

# CONFERENCE PROGRAM

(last update 21/7/2022)

**Sunday, July 24, 2022**

16:00 – 19:00 **Registration and Welcome Buffet**

**Monday, July 25, 2022**

9:00 – 9:05 **OPENING**

Jiří Kotek (Director of the Institute)

Daniel Horák (Conference Chairman)

## LECTURE SESSION 1

*Chaired by: Michael Cunningham (Canada)*

9:05 – 9:50 Opening lecture OL-01

**Katharina Landfester (Germany)**

Catalytical reactions in nanocapsules for biomedical applications and synthetic biology

## SYNTHESIS

9:50 – 10:25 Keynote lecture KL-01

**Craig J. Hawker (USA)**

Polymer assemblies and nanoparticles through stereocomplexation

10:25 – 10:55 Main lecture ML-01

**José M. Asua (Spain)**

Particle morphology of polymer colloids. From reactor to film

10:55 – 11:15

*Coffee break*

## LECTURE SESSION 2

*Chaired by: Elodie Bourgeat-Lami (France)*

### SYNTHESIS

- 11:15 – 11:45 Main lecture ML-02  
**Michael Cunningham** (*Canada*)  
Graft modification of starch nanoparticles via nitroxide mediated polymerization
- 11:45 – 12:00 Special lecture SL-01  
**Mauricio Balarezo** (*France*)  
Design of biobased (co)polymers and nanoparticles through emulsion/dispersion polymerization of biosourced monomers in green solvent
- 12:00 – 12:15 Special lecture SL-02  
**Marie Raffin** (*France*)  
Design of new macromolecular stabilizers incorporating vinyl alcohol units for the emulsion (co)polymerization of vinyl acetate
- 12:15 – 12:30 Special lecture SL-03  
**Takaichi Watanabe** (*Japan*)  
Microfluidic formation of multilayer microcapsules by sequential liquid–liquid phase separation

12:30 – 14:00

*Lunch*

## LECTURE SESSION 3

*Chaired by: Katharina Landfester (Germany)*

### SYNTHESIS

- 14:00 – 14:30 Main lecture ML-03  
**Patrick Lacroix-Desmazes** (*France*)  
Synthesis of biobased latexes from renewable aromatic building blocks by (mini)emulsion polymerizations
- 14:30 – 14:45 Special lecture SL-04  
**Jan Labuta** (*Japan*)  
Phase separation and pH-dependent behavior of star-shaped porphyrin-PNIPAM<sub>4</sub> conjugates
- 14:45 – 15:00 Special lecture SL-05  
**Jutta Rieger** (*France*)  
Exploring the synthesis of polymeric nanofibers by templated polymerization-induced self-assembly
- 15:00 – 15:15 Special lecture SL-06  
**Clément Debrie** (*France*)  
Are unimer exchanges necessary to form higher order morphologies in PISA?
- 15:15 – 15:30 Special lecture SL-07  
**Bas van Ravensteijn** (*Netherlands*)  
Polymerization-induced assembly of polyelectrolytes and colloidal particles
- 15:30 – 15:45 Special lecture SL-08  
**M. Ali Aboudzadeh** (*France*)  
Cyclic polyethylene glycol as gold nanoparticle surface ligand: Synthesis and colloidal stability

15:45 – 16:05

*Coffee break*

## LECTURE SESSION 4

*Chaired by: Olivier Sandre (France)*

### SYNTHESIS

- 16:05 – 16:35 Main lecture ML-04  
**Elodie Bourgeat-Lami** (*France*)  
Visible light-induced photopolymerization  
in dispersed media: Synthesis of conventional and  
inorganic-armored latexes
- 16:35 – 16:50 Special lecture SL-09  
**Peter Krajnc** (*Slovenia*)  
Poly(thiol-enes) through colloidal templating
- 16:50 – 17:05 Special lecture SL-10  
**Sandra Smeltzer** (*Canada*)  
Self-assembly of amphiphilic block-random  
copolymers in aqueous solutions
- 17:05 – 17:20 Special lecture SL-11  
**Stephen Foulger** (*USA*)  
Manipulating the intraparticle Förster resonance  
energy transfer of organized radioluminescent  
particles
- 17:20 – 17:35 Special lecture SL-12  
**Jonghwi Lee** (*Republic of Korea*)  
Water flow generated by thermo-responsive  
volume change of hydrogels powered by diurnal  
temperature variation

