast pH−responsive supramolecular hydrogel from peptide−polymer hybrid

17:05 – 17:20 Oral communication O-14
Eiji Kamio *(Japan)*
High-strength gels composed of an ionic liquid and inorganic/organic hybrid networks formed via one-pot/one-step process

17:20 – 19:00 **Poster Session I: Posters P-01 – P-36**

LECTURE SESSION 4B

Chaired by: Karel Jeřábek (Czech Republic)

14:00 – 14:20 Invited lecture IL-06
Piero Baglioni *(Italy)*
Polymer hydrogel networks and complex fluid for the conservation of modern and contemporary art

14:20 – 14:40 Invited lecture IL-07
Evgeny Karpushkin *(Russian Federation)*
Polymer networks: Several application cases

14:40 – 14:55 Oral communication O-15
Dmitry V. Pergushov *(Russian Federation)*
Microgel-polyelectrolyte complexes: Toward stimuli-sensitive containers for capacious uptake and triggered release of multi-functional payloads

14:55 – 15:10 Oral communication O-16
Takehiko Gotoh *(Japan)*
Hydro-*gel*-metallurgy

15:10 – 15:25 Oral communication O-17
Klaus Opwis *(Germany)*
„Textile mining" - recovery of noble metals from industrial process waters by the use of textile-fixed polyelectrolytes

15:25 – 15:50 *Coffee break*

LECTURE SESSION 5B

Chaired by: Lenka Hanyková (Czech Republic)

15:50 – 16:05 Oral communication O-18
Sang Youl Kim *(Republic of Korea)*
Synthesis of micro-hydrogel particles consisting of hyperbranched polyamidoamine for the capturing of heavy metal ions and CO_2

16:05 – 16:20 Oral communication O-19
Lukas Arens *(Germany)*
Various polyelectrolyte hydrogel architectures - synthesis, characterization and their application for salt water desalination

16:20 – 16:35 Oral communication O-20
Hayal Bulbul Sonmez *(Turkey)*
Polydimethylsiloxane hybrid polymers as sorbent for the removal of oil/organic solvent from the environment

16:35 – 16:50 Oral communication O-21
Elena Buratti *(Italy)*
Stimuli-responsive thin films prepared from PNIPAM/PAAc based microgels

16:50 – 17:05 Oral communication O-22
Insu Jeon *(Republic of Korea)*
A hydrogel device for oil/water separation

17:20 – 19:00 **Poster Session I: Posters P-01 – P-36**

Tuesday, 19 June 2018

LECTURE SESSION 6

Chaired by: Yoshihito Osada (Japan)

8:30 – 9:05 Main lecture ML-02
Oguz Okay *(Turkey)*
Toughness improvement of semicrystalline hydrogels

9:05 – 9:25 Keynote lecture KL-02
Chi Wu *(People's Republic of China)*
Volume phase transition? Continuous or discontinuous?

9:25 – 9:45 Keynote lecture KL-03
Karel Dušek *(Czech Republic)*
Mixing contribution to equilibrium swelling of polymer networks

9:45 – 10:05 *Coffee break*

LECTURE SESSION 7

Chaired by: Dirk Kuckling (Germany)

10:05 – 10:20 Oral communication O-23
Carlos G. Lopez *(Germany)*
The swelling of PNIPAM microgels: Effect of charge and solvent quality

10:20 – 10:35 Oral communication O-24
Lenka Hanyková *(Czech Republic)*
Phase transition in hydrogels of thermoresponsive interpenetrating polymer networks

10:35 – 10:50 Oral communication O-25
Alba Marcellan *(France)*
Responsive toughening in phase-separated gels

10:50 – 11:05 Oral communication O-26
Miriam Khodeir *(Belgium)*
Redox responsive hydrogels for drug delivery applications

11:05 – 11:20 Oral communication O-27
Arne Ilseng *(Norway)*
Predicting the onset of buckling during transient swelling of hydrogels using FEM

