

ČTVRTEK / THURSDAY 1. PROSINCE / 1ST DECEMBER, 2022

7:00 – 9:00 REGISTRATION

Cancer biomarkers and molecular targets / 9:00 – 10:30
Chairs: Petr Dzubak, Radoslav Goldman

- 9:00 – 9:30 Heparan 6-O-endosulfatases in HNSCC and other malignancies
Radoslav Goldman
- 9:30 – 9:45 Characterization of cervical mucus: Definition of healthy proteome
Tomas Ozdian
- 9:45 – 10:00 Proteomic biomarkers of lung cancer and COPD in exhaled breath condensate
Jana Vaclavkova
- 10:00 – 10:15 Unlocking critical insights in immunotherapy with predictive single-cell functional proteomics
Dagmar Bezdekova
- 10:15 – 10:30 Increase of cervical cancer prevention in the Czech Republic using self-sampling
Vladimira Koudelakova
- 10:30 – 10:45 **COFFEE BREAK**

Anticancer drugs and therapies / 10:45 – 12:00
Chairs: Martin Mistrik, Lucia Kucerova


- 10:45 - 11:15 Novel approaches for circumventing cisplatin chemoresistance in human germ cell tumors
Lucia Kucerova
- 11:15 - 11:30 Polymer therapeutics for photodynamic therapy and tumor imaging
Tomas Etrych
- 11:30 - 11:45 Hyperthermia in cancer research and treatment
Zdenek Skrott
- 11:45 - 12:00 The effect of morphine-based perioperative analgesia on circulating tumor cells dissemination in colorectal cancer patients
Pavel Stejskal
- 12:00 – 13:00 **LUNCH / POSTER SECTION**

13:00 – 13:15 OPENING CEREMONY

Cancer immunotherapy / 13:15 – 14:45
Chairs: Marian Hajduch, Marek Kovar

- 13:15 – 13:45 Cancer immunotherapy through combination of immune checkpoint blockade and IL-2/anti-IL-2 mAb complexes selectively stimulating CD25⁺ T cells
Marek Kovar
- 13:45 – 14:00 Chemical biology and cancer immunotherapy
Tereza Ormsby
- 14:00 – 14:15 Forty (40) Color full spectrum flow cytometry and sorting panel for deep immunophenotyping of major cell subsets in human peripheral blood
Riccardo Pasculli

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- 14:15 – 14:30 Cytokine-antibody single-chain fusions for cancer immunotherapy
Jakub Tomala
- 14:30 – 14:45 Molecular mechanisms in spontaneous regression of melanoma in pig model: analysis of cytokines
Helena Kupcova Skalnikova
- 14:45 – 15:00 **COFFEE BREAK**

15:15 – 17:30 **NATIONAL INSTITUTE FOR CANCER RESEARCH FACULTY MEETING**
Invited delegates only / Ventana Lounge


Cancer biomarkers / 15:00 – 16:00

Chairs: Ludmila Boublikova, Patrik Flodr

- 15:00 – 15:15 *In vitro* and *in vivo* characterization of miR-215-5p as a new tumor suppressor in colorectal cancer
Tana Machackova
- 15:15 – 15:30 Molecular markers for disease monitoring and response prediction in solid tumors
Ludmila Boublikova
- 15:30 – 15:45 Research possibilities of circulating tumor cells and their application in oncotherapy
Reka Kovacs
- 15:45 – 16:00 Systemic and localised amyloidosis associated with malignant neoplastic, uncertain neoplastic and non-neoplastic diseases
Patrik Flodr
- 16:00 – 16:15 **COFFEE BREAK**

Molecular pathology / 16:15 – 17:45

Chairs: Jan Bouchal, Jozef Skarda

- 16:15 – 16:30 Restored biosynthetic pathways induced by MSCs serve as rescue mechanism in leukemia cells after L-asparaginase therapy
Julia Starkova
- 16:30 – 16:45 Advances in plasmonic biosensors and their applications in oncohematology
Marketa Bockova
- 16:45 – 17:00 Ultra high content imaging using MICS technology on the MACSima™ Imaging Platform
Bernd Müller-Zülow
- 17:00 – 17:15 Immunohistochemical, histomorphological and electron microscopic evaluation of tissues around the implant material
Jozef Skarda
- 17:15 – 17:30 Human-specific levels of endoplasmic reticulum stress markers in the pathological progression of Lewy body disease – a postmortem study
Dominik Hrabos
- 17:30 – 17:45 Whats new in immunotherapy of malignant pleural mezotelioma from the perspective of a pathologist
Jozef Skarda
- 19:00 **DINNER AND SOCIAL EVENING**