17:35 – 19:00 **Poster Session**

19:00 – 22:00 **Dinner at Institute premises**

**Tuesday, July 26, 2022**

LECTURE SESSION 5

*Chaired by: Bernd Reck (Germany)*

**BIOMEDICAL**

- 9:00 – 9:40      Keynote lecture ML-05  
**Brigitte Voit** (*Germany*)  
Responsive polymeric nanocapsules and  
multi-compartments as cellular mimics
- 9:40 – 10:10    Main lecture ML-06  
**Dietmar Appelhans** (*Germany*)  
Colloidal systems for the fabrication of cell mimics  
and protocells
- 10:10 – 10:25    Special lecture SL-34  
**Gabor Ersek** (*Netherlands*)  
Influence of solvent exposure on clear, soft  
polyurethane and polyacrylate@polyurethane  
coatings

10:25 – 10:45

*Coffee break*

## LECTURE SESSION 6

*Chaired by: Hideto Minami (Japan)*

### SYNTHESIS

- 10:45 – 11:15 Main lecture ML-07  
**Per Bo Zetterlund** (*Australia*)  
Multiblock copolymer synthesis and nanoparticle engineering using RAFT emulsion polymerization
- 11:15 – 11:45 Main lecture ML-08  
**Olivier Sandre** (*France*)  
Copolymers with pH-sensitive polypeptide block: Synthesis and self-assembly into polymersomes
- 11:45 – 12:00 Special lecture SL-14  
**Ognen Pop-Georgievski** (*Czech Republic*)  
Biofunctional polymer brush coatings on the nanoscale

12:00 – 14:00 *Lunch*

**International Polymer Colloid Group Meeting –  
rooms B and C**

## LECTURE SESSION 7

*Chaired by: José M. Asua (Spain)*

- 14:00 – 14:30 Main lecture SL-27  
**H. Daniel Ou-Yang (USA)**  
Visualizing diffusiophoresis and particle-size-segregation in a drying colloidal droplet containing mixed-sized particles

### BIOMEDICAL

- 14:30 – 14:45 Special lecture SL-15  
**Lénaïc Lartigue (France)**  
Superferrimagnetic curcumin derivatives nanodispersion for magnetic fluid hyperthermia
- 14:45 – 15:00 Special lecture SL-16  
**Cornelia G. Palivan (Switzerland)**  
Amphiphilic block copolymers: From synthesis towards biomimetic polymer membranes
- 15:00 – 15:15 Special lecture SL-17  
**Elisabeth Trinh (United Kingdom)**  
Using bridging flocculation for the development of a polymer-based point-of-care diagnostic for targeted detection of DNA
- 15:15 – 15:30 Special lecture SL-18  
**Rafael Piñol (Spain)**  
Luminescence nanothermometry technology for intracellular temperature imaging
- 15:30 – 15:45 Special lecture SL-19  
**Yubing Hu (United Kingdom)**  
Optical biosensors via holographic lithography

15:45 – 16:05

*Coffee break*

## LECTURE SESSION 8

*Chaired by: Per Bo Zetterlund (Australia)*

### SYNTHESIS

- 16:05 – 16:35 Main lecture ML-10  
**Hideto Minami** (*Japan*)  
Preparation of non-spherical polymer particles by mechanical process
- 16:35 – 16:50 Special lecture SL-20  
**Sam Li** (*Singapore*)  
Nanoparticle-imprinted hydrogel for selective recognition of nanoparticles in water samples
- 16:50 – 17:05 Special lecture SL-21  
**Daewon Sohn** (*Republic of Korea*)  
Structures and properties of hydrogels controlled by coordination bond geometries
- 17:05 – 17:20 Special lecture SL-22  
**Friederike Dehli** (*Germany*)  
Hydrogel foams based on biotinylated gelatin methacryloyl for improved enzyme substrate conversion
- 17:20 – 17:35 Special lecture SL-23  
**Iva Rezić** (*Croatia*)  
Modification of polymers with powerful antimicrobial coatings