11:20 – 11:30 *Short break*

LECTURE SESSION 8

Chaired by: Oguz Okay (Turkey)

11:30 – 11:50 Keynote lecture KL-04
Vladimir I. Lozinsky *(Russian Federation)*
Peculiar features of cryotropic gel-formation and cryostructuring of polymer systems

11:50 – 12:05 Oral communication O-28
Tomáš Sedlačík *(Japan)*
Double network cryogels

12:05 – 12:20 Oral communication O-29
Xavier P. Morelle *(France)*
Mechanics and fracture of tough hydrogels below water-freezing temperatures

12:20 – 14:00 Lunch

LECTURE SESSION 9A

Chaired by: Richard Gerald Weiss (USA)

14:00 – 14:20 Invited lecture IL-08
Julius Gyula Vancso *(Netherlands)*
Redox-active poly(ferrocenylsilane)s as actuators and memory hydrogels

14:20 – 14:40 Invited lecture IL-09
Alex Li *(USA)*
Photoswitching polymer nanoparticles impart novel bioimaging methods

14:40 – 15:00 Keynote lecture KL-05
Miklos Zrinyi *(Hungary)*
Colloid particles that make polymer smart

15:00 – 15:15 Oral communication O-30
Dirk Kuckling *(Germany)*
Synthesis of functional smart hybrid materials

15:15 – 15:30 Oral communication O-31
Anne-Charlotte Le Gulluche *(France)*
Dynamics of adsorbed layer in hybrid hydrogels

15:30 – 15:55 *Coffee break*

LECTURE SESSION 10A

Chaired by: Alex Li (USA)

15:55 – 16:10 Oral communication O-32
David Rochette *(Germany)*
Kinetically controlled crosslinking of metallo-supramolecular networks driven by the Belousov-Zhabotinsky reaction

16:10 – 16:25 Oral communication O-33
Shintaro Nakagawa *(Japan)*
Effects of crosslinking on the edge morphology of patterned polymer brushes

16:25 – 16:40 Oral communication O-34
Martha Franziska Koziol *(Germany)*
Microrheology on weakly associated PEG chains in semi-dilute solution

16:40 – 16:55 Oral communication O-35
Mohamad Hmadeh *(Lebanon)*
Controlled synthesis of ZIF-8, ZIF-67 and their mixed metal derivatives by a reaction diffusion process in agar gel

16:55 – 17:10 Oral communication O-36
Peter Kasak *(Qatar)*
Tunable properties of betaine-based materials

17:10 – 19:00 **Poster Session II: Posters P-37 – P-75**

LECTURE SESSION 9B

Chaired by: Peter Košovan (Czech Republic)

14:00 – 14:20 Invited lecture IL-10
Aleksey Drozdov *(Denmark)*
Modeling the mechanical response of double-network gels under cyclic deformation

14:20 – 14:35 Oral communication O-37
Kengo Nishi *(Germany)*
Experimental observation of two features unexpected from the classical theories of rubber elasticity

14:35 – 14:50 Oral communication O-38
Toni Müller *(Germany)*
Shear deformation of entangled and unentangled polymer networks: A Monte-Carlo-Study

14:50 – 15:05 Oral communication O-39
Michael Lang *(Germany)*
On the elasticity of phantom networks with cyclic and linear defects

15:05 – 15:20 Oral communication O-40
Ivan Kryven *(Netherlands)*
New developments in random graphs

15:20 – 15:35 Oral communication O-41
Verena Schamboeck *(Netherlands)*
The effect of Euclidean space on graph-like models of hyperbranched polymer networks

15:35 – 15:55 *Coffee break*

LECTURE SESSION 10B

Chaired by: Aleksey Drozdov (Denmark)

15:55 – 16:10 Oral communication O-42
Yuliia Orlova *(Netherlands)*
Modeling of ethyl linoleate polymer networks via automated reaction mechanism