PÁTEK / FRIDAY 2. PROSINCE 2022 / 2ND DECEMBER, 2022

Innovative cancer therapeutics / 9:00 – 10:30

Chairs: Marian Hajduch, Michal Hocek

9:00 – 9:30	Modified nucleosides, nucleotides and nucleic acids as potential cytostatics Michal Hocek
9:30 – 9:45	Novel insights into molecular mechanism of the anti-cancer drug emetine on DNA replication David Lukac
9:45 – 10:00	Beyond cancer: Repurposing of targeted therapeutics as an approach to advance clinical management of vascular anomalies Petra Pokorna
10:00 – 10:15	Targeting mitochondrial iron metabolism: selective killing of cancer cells via mitochondrially targeted deferasirox Jaroslav Truksa
10:15 – 10:30	Water-soluble polymer carriers for tumor treatment Lenka Kotrchova
10:30 – 10:45	Structure-assisted design of enzyme inhibitors Pavlina Rezacova
10:45 – 11:00	COFFEE BREAK

Prostate and ovarian cancers diagnostic and therapy / 11:00 – 12:15

Chairs: Jan Bouchal, Fred Santer

11:00 - 11:30	How to diagnose and induce HRD in prostate and ovarian cancer Fred Santer
11:30 - 11:45	The hidden potential of malignant ascites for ovarian cancer research Vendula Hlavackova Pospichalova
11:45 - 12:00	Ligands targeting prostate-specific membrane antigen (PSMA) for prostate cancer imaging and therapy Cyril Barinka
12:00 - 12:15	<i>In vivo</i> evaluation of enhanced blood retention and tumor uptake PSMA-targeting ²²⁵ Ac-labeled radioconjugates Zbynek Novy
12:15 – 13:15	LUNCH / POSTER SECTION

Inflammation and immunity in cancers / 13:15 – 14:30

Chairs: Karel Smetana, Zdenek Kolar

13:15 – 13:45	Cancer-associated fibroblasts Karel Smetana, Jr.
13:45 – 14:15	Smoldering inflammation and inflammatory threshold in tissue remodeling and cancer niche development Luca Vannucci
14:15 – 14:30	Mesenchymal cells associated with glioblastomas and brain metastases: Characterization and relationship to immune infiltrate Magdalena Houdova Megova
14:30 – 14:45	COFFEE BREAK

PÁTEK / FRIDAY 2. PROSINCE 2022 / 2ND DECEMBER, 2022

Lipid metabolism in cancer and non-communicable disorders

14:45 – 16:00

Chairs: Jan Bouchal, Juan Bautista de Sanctis

14:45 – 15:15	Perturbations of the sphingolipid and glycosphingolipid metabolism in colon cancer tissue Miroslav Machala
15:15 – 15:30	Clinical lipidomics: Applications in cancer and beyond Ales Kvasnicka
15:30 – 15:45	Molecular profiling of cardiovascular diseases applying an untargeted lipidomics approach Lukas Najdekr
15:45 – 16:00	Comparative effects of fatty acid supplementation on human NK cell cytotoxic activity of healthy and overweight young and old adults Juan Bautista De Sanctis
16:00 – 16:15	COFFEE BREAK

Personalized medicine and data analysis / 16:15 – 17:45

Chairs: Ondrej Slaby, Jozef Skarda

16:15 – 16:45	Impact of the comprehensive genomic profiling on the individual therapeutic planning in high-risk/refractory tumors: real-world precision medicine in pediatric oncology Ondrej Slaby
16:45 – 17:00	Automated NGS and its strong positive effect on an oncology patient survival rate and improvement on the healthcare service Filip Drzik
17:00 – 17:15	Applications and challenges of artificial intelligence in digital pathology Mariam Gachechiladze
17:15 – 17:30	The future of pathology Agnieszka Ciesielska
17:30 – 17:45	The drugs' mechanism of action identification based on digital-phase contrast images analyzed by AI Jarmila Stankova