**Wednesday, July 27, 2022**

LECTURE SESSION 9

*Chaired by: C. J. Hawker (USA)*

**BIOMEDICAL**

- 9:00 – 9:45      Keynote lecture KL-03  
**Karen Wooley (USA)**  
Natural product-based polymers that address health-food-energy-water challenges
- 9:45 – 10:20    Main lecture ML-11  
**Abdelhamid Elaissari (France)**  
Sponge like biodegradable microparticles for cosmeto-therapy textile
- 10:20 – 10:35    Special lecture SL-25  
**Tomasz Panczyk (Poland)**  
Interaction of non canonical telomeric DNA fragments with carbon nanotubes in aqueous solutions. Insights from molecular simulations
- 10:35 – 10:50    Special lecture SL-26  
**Eduarne Gonzalez (Spain)**  
Novel composite nanofibers by green electrospinning

10:50 – 11:10

*Coffee break*

## LECTURE SESSION 10

*Chaired by: Karen Wooley (USA)*

### BIOMEDICAL

11:10 – 11:40 Main lecture ML-12  
**Matthias Ballauff** (*Germany*)  
Polymer colloids interacting with proteins

### CHARACTERIZATION

11:40 – 12:10 Main lecture ML-13  
**Teresa Basinska** (*Poland*)  
Hydrophilic prolate spheroids: Preparation, properties and formation of structured materials

12:10 – 12:25 Special lecture SL-28  
**Kamil Awsiuk** (*Poland*)  
Poly(*tert*-butyl methacrylate) film interactions with peptides, proteins, and bacteria: Effect of polymer stereoregularity

12:25 – 12:40 Special lecture SL-29  
**Miren Aguirre** (*Spain*)  
Waterborne degradable polyester nanoparticles

12:40 – 14:00 *Lunch*

14:00 – 17:00 **Social program (Guided tours in Prague)**

19:00 – 22:00 **Conference dinner**

**Thursday, July 28, 2022**

LECTURE SESSION 11

*Chaired by: Abdelhamid Elaissari (France)*

**BIOMEDICAL**

- 9:00 – 9:35      Keynote lecture KL-04  
**Yukio Nagasaki** (*Japan*)  
Pharmacologically active polymer micelles for novel therapeutics
- 9:35 – 9:50      Special lecture SL-30  
**Babita Shashni** (*Japan*)  
Enzyme metabolizable PEG-b-poly(vinyl butyrate) nanomedicine sensitizes cancer to the radiotherapy

**INDUSTRY**

- 9:50 – 10:20      Main lecture ML-14  
**Alex van Herk** (*Netherlands*)  
Cool coatings; application of core-shell latex particles in functional coatings
- 10:20 – 10:50      Main lecture ML-15  
**Bernd Reck** (*Germany*)  
Acrylic polymer dispersions – from colloidal structure to application properties
- 10:50 – 11:05      Special lecture SL-31  
**Arthur Werner** (*Canada*)  
Latexes stabilized by amphiphilic block-random copolymers

11:05 – 11:25

*Coffee break*

## LECTURE SESSION 12

*Chaired by: Alex van Herk (Netherlands)*

### CHARACTERIZATION

- 11:25 – 11:55 Main lecture ML-16  
**John Tsavalas (USA)**  
Patience is a virtue in the design of anisotropic particle morphology
- 11:55 – 12:10 Special lecture SL-32  
**Yang Liu (Canada)**  
Mechanistic studies of latex film formation of low VOC waterborne coatings
- 12:10 – 12:25 Special lecture SL-33  
**Chi Hoong Chan (Malaysia)**  
Reprocessable and tunable nitrile elastomers enabled by covalent adaptable networks using a reactive epoxy polymeric crosslinker prepared via emulsion polymerization

12:25 – 14:00

*Lunch*

## LECTURE SESSION 13

*Chaired by: John Tsavalas (USA)*

### CHARACTERIZATION

- 14:00 – 14:30 Main lecture ML-17  
**Stepan Podzimek** (*Germany*)  
Light scattering for structural studies of colloidal materials
- 14:30 – 14:45 Special lecture SL-35  
**Pei Li** (*People's Republic of China*)  
Synthesis of multi-carbon dots crosslinked polyethyleneimine particles for biological application
- 14:45 – 15:00 Special lecture SL-36  
**Edina Rusen** (*Romania*)  
Core-shell particles with thermo-responsive wetting characteristics obtained by photo-mediated suspension polymerization
- 15:00 – 15:15 Special lecture SL-37  
**Djamal Tahtat** (*Algeria*)  
Study of the encapsulation efficiency of vitamin B1 in alginate beads: Application of an experimental design
- 15:15 – 15:25 **Conclusion, Path forward**
- 15:25 **FAREWELL**