16:10 – 16:25 Oral communication O-43
Oleg Rud *(Czech Republic)*
Thermodynamic model for a reversible desalination cycle using weak polyelectrolyte hydrogels

16:25 – 16:40 Oral communication O-44
Peter Košovan *(Czech Republic)*
Self-consistent field model of weak polyelectrolyte gels

16:40 – 16:55 Oral communication O-45
Diego Estupiñán *(Germany)*
Quantification of ligation points in photochemically linked polymer networks

16:55 – 17:10 Oral communication O-46
Xiang Li *(Japan)*
A model physical gel crosslinked by double stranded DNA

17:10 – 19:00 **Poster Session II: Posters P-37 – P-75**

Wednesday, 20 June 2018

LECTURE SESSION 11

Chaired by: Miklos Zrinyi (Hungary)

8:30 – 9:05 Main lecture ML-03
Ferenc Horkay *(USA)*
Hierarchical structure and function of cartilage matrix

9:05 – 9:25 Invited lecture IL-11
Dongsheng Liu *(People's Republic of China)*
DNA supramolecular hydrogels

9:25 – 9:45 Invited lecture IL-12
David Díaz Díaz *(Germany)*
Self-healing alginate gels that do not fail on stretching to 16000%

9:45 – 10:05 *Coffee break*

LECTURE SESSION 12A

Chaired by: Ferenc Horkay (USA)

10:05 – 10:20 Oral communication O-47
Milena Lama *(France)*
Mechanical properties of tissue-like hydrogels produced by injection of spray-dried collagen

10:20 – 10:35 Oral communication O-48
Sora Lee *(Republic of Korea)*
Immunomodulatory effects of schizophyllan on RAW264.7 cell in three-dimensional culture matrix

10:35 – 10:50 Oral communication O-49
Olatz Guaresti Larrea *(Spain)*
Design of thiol-modified chitosan hydrogels with different maleimide-based cross-linkers

10:50 – 11:05 Oral communication O-50
Iñigo Díez-García *(Spain)*
Waterborne poly(urethane-urea) synthesized from biobased polyol and triblock copolymers containing hydrophilic block

11:05 – 11:20 Oral communication O-51
David Juriga *(Hungary)*
Tooth derived stem cell cultivation on poly(aspartamide) based hydrogels

11:20 – 11:30 *Short break*

LECTURE SESSION 13A

Chaired by: David Díaz Díaz (Germany)

11:30 – 11:45 Oral communication O-52
Václav Petrák *(Czech Republic)*
Modification of hydrogels by a femtosecond laser: From mechanism to ophthalmic applications

11:45 – 12:00 Oral communication O-53
Joerg C. Tiller *(Germany)*
Polymer networks for enzyme-induced mineralization

12:00 – 12:15 Oral communication O-54
Kamil Maciol *(Germany)*
Design of novel epoxide monomers for pH-sensitive poly(ethylene glycol) hydrogels via acid-labile and crosslinkable allyl side groups

12:15 – 12:30 Oral communication O-55
Larisa V. Sigolaeva *(Russian Federation)*
Rational design of advanced electrochemical enzyme biosensors via surface functionalization by stimuli-sensitive microgels

12:30 – 13:40 *Lunch*

LECTURE SESSION 12B

Chaired by: Jean-François Gérard (France)

10:15 – 10:25 Invited lecture IL-13
Brigitte Voit *(Germany)*
Multifunctional, responsive hydrogels reaction compartments and in microfluidic application

10:25 – 10:45 Invited lecture IL-14
Marco Sangermano *(Italy)*
Polymeric capsules produced via miniemulsion or aerosol cationic photopolymerization

10:45 – 11:00 Oral communication O-56
Kinga Pielichowska *(Poland)*
Polyoxymethylene/functionalized hydroxyapatite nanocomposites with improved thermal stability

11:00 – 11:15 Oral communication O-57
Jessica Link *(France)*
Dynamics and structure of PVDF - solvent gels filled with silica

