

Prague Meeting on Tumor Therapy and Imaging 2023 - Programme

SUNDAY March 19th, 2023

18:30 – 21:00 **Welcome reception** at Institute of Macromolecular Chemistry CAS

MONDAY March 20th, 2023

8:50 – 9:00 **Tomáš Etrych**, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Introduction

1st section: *New materials*

Chair: Tomáš Etrych

9:00 – 9:30 **Jonathan A. Coulter**, *School of Pharmacy, Queen's University Belfast, BT9 9BL, UK*

Achieving Impact from University Research – A nanotechnology tale

9:30 – 10:00 **Ian Teasdale**, *Johannes Kepler University, Linz, Austria*

Phosphorus-based polymers as a tunable, biodegradable platform for polymer therapeutics

10:00 – 10:20 **Libor Kostka**, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*

Polymerization platform for synthesis of multi-arm carriers

10:20 – 10:40 **Pavla Bojarová**, *Institute of Microbiology, Czech Academy of Sciences, Prague, Czech Republic*

Glycopolymers targeting galectins in biomedicine

10:40 – 11:00 Posters and coffee

2nd section: *Cancer metabolism and microenvironment*

Chair: Eva Randárová

11:00 – 11:30 **Karel Smetana**, *Charles University, 1st Faculty of Medicine, Institute of Anatomy, Prague and BIOCEV, Vestec, Czech Republic*

Role of cancer-associated fibroblasts in cancer microenvironment

11:30 – 12:00 **Alexander Detappe**, *Institut de Cancérologie Strasbourg Europe, Strasbourg, France*

Molecular bottlebrush prodrugs as mono- and triplex combination therapies for multiple myeloma

12:00 – 12:20 **Juan Bautista De Sanctis**, *Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacky University, Olomouc, Czech Republic*

Effect of ASA nanoparticles on tumour antigen expression in human cell lines

12:20 – 12:40 **Marek Kovář**, *Institute of Microbiology, Czech Academy of Sciences, Prague, Czech Republic*

Linear and star HPMA copolymer conjugates bearing doxorubicin and ritonavir derivative overcomes P-gp and STAT3-mediated tumor chemoresistance

12:40 – 12:50 **Future directions in cancer targets** – discussion led by Marek Kovář

12:50 – 14:10 Lunch

3rd section: *Chemotherapy*

Chair: Jun Fang

- 14:10 – 14:40 **Danuta Radzioch**, *McGill University Health Centre, Montreal, Canada*
Magnetically-guided chemotherapy-carrying magneto-aerotactic bacteria induces immune cells infiltration and their activation resulting in inhibition of colorectal cancer growth
- 14:40 – 15:00 **Yohann Corvis**, *Université Paris Cité, CNRS, INSERM, UTCBS lab, Paris, France*
Nanocrystals engineering for anticancer therapies
- 15:00 – 15:20 **Milada Šírová**, *Institute of Microbiology, Czech Academy of Sciences, Prague, Czech Republic*
Polymer carrier of cytotoxic drugs with P-gp overcoming capacity in the treatment of chemoresistant tumors
- 15:20 – 15:50 **Marián Hajdúch**, *Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacky University, Olomouc, Czech Republic*
Academic driven drug development: From molecular targets to proof-of-concept clinical trials
- 15:50 – 16:20 Posters and coffee

4th section: *Directions beyond cancer*

Chair: Nathalie Mignet

- 16:20 – 16:40 **Kazumi Yokomizo**, *Faculty of Pharmaceutical Sciences, Sojo University, Kumamoto, Japan*
Application of polymeric micelle nanocarrier to microbes and infections
- 16:40 – 17:00 **Makoto Anraku**, *Faculty of Pharmaceutical Sciences, Sojo University, Kumamoto, Japan*
The preparation and validation of chitosan tablets that rapidly disperse and disintegrate as an oral adsorbent in the treatment of lifestyle-related diseases
- 17:00 – 17:20 **Eva Randárová**, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Polymer-based drug delivery systems for treatment and diagnosis of inflammatory diseases
- 17:20 – 17:40 **Tomáš Špringer**, *Institute of Photonics and Electronics of the Czech Academy of Sciences, Prague, Czech Republic*
pH-triggered drug release from nanocarriers investigated by surface plasmon resonance biosensor
- Dinner at Břevnov Monastery

TUESDAY March 21st, 2023

1st section: *Theranostics*

Chair: Steffen Hackbarth

- 9:00 – 9:30 **Carolina de Aguiar Ferreira**, *Departments of Radiology, Pharmacology & Toxicology and Biomedical Engineering, Michigan State University, USA*
Exploring Biological Applications of Radionuclides: From Cancer Theranostics to Tumor Immunology
- 9:30 – 10:00 **Jean-Luc Coll**, *Team Cancer Targets and Experimental Therapeutics, Univ. Grenoble Alpes, INSERM U1209, CNRS UMR5309, Institute for Advanced Biosciences, Grenoble, France*
NIR-I and NIR-II optically active nanosystems and their use for theranostic treatment of cancer
- 10:00 – 10:20 **Kirakci Kaplan**, *Institute of Inorganic Chemistry of the Czech Academy of Sciences, Husinec–Řež, Czech Republic*
Octahedral Molybdenum Cluster Complexes for Photodynamic Applications
- 10:20 – 10:40 **Petr Hermann**, *Department of Inorganic Chemistry, Faculty of Science, Universita Karlova, Prague, Czech Republic*
Macrocyclic chelators for metal radioisotopes and influence of phosphorus acid pendant arms.
- 10:40 – 11:00 Posters and coffee