## LIST OF POSTERS

- P-01 C. Sanders**, S. Smeltzer, A. Werner, S. George, A. Gernandt, B. Reck, M. F. Cunningham (*Canada*)  
Amphiphilic block-random copolymers as stabilizers in emulsion polymerization
- P-02 I. L. S. Tolentino**, P. H. H. Araujo, **C. Sayer** (*Brazil*)  
Myrcene thiol-ene miniemulsion polymerization
- P-03 T. Vasylyshyn**, V. Patsula, D. Horák (*Czech Republic*)  
Poly(2,3-dihydroxypropyl methacrylate)/upconverting nanoparticles via miniemulsion RAFT polymerization
- P-04 B. Perez**, O. Gomez de Miranda, **R. Rodriguez** (*Spain*)  
Effect of epoxidized soybean oil acrylation degree on the development of biobased system by miniemulsion polymerization
- P-05 M. Tarhini**, **S. Khizar**, M. Hangouet, G. Guignard, A. Hervault, A. Elaissari (*France*)  
Encapsulation of dye inside latex particles via polymerization in disperse media
- P-06 P. Šálek**, D. Zbořilová, E. Pavlova, O. Trhlíková, O. Šebestová Janoušková (*Czech Republic*)  
Poly[N-(2-hydroxypropyl) methacrylamide]-based nanogel prepared by dispersion polymerization for live-cell imaging
- P-07 D. N. Crisan**, M. Onea (*Romania*)  
Grafting strategies for the synthesis of polyhydrazide-gold nanoparticles
- P-08 A. Jäger**, E. Jäger, K. L. Cavalcante, V. Sincari, E. Pavlova, M. Hrubý (*Czech Republic*)  
Microfluidic fabrication of monodisperse biocompatible and biodegradable polymer nanoparticles

- P-09 A. Medaj**, J. Odrobińska-Baliś, K. Minor, A. Kmak, S. Zapotoczny (*Poland*)  
Polymer nanocapsules templated on liquid cores as a potential nanoreactors
- P-10 R. Nebesnyi**, T. Kharandiuk, A. Pavliuk, V. Ivasiv, K. H. Tan, A. Pich (*Ukraine*)  
Selenium-modified microgels as bio-inspired catalysts for unsaturated aldehydes oxidation
- P-11 A. Angelini**, A. Car, L. Leva, W. Yave, I. A. Dinu (*Switzerland*)  
Polystyrene-*block*-poly(vinyl alcohol) nanostructured self-assemblies for preparation of pervaporation membranes
- P-12 L. Kratofil Krehula**, D. Jakus, A. Peršić, A. Kapitanović, H. Otmačić Ćurković (*Croatia*)  
Conductive polymer hydrogels based on poly(vinyl alcohol)
- P-13 F. Grabowski**, V. S. Petrovskii, F. Fink, S. Herres-Pawlis, I. Potemkin, A. Pich (*Germany*)  
Asymmetric microgels by supramolecular assembly and precipitation polymerization of pyrazole-modified monomers
- P-14 Y. Jeong**, N. Q. Nguyen, H. Y. Cho, D. Sohn (*Republic of Korea*)  
Internal structure of hydrogel containing laponite and temperature-responsive poly(*N*-isopropylacrylamide)
- P-15 T. Z. Abolibda**, A. P. Abbott (*Saudi Arabia*)  
Gelation of starch polymer in a hydrogen bond donor based modifier
- P-16 A. García**, A. Román (*Mexico*)  
Liquid-liquid and liquid-solid separation in self-assembled polysaccharides complexes