11:15 – 11:30 *Short break*

LECTURE SESSION 13B

Chaired by: Marco Sangermano (Italy)

11:30 – 11:45	Oral communication O-58 **Evgenia Vaganova** *(Israel)* What can be learned from polymerization in a two-component pyridine-based system
11:45 – 12:00	Oral communication O-59 **Benjamin Le Droumaguet** *(France)* Metallic nanoparticles immobilized at the pore surface of polymeric materials: Towards versatile and efficient catalytic systems
12:00 – 12:15	Oral communication O-60 **Karel Jeřábek** *(Czech Republic)* Mesoporous polymers created by microsyneresis and their application
12:15 – 12:30	Oral communication O-61 **Patrice Woisel** *(France)* « Colored » multi-stimuli responsive hydrogels
12:30 – 13:40	*Lunch*
14:00 – 17:00	**Social programme (Guided tours in Prague)**
17:00 – 20:00	**Sounds of Science** Prague Philharmonia + panel discussion with three Nobelists in chemistry and physics
20:00 – 22:00	**Conference dinner**

Thursday, 21 June 2018

LECTURE SESSION 14

Chaired by: Miroslava Dušková-Smrčková (Czech Republic)

8:30 – 9:50 Invited lecture IL-15
Timothy Sirk *(USA)*
Relating mechanics to chain-level architecture in glassy crosslinked polymers

9:50 – 9:10 Invited lecture IL-16
Peter Krajnc *(Slovenia)*
Fixed volume hydrogels from emulsion templated polyacrylate networks

9:10 – 9:25 Oral communication O-01
Juliette Slootman *(France)*
Fracture of interpenetrated networks: From bond scission to macroscopic fracture

9:25 – 9:40 Oral communication O-02
Isabell Tunn *(Germany)*
Inspired by nature: Reinforcing coiled coil hydrogel building blocks with histidine-metal coordination

9:40 – 10:05 *Coffee break*

LECTURE SESSION 15

Chaired by: Peter Krajnc (Slovenia)

10:05 – 10:20 Oral communication O-62
Christian Krumm *(Germany)*
APCNs based on crystallizable poly(2-oxazolines)

10:20 – 10:35 Oral communication O-63
Erol-Dan Licsandru *(France)*
Integration of industrial by-products in bio-based resins and composites

10:35 – 10:50 Oral communication O-64
Antonio María Borrero López *(Spain)*
Influence of processing variables on the rheological properties of one-step processed castor oil/lignin-based gel-like polyurethanes

10:50 – 11:05 Oral communication O-65
Esperanza Cortés Triviño *(Spain)*
Rheological behaviour of epoxide-functionalized cellulose pulp gel-like dispersions in castor oil

11:05 – 11:20 Oral communication O-66
Igor Krupa *(Qatar)*
Hybrid silica hydrogel matrices for an immobilization of glucose sensitive proteins

11:20 – 11:40 *Short break*

LECTURE SESSION 16

Chaired by: Julius Gyula Vancso (Netherlands)

11:40 – 11:55 Oral communication O-67
Youngjong Kang *(Republic of Korea)*
Perovskite nanoparticle composite films by size-exclusive mass flow lithography

11:55 – 12:10 Oral communication O-68
Federica Cavalli *(Germany)*
A novel strategy for precision network formation based on *para*-Fluoro-Thiol ligation

12:10 – 12:25 Oral communication O-69
Hideyuki Otsuka *(Japan)*
Thermally healable and reprocessable polymer networks based on dynamic covalent chemistry of bis(hindered amino)disulfides

12:25 – 14:00 *Lunch*

LECTURE SESSION 17

Chaired by: Miroslava Dušková-Smrčková and Karel Dušek (Czech Republic)

14:00 – 15:00 Nobel lecture
Jean-Marie Lehn *(France)*
DYNAMERS: Towards adaptive dynamic polymers and gels

15:00 – 15:35 Main lecture ML-05
Mitsuhiro Shibayama *(Japan)*
Phenolic resins—recent progress of structure, properties, and dynamics investigations—