17:45 – 18:00

CLOSING CEREMONY

1. KOPRETINA study: Pilot self-sampling device distribution to Czech women who should be participating in the cervical cancer screening program
Hana Jaworek
2. Analysis of ccfRNA markers of prostate cancer progression and ARTA therapy failure in liquid biopsy samples of patients with advanced prostate cancer
Eva Szczyrbová
3. Anticancer effects of steroid cardiac glycoside derivatives
Martina Peřinová
4. Comparison of Age Prediction from Blood by Pyrosequencing and Massively Parallel Sequencing
Lucie Kotková
5. Anticancer effect of novel 1,4-benzodiazepine derivatives through tubulin polymerization inhibition
Alzbeta Srovnalova
6. The role of transcription factor Sp1 in the active demethylation process of multiple myeloma cells
Michaela Němcová
7. Discrimination of resected glioma tissue using surface enhanced Raman spectroscopy and Au@ZrO₂ nanocomposite
Vaclav Ranc
8. Nová laboratoř *in situ* hybridizace ve Fakultní nemocnici Ostrava
Martina Peřinová
9. Synthesis, cytotoxicity and mechanism of action of triterpenoid pyrazines and pyridines and their prodrugs
Ivo Frydrych
10. New antimitotics derived from 4-thiazolidinone interfere with microtubule dynamics
Jiri Rehulka
11. Effect of opioid and cannabinoid receptors gene expression on survival of patients with colorectal cancer
Monika Vidlarova
12. New NPL4 protein inhibitors as possible anticancer therapeutics and their mechanism of action
Martin Loffelmann
13. The role of ABCB1 and NOTCH3 in the resistance to taxanes and mitochondrially targeted iron chelators
Jana Psotová
14. Development of new PSMA-specific antibody-based tools for immunotherapy of prostate cancer
Zora Nováková
15. A high-throughput screening campaign to identify inhibitors of carbonic anhydrase IX
Soňa Gurská
16. *In vitro* cellular models of nucleoside-based drugs resistance
Lenka Hrubá
17. The identification and characterization of anticancer activities of unique, nucleoside-based A3 adenosine receptor agonists
Kateřina Ječmeňová
18. Mitochondrial changes are important for the tamoxifen-resistant cells to survive the therapy
Yaiza Pacior
19. MicroRNA expression profile associated with recurrence in atypical meningioma patients
Dagmar Al Tukmachi
20. Fusion gene analysis as a tool for diagnosis and therapeutic planning in pediatric cancer patients
Tereza Deissová
21. Emetine's anti-DNA replication activity reflects proteosynthesis inhibition not targeting Okazaki fragment formation
Zuzana Machačová
22. Automatic de novo design and structural optimization
Pavel Polishchuk
23. Immunocompetent cell-infiltration of NSCLC in relation to prognosis, response to therapy and microbiome composition
Dominika Fritzová
24. Surface plasmon resonance biosensor for monitoring stimuli-triggered drug release from polymeric systems
Tomáš Špringer
25. Correlation of FOXP3, IL-35 and PD-L1 in intra and peritumoral lymphocytic infiltrate of cutaneous melanomas as important part of antitumor immunity
Vladimír Židlík

1. “Molecular” resection margins in oral squamous cell carcinoma – report of the first results from the multidisciplinary view
Pavel Hurník
2. Transcriptome analysis of small extracellular vesicles derived from blood sera of colorectal cancer patients
Tana Machackova
3. Comprehensive metabolomic and lipidomic study of tauopathy and Alzheimer’s disease patients
Dana Dobešová
4. Combination of extracellular matrix proteins potentiate oncogenic pathways and advanced disease in prostate cancer
Gvantsa Kharashvili
5. MicroRNAs in Brain Metastases - Promising Diagnostic Biomarkers for Known and Unknown Origins
Michaela Ruckova
6. Clonal somatic variants in immune cells involved in atherosclerotic plaque formation
Barbora Koblihová
7. Diblocks polymer conjugates for tumor treatment
Michaela Hrochová
8. Expression of PIWIL1-4 in glioblastoma stem-like cells
Petr Busek
9. Study on the long non-coding RNA expression profiles in glioblastoma and characterization of structure and function of LINC00634
Marek Vecera
10. Pilot data: Current incidence of HPV-driven oropharyngeal cancer and the possible role of liquid biopsies in recurrence monitoring
Ondřej Bouška
11. CVID - vzácnost či opomíjená jednotka?
Martin Eliáš
12. Unique reporter model for c-Myc protein level monitoring under physiological conditions
Agata Kubickova
13. Fully synthetic antibody mimetics selectively target CD64-expressing cells
Dominik Musil
14. Establishing Cancer Comprehensive Genomic Profiling in University Hospital Olomouc
Patricia Žižkovičová
15. Endometrial Tumor Predictive Testing Using fastGEN Technology for Deep Amplicon Sequencing of *POLE*
Jana Stránská
16. A-ring-fused pyrazoles of dihydrotestosterone targeting prostate cancer cells via the degradation of the androgen receptor
Miroslav Peřina