- P-17 L. Scholtz**, J. G. Eckert, T. Elahi, F. Lübkeermann, N. C. Bigall, U. Resch-Genger (*Germany*)  
Luminescence encoding of polymer microbeads during polymerization
- P-18 A. Sikorski**, P. Polanowski, K. Hałagan (*Poland*)  
Star-branched polymers vs. dendrimers. A computer simulation study
- P-19 J. Hildebrandt**, A. F. Thünemann (*Germany*)  
Polypropylene nanoplastics dispersed in water as reference materials
- P-20 M. Paúrová, M. Babič**, I. Šeděnková, J. Hromádková, P. Matouš (*Czech Republic*)  
Polymer particles as contrast agents for photoacoustic tomography
- P-21 M. Deuker**, S. Morsbach, V. Mailänder, K. Landfester (*Germany*)  
Interaction of nanocarriers with anti-PEG antibodies
- P-22 I. A. Dinu**, M. V. Dinu, W. Meier, N. Bruns (*Switzerland*)  
Trehalose-coencapsulation in polymer nanocompartments for stabilizing and protecting protein functionality
- P-23 S. Dutz**, D. Zahn, S. Jung, J. Dellith, K. Saatchi, U. O. Häfeli (*Germany*)  
Magnetic microspheres for hyperthermia, drug delivery, and immunomagnetic separation
- P-24 J. M. Beltrame**, C. Guindani, C. Sayer, A. D. Zottis, **P. H. H. Araujo** (*Brazil*)  
Bioconjugation of superparamagnetic nanoparticles coated with unsaturated polyester
- P-25 A. B. Shatan**, D. Horák (*Czech Republic*)  
Design, synthesis and bactericidal activity of polymer-coated magnetic nanoparticles

- P-26 M. A. Świątek**, L. Lartigue, T. Vasylyshyn, R. Konefał, D. Horák (*Czech Republic*)  
Curcumin-based nanoassemblies modified with prooxidant for magnetic hyperthermia
- P-27 V. Patsula**, H. Macková, M. A. Świątek, V. Oleksa, D. Horák (*Czech Republic*)  
Antioxidant Poly(6-O-methacryloyl-L-ascorbic acid)-modified magnetite nanoparticles
- P-28 M. Moskvín**, I. Marková, V. Huntošová, D. Horák (*Czech Republic*)  
Biological activity of multifunctional nanoparticles based on iron and cerium oxides
- P-30 V. Oleksa**, V. Patsula, H. Macková, D. Horák (*Czech Republic*)  
Poly(*N,N*-dimethylacrylamide)-coated upconverting core-shell nanoparticles for biomedical applications
- P-31 O. Shapoval**, V. Oleksa, D. Horák (*Czech Republic*)  
Chemical and colloidal stability of P(DMA-AGME)- and PMVEMA-coated upconverting nanoparticles
- P-33 A. Hlukhaniuk**, V. Patsula, M. A. Świątek, J. Hodan, B. A. Zasońska, D. Horák (*Czech Republic*)  
Magnetic nanoparticles as additives to polymer composites
- P-34 P. Menold**, N. Preisig, C. Stubenrauch, R. Strey (*Germany*)  
A transition from a sponge-like to a foam-like nanostructure in water-rich  $L_3$  phases
- P-35 K. A. Milakin**, U. Acharya, I. M. Minisy, D. V. Tumacder, Z. Morávková, O. Taboubi, T. Syrový, J. Pflieger, P. Bober (*Czech Republic*)  
Polyaniline-phytic acid-poly(*N*-vinylpyrrolidone) films with controllable hydrophobicity

- P-36** V. Dinca, **A. Mocanu**, G. (Niță) Toader, E. Rusen, A. Diacon  
(*Romania*)  
Surface modification using MAPLE technique for improving  
mechanical performance of adhesive joints
- P-37** S. Benamer-Oudih, **D. Tahtat**, A. Nacer Khodja, M. Mahlous,  
Y. Hammache, A. Guittoum, S. Kebbouche Gana (*Algeria*)  
Synthesis of chitosan nanoparticles with controlled size and  
zeta potential: Application of factorial experimental design
- P-38** **D. Tahtat**, S. Benamer-Oudih, A. Nacer Khodja,  
Y. Hammache, M. Mahlous (*Algeria*)  
Study of the swelling rate of superabsorbent sodium acrylate/  
locust bean gum synthesized by gamma radiation