15:35 – 15:45 **Closing of the Meeting, Farewell drink**

LIST OF POSTERS

P-01 **Z. Yang**, Z. Dong *(People's Republic of China)*
EOR of the combination flooding systems consisting of polymer microspheres and nonionic surfactant for Bohai oilfield

P-02 **M. Lin**, Z. Dong, J. Zhang *(People's Republic of China)*
Polymerizable microsphere-included high mechanical strength of composite hydrogel composed of acrylamide

P-03 **S. Sridhar**, Y. Li, S. Wang, B. Xu *(United Kingdom)*
An emerging thermo-electric generator driven by trampolining elastic gels

P-04 A. I. Barabanova, V. S. Molchanov, **O. E. Philippova**, A. R. Khokhlov *(Russian Federation)*
Synthesis of magnetic nanocomposites with tunable epoxy matrix

P-05 **H. S. Lim**, W. J. Oh, J. S. Won, S. G. Lee *(Republic of Korea)*
Manufacture and characterization of piezoelectric composites using PAR/PVDF sheath-core fiber

P-06 **M. Dauletbekova**, G. Toleutay, S. Kabdrakhmanova, S. Kudaibergenov *(Kazakhstan)*
Hydrogenation of *p*-nitrobenzoic acid by gold and palladium nanoparticles immobilized within macroporous amphoteric cryogels in aqueous solution

P-07 **K. Kaniewska**, W. Hyk, Z. Stojek, M. Karbarz *(Poland)*
Transport properties of the hydrogel thin film electrodepostited on conducting surface

P-08 **M. Karbarz**, M. Mackiewicz, K. Marcisz, Z. Stojek *(Poland)*
Modification of gold electrode with monolayer of environmentally sensitive microgels

P-09 **Y. Han**, J. Hu *(Hong Kong)*
Skin collagen fiber/polyurethane biocomposite with water-induced shape memory ability

P-10 **C. Yun**, H. Go, E. Han *(Republic of Korea)*
The roll of organometalic sol-gel films for stretchable transparent electrodes

P-11 **K. Nishi**, F. C. MacKintosh, C. F. Schmidt *(Germany)*
Dynamics of semi-flexible filament in viscoelastic media: Microrheology using semiflexible polymer

P-12 **J. Sawada**, T. Takata *(Japan)*
A vinylic rotaxane cross-linker toughening network polymers via radical polymerization of vinyl monomers

P-13 **G. Toleutay**, A. Shakhvorostov, M. Dauletbekova, A. Mukhan, S. Kabdrakhmanova, S. Kudaibergenov *(Kazakhstan)*
"Quenched" polyampholyte hydrogels based on (3-acrylamidopropyl)trimethyl ammonium chloride and sodium salt of 2-acrylamido-2-methyl-1-propanesulfonic acid

P-14 **E. Šestáková**, L. Hanyková, I. Krakovský *(Czech Republic)*
Temperature-sensitive double network hydrogels

P-15 **N. Pettinelli**, L. Barral, R. Bouza, Y. Farrag, B. Montero, M. Rico *(Spain)*
Hybrid hydrogel based on κ-carrageenan and methacrylates for biomedical applications

P-16 **W. G. Jo**, H. R. Lee, J. W. Jeong, J. S. Won, S. G. Lee *(Republic of Korea)*
Study on the cure behaviors of the modified epoxy resins and mechanical properties of its carbon fiber composites

P-17 **E. Ito**, D. Suto, M. Baba, H. Maruyama, K. Yamamoto *(Japan)*
Surface structure analysis of silicone hydrogel by neutron reflectivity measurement

P-18 **I. Calina**, M. Demeter, C. Vancea, M. Micutz, T. Staicu, M. Albu Kaya *(Romania)*
E-beam cross-linking of collagen-co-poly(vinylpyrrolidone)-poly(ethylene oxide) triblock superabsorbant hydrogels