2nd section: *PDT*

Chair: Jean-Luc Coll

- 11:00 – 11:30 **Steffen Hackbarth**, *Photobiophysics, Institute of Physics, Humboldt-Universität zu Berlin, Germany*
Sometimes less is more – How photosensitization in vivo depends on intensity
- 11:30 – 12:00 **Jun Fang**, *Faculty of Pharmaceutical Sciences, Sojo University, Japan*
Polymeric nano-probes for tumor-targeted photodynamic therapy and imaging
- 12:00 – 12:20 **Marina Tavares**, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
pH-Responsive Polymer Nanomedicines for Tumor-Targeted Photodynamic Therapy and Imaging
- 12:20 – 12:50 **Kamil Lang**, *Institute of Inorganic Chemistry of the Czech Academy of Sciences, Husinec–Řež, Czech Republic*
Molybdenum nanoclusters for X ray-induced photodynamics
- 12:50 – 14:10 Lunch

3rd section: *Imaging*

Chair: Carolina Ferreira

- 14:10 – 14:40 **Nathalie Mignet**, *Université Paris Cité, CNRS, INSERM, UTCBS lab, Paris, France*
Bioconjugates made of albumin as targeted imaging agent
- 14:40 – 15:00 **Eliška Grosmanová**, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Synthesis of polymer-based multifunctional nanotherapeutics decorated with antimicrobial, cell-penetrating, targeting or therapeutic oligopeptides
- 15:00 – 15:20 **Martin Kaňa**, *Department of Otorhinolaryngology and Head and Neck Surgery, 1st Medical Faculty, Charles University and University Hospital Motol, Czech Republic*
Intraoperative Fluorescence-Guided Surgery of Malignant Head-and-neck Tumors and Metastases
- 15:20 – 15:40 **Dora Konečná**, *Institute of Biochemistry and Experimental Oncology 1st Medical Faculty, Charles University and Department of Neurosurgery, Military University Hospital Prague, Czech Republic*
Protease-activated probes for the visualization of glioblastoma
- 15:40 – 15:50 **Future directions in imaging and theranostics** – discussion led by Carolina de Aguiar Ferreira
- 15:50 – 16:10 Closing of the meeting and coffee

Presented posters

Kateřina Běhalová, *Institute of Microbiology, Czech Academy of Sciences, Prague, Czech Republic*
Antitumor activity of HPMA polymeric conjugates bearing HIV protease inhibitor derivatives

Alena Braunová, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Micellar copolymers with P-gp inhibition for treatment of resistant solid tumors

Natálie Klusová, *Institute of Microbiology, Czech Academy of Sciences, Prague, Czech Republic*
Anti-tumor and immunomodulatory effect of polymeric conjugates based on HPMA carrying gemcitabine

Kevin Kotalík, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Water-soluble polymer conjugates with 5-aminolevulinic acid intended for photodynamic therapy

Alena Libánská, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Size-switchable polymer-based nanomedicines in the advanced therapy of rheumatoid arthritis

Ondřej Lidický, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Biocompatible polymers as tool for the antibody drug conjugate concept improvement

Dana Mareková, *Institute of Experimental Medicine, Czech Academy of Sciences, Prague, Czech Republic*
Biological evaluation of upconversion nanoparticles

Robert Pola, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Cytarabine nanotherapeutics with increased stability and different rate of hydrolytic release for highly effective antitumor therapy

Tomáš Příbyl, *University of Chemistry and Technology, Prague, Czech Republic*
Formulation of molybdenum clusters for photodynamic cancer therapy

Sára Pytlíková, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Hydrophilic polymer-pirarubicin conjugates for cancer treatment

Anna Rumlerová, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
Polymer conjugates with antimicrobial peptides

Johanne Seguine, *Université Paris Cité, CNRS, INSERM, UTCBS lab, Paris, France*
Development and evaluation of optical imaging probes for tumor targeting

Daniil Starenko, *Institute of Microbiology, Czech Academy of Sciences, Prague, Czech Republic*
Polymeric conjugates with retroviral protease inhibitors as a potential way of overcoming chemoresistance in P-glycoprotein expressing tumors

Karolína Turnovcová, *Institute of Experimental Medicine, Czech Academy of Sciences, Prague, Czech Republic*
Modeling of drug delivery to brain in vitro

Alžběta Turnovská, *Institute of Macromolecular Chemistry, Czech Academy of Sciences, Prague, Czech Republic*
HPMA-based conjugates with porphyrins for photodynamic therapy and tumour imaging