P-19 **R. Kiyama**, T. Nonoyama, T. Nakajima, T. Kurokawa, J. P. Gong *(Japan)*
Direct observation of single polymer strand based on double network strategy

P-20 A. Tarasov, **M. Rodin**, L. Romanova, V. Komratova *(Russian Federation)*
Influence of oligodiol content and chain length on properties of beta-cyclodextrin/oligodiol cross-linked polyurethanes

P-21 **T. Kureha**, X. Li, M. Shibayama *(Japan)*
Volume transition of poly(oligo ethylene glycol methacrylate)-based hydrogels

P-22 **J. John**, S. Varughese, A. P. Deshpande *(India)*
Role of distinct microstructures on the rheological behavior of pectin-Ca gels

P-23 D. A. Mártin, T. S. Grigera, **V. I. Marconi** *(Argentina)*
Speeding up the the study of dipolar systems gelation

P-24 I. V. Blagodatskikh, V. E. Tikhonov, **O. V. Vyshivannaya**, V. A. Postnikov, A. R. Khokhlov *(Russian Federation)*
Design of a reactive polyvinylalcohol gel and rigid macroporous sorbents for biomedical application

P-25 **J. Ewald**, H. Pohlit, M. Worm, H. Frey *(Germany)*
Degradable PEG-hydrogels

P-26 **A. I. Cocarta**, J. Širc, R. Hobzová, K. Švojgr, P. Pochop *(Czech Republic)*
Methacrylate-based hydrogels for trans-scleral administration of topotecan and vincristine in retinoblastoma therapy

P-27 **J. H. (Jin Hyoung) Kim**, D. H. Jo, T. G. Lee, J. H. (Jeong Hun) Kim *(Republic of Korea)*
Bio-inspired corona formation mimicking the ocular environment for controlled *in vivo* therapeutic application of polymer particles

P-28 **J. H. (Jeong Hun) Kim**, B. J. Lee, J. H. (Jin Hyoung) Kim *(Republic of Korea)*
Polymer-DNA conjugates with amplified VEGF aptamers inhibit retinal vascular hyperpermeability

P-29 **K. Vránová**, V. Petrák, Z. Mics, M. Reidingerová, V. Stoy *(Czech Republic)*
Novel hydrogels for post-operatively adjustable intraocular lenses

P-30 **A. Klavina**, B. Maurina, I. Martinsone *(Latvia)*
Carboxymethyl cellulose gel systems with sapropel extract

P-31 **L. Kománková**, M. Pařízek, H. Hlídková, M. Hrubý, M. Vetrík *(Czech Republic)*
Three-dimensional carbon-based polymer scaffold for bone tissue engineering

P-32 **G. Dura**, H. Waller, D. T. Peters, J. H. Lakey, D. A. Fulton *(United Kingdom)*
Novel biosynthetic Caf1 - based hydrogels with potential as cell scaffolds

P-33 **Z. Sadakbayeva**, M. Dušková-Smrčková, K. Dušek *(Czech Republic)*
Experimental evaluation of theoretical model of IPN hydrogel elasticity

P-34 **A. Kazakov**, P. Košovan, A. I. Cocarta, J. Širc *(Czech Republic)*
Modeling solute diffusion through a hydrogel

P-35 **E. Sipos**, M. Zrinyi *(Hungary)*
Mechanical properties of randomly oriented electrospun fibre texture

P-36 **M. Lang**, C. Schuster, R. Dockhorn, M. Wengenmayr, J.-U. Sommer *(Germany)*
Feringa type engines in polymer model systems: Folding, coiling, molecular stirling engines, and active gels

P-37 **T. Müller**, M. Lang, J.-U. Sommer *(Germany)*
The elasticity of real polymer networks without entanglements

P-38 **C. G. Lopez**, W. Richtering *(Germany)*
Flory-Rehner and scaling descriptions of thermoresponsive PNIPAM gels

P-39 **D. Kwon**, Y. Jochi, Y. Takeoka, T. Seki, K. Satoh, M. Kamigaito *(Japan)*
Precise synthesis and thermal properties of homogeneous copolymer gels with different monomer sequence

P-40 **H. R. Lee**, W. K. Cho, H. S. Lim, J. S. Won, S. G. Lee *(Republic of Korea)*
Crystallization behaviors of glass fiber/polyamide 6 composites

P-41 **T. Narita**, G. Ducouret, M. Kawai, T. Mitsumata, M. K. Okajima, T. Kaneko *(France)*
High frequency dynamics of a liquid crystalline, cyanobacterial, sulfated polysaccharide studied by DLS/DWS microrheology

P-42 **M. M. Villar-Chavero**, J. C. Domínguez, M. V. Alonso, M. Oliet, F. Rodriguez *(Spain)*
Complex viscosity modeling of ionogels reinforced with chitosan

P-43 **L. Arens**, K. Schlag, F. Weißenfeld, I. Wagner, M. Wilhelm *(Germany)*
Osmotic engine - energy recovery from salt gradients via polyelectrolyte hydrogels

P-44 **M. Tomic**, B. T. Stokke *(Norway)*
Spatiotemporal features of responsive hydrogel materials characterized by quantitative phase contrast microscopy

P-45 **J. Štorkán**, T. Vampola, M. Dušková-Smrčková, Z. Sadakbayeva, K. Dušek *(Czech Republic)*
Swelling and deformation responses of porous hydrogel simulated with finite element method

P-46 **J. Zavřel**, T. Vampola, M. Dušková-Smrčková, D. Kubies, Z. Sadakbayeva *(Czech Republic)*
Modelling of porous hydrogel topology in 3D: When and how much the pores communicate?

P-47 **L. Nová**, P. Košovan, F. Uhlík *(Czech Republic)*
Swelling of weak polyelectrolyte gels in the presence of hydrophobic counterions

P-48 **M. Mackiewicz**, J. Romanski, Z. Stojek, M. Karbarz *(Poland)*
Degradable, thermo-, pH- and redox- sensitive hydrogel microcapsules for burst or sustained release of the drugs

P-49 **S. Nishimura**, S. Matsubara, N. Higashi, T. Koga *(Japan)*
Thermo-responsive hydrogel from amino acid-derived triblock polymers via flower-like micelle formation

P-50 **S.-H. Jung**, A. Pich *(Germany)*
Degradable supramolecular colloidal gels

P-51 **Z. Osváth**, T. Tóth, B. Iván *(Hungary)*
Thermoresponsive poly(n-isopropylacrylamide) and its 3-(trimethoxysilyl)propyl methacrylate based copolymers, hybrid networks and gels

P-52 J. E. Martín Alfonso, E. Číková, M. Omastová, **C. Valencia**, J. M. Franco *(Spain)*
Electrospun polyvinylpyrrolidone/essential oil composites fibers

P-53 **O. Linker**, J. Blankenburg, K. Maciol, H. Frey *(Germany)*
Carboxylic acid functional poly(ethylene glycol) for non-covalent crosslinked hydrogels

P-54 **O. V. Vyshivannaya**, I. R. Nasimova, E. Yu. Kozhunova *(Russian Federation)*
Thermo- and pH-sensitive interpenetrating network microgels for coatings

P-55 **L. Alfhaid**, M. Geoghegan, N. Williams, W. Seddon *(Saudi Arabia)*
Double-network hydrogels improve pH-switchable adhesion

P-56 Y. Nagasawa, Y. Amano, **Y. Seida**, T. Gotoh, E. Furuya *(Japan)*
Recovery of CO_2 using temperature-responsive amine gel slurry

P-57 **P. Berg**, D. Simon, F. Obst, C. Pilger, H. Hachmeister, T. Huser, D. Appelhans, D. Kuckling *(Germany)*
Polymer networks in countinous flow reactors for organocatalytic reactions

P-58 **L. Raksaksri**, S. Chuayjuljit, P. Chaiwutthinan, A. Boonmahitthisud *(Thailand)*
Preparation and properties of ENR-40/nanosilica nanocomposites via safe sulfur curing system

P-59 **L. N. Khatiwada**, J. Pfleger, J. Peter, D. Chmelíková, D. Kubies, E. Chánová, M. Dušková-Smrčková *(Czech Republic)*
Water uptake by ultrathin crosslinked films studied by QCM

P-60 A. Tenorio-Alfonso, M. C. Sánchez, **J. M. Franco** *(Spain)*
Adhesion and rheological assessment of bio-sourced polyurethane networks from cellulose acetate/vegetable oil mixtures

P-61 **A. M. Borrero-López**, C. Valencia, A. Blánquez, M. Hernández, J. M. Franco *(Spain)*
NCO-functionalized wheat and barley straws-based oleogels: Influence of solid-state fermentation

P-62 **J. Li**, D. Kuckling *(Germany)*
Dually crosslinking supramolecular polymer towards smart gel act as molecular sensors

P-63 **B. Erdem**, M. Erdem, Z. G. Gungor *(Turkey)*
Investigation of Acid Orange 8 adsorption onto vinyl imidazole-based copolymeric hydrogels

P-64 **M. Erdem**, T. G. Sayer, F. Gundogdu, B. Erdem *(Turkey)*
Modification of poly(N-isopropylacrylamide): Synthesis and characterization of novel thermosensitive copolymeric hydrogels

P-65 **L. Debertrand**, J. Zhao, T. Narita, C. Creton *(France)*
A mechanical study of tough hydrogels with chemical and physical crosslinks

P-66 **K. Marcisz**, M. Mackiewicz, J. Romanski, Z. Stojek, M. Karbarz *(Poland)*
Synthesis and characteristic of electroswitchable microgel

P-67 **F. Jung**, P. A. Panteli, C. Tsitsilianis, C. S. Patrickios, C. M. Papadakis *(Germany)*
Light and X-ray scattering study of a temperature and pH responsive physical hydrogel

P-68 **J. Ryoo**, C. S. Ki *(Republic of Korea)*
Photopolymerized double network hydrogel of hyaluronic acid and silk fibroin

P-69 **R. K. Raya**, J. Škvarla, K. Procházka, M. Štěpánek *(Czech Republic)*
Thermoresponsive behavior of poly(N-isopropylacrylamide)s with dodecyl and carboxyl terminal groups in aqueous solution: pH-dependent cloud point temperature

P-70 **S. Kato**, K. Ishizuki, R. Goseki, D. Aoki, H. Otsuka *(Japan)*
Freezing-induced mechanoluminescence of cross-linked polymer gels that contains a light-emitting mechanochromophore

P-71 **T. Kosuge**, M. J. Robb, A. J. Halmes, V. M. Lau, D. Aoki, J. S. Moore, H. Otsuka *(Japan)*
Polymer-inorganic composite networks showing multicolor mechanochromism with dual mechanochromophores

P-72 **G. Dalkas**, A. Matheson, H. Vass, A. Gromov, V. Koutsos, P. Clegg, S.R. Euston *(United Kingdom)*
The structure and physical properties of mixed sterol organogels

P-73 Y. Zhang, L. Zhao, J. Liao, T. Wang, W. Sun, **Z. Tong** *(People's Republic of China)*
Shape memory, spontaneous actuation, and programmble actions of hydrogels

P-74 **S. K. Park**, B. J. Park, M. J. Choi, E. J. Shin, S. Park *(Republic of Korea)*
Poly(dimethylsiloxane)-based crosslinked film with high dielectric constant and low modulus

P-75 **Y. Zhuo**, V. Håkonsen, Z. He, S. Xiao, J. He, Z. Zhang *(Norway)*
Enhancing the mechanical durability of icephobic surfaces by introducing autonomous self-healing function