

ORGANIZERS



Czech Annual Cancer Research Meeting November 18–20 2024 | Olomouc, CZ

19th Czech Annual
Cancer Research
Meeting

19th Molecular
Pathology Days

3rd Conference of the
National Institute for
Cancer Research

PROGRAM

VENUE:

Hotel NH Collection Olomouc Congress
Legionarska 21
Olomouc 779 00, Czech Republic

The organizer reserves the right to make changes to the program.

SPONSORS



The project National Institute for Cancer Research (Programme EXCELES, ID Project No. LX22NP05102) - Funded by the European Union - Next Generation EU

MONDAY NOVEMBER 18, 2024

12:30 - 12:45

GRAND OPENING

Genetic and Genomic Cancer Biomarkers

12:45 – 14:45

Chairs: Petra Kleiblova, Jiri Drabek

12:45 - 13:15	Cancer risk factors: The role of tobacco harm reduction David Khayat
13:15 - 13:30	Parallel DNA/RNA NGS using an identical target enrichment panel in the analysis of hereditary cancer predisposition Petra Kleiblova
13:30 - 13:45	Electrochemical biochip technologies for clinical sample analysis in molecular oncology Martin Bartosik
13:45 - 14:00	Spatiotemporal organization of biomolecules in cancer cells by phase separation Martin Sztacho
14:00 - 14:15	Mapping genetic alterations in colorectal cancer: The promise of liquid biopsy Sona Krivonoskova
14:15 - 14:30	Everyday practice of molecular pathology in the National Institute of Oncology Erika Toth
14:30 - 14:45	Presence of TP53-mediated clonal hematopoiesis in BRCA1/2 variant carriers Jana Kotaskova
14:45 - 15:15	COFFEE BREAK

Anticancer Drugs and Therapies I

15:15 – 16:45

Chairs: Michal Hocek, Petr Dzubak

15:15 - 15:30	Enzymatic synthesis of potential modified RNA therapeutics with engineered DNA polymerases Michal Hocek
15:30 - 15:45	Polymeric conjugates bearing mitoxantrone derivatives with immunomodulatory properties for treatment of androgen-independent prostate carcinoma and other mitoxantrone-sensitive tumors Daniil Starenko
15:45 - 16:00	Preclinical assessment of enhanced blood retention and tumor uptake PSMA-targeting ²²⁵ Ac-labeled radioconjugates Zbynek Novy
16:00 - 16:15	Discovery of tubulin-stabilisation properties of novel A-ring-fused isoxazoles of dihydrotestosterone leading to mitotic block and apoptosis in cancer cells Miroslav Perina
16:15 - 16:30	Structure-assisted humanization of 5D3 antibody targeting prostate-specific membrane antigen (PSMA) Cyril Barinka
16:30 - 16:45	Improving the selectivity of cytotoxic active triterpenoids containing Michael acceptor Milan Urban

TUESDAY NOVEMBER 19, 2024

Cancer Immunology and Immunotherapy I

9:00 – 10:30

Chairs: Lucie Kucerova, Karel Smetana

9:00 - 9:15	European Cancer Plan and Mission on Cancer - Challenges and opportunities Marek Svoboda
9:15 - 9:45	T cell immunotherapies: Some molecular insights from the basic science perspective Jonathan Duke-Cohan
9:45 - 10:00	Distribution and prognostic significance of T cells in colorectal cancer between normal mucosa, primary tumor and liver metastasis Andriy Trailin
10:00 - 10:15	Lymphocyte-produced cytokines drive tumor dissemination in the liver in a non-cell autonomous manner Jan Kosla
10:15 - 10:30	Therapeutic potential of antibody–drug conjugates in multiple-relapsed/recurrent germ cell tumors Lucia Kucerova
10:30 - 11:00	COFFEE BREAK

Molecular Basis of Cancers: Tumor Heterogeneity

11:00 – 12:30

Chairs: Martin Mistrik, Pavel Bouchal

11:00 - 11:30	Dissecting tumor and immune heterogeneity in breast cancer metastasis Juliane Winkler
11:30 - 11:45	Breast cancer subclassification based on proteomics/proteogenomics for targeted therapy Pavel Bouchal
11:45 - 12:00	Polygenic risk score (PRS) and its potential for breast cancer risk stratification in the Czech Republic Marketa Janatova
12:00 - 12:15	Multiplex data utilizing a single-step staining and imaging workflow for the investigation of multiple sample types Alex Darmoise
12:15 - 12:30	Genomic instability, microenvironment and telomere homeostasis in solid malignancies Pavel Vodicka
12:30 - 13:30	LUNCH

TUESDAY NOVEMBER 19, 2024

Early Cancer Detection and Prevention

13:30 – 15:30

Chairs: Marian Hajduch, Aleksí Sedo

13:30 - 13:55	Ecological study of lung cancer incidence and mortality in the Czech Republic Marian Hajduch
13:55 - 14:15	Biomarkers of lung cancer and COPD identified using mass-spectrometry based proteomics analysis of exhaled breath condensate Jana Vaclavkova
14:15 - 14:35	Proteomics of ascitic extracellular vesicles reveals tumor microenvironment in ovarian cancer Vendula Pospichalova
14:35 - 14:55	Suitability of the tear proteome for cancer biomarker studies Tomas Ozdian
14:55 - 15:15	Real-time monitoring of light-triggered protein-DNA interaction with a surface plasmon resonance biosensor Giusy Finocchiaro
15:15 - 15:30	Unraveling the proteome by untargeted mass spectrometry proteomics at scale Maik Pruess
15:30 - 16:00	COFFEE BREAK

Anticancer Drugs and Therapies II

16:00 – 17:45

Chairs: Tomas Etrych, Milan Urban

16:00 - 16:30	Drug-free macromolecular therapeutics Jindrich Kopecek
16:30 - 16:45	Stimuli-responsive polymer therapeutics and theranostics employing photodynamic therapy Tomáš Etrych
16:45 - 17:00	Reversing the tumor chemoresistance by using polymer-based nanotherapeutics with P-gp overcoming capacity Milada Sirova
17:00 - 17:15	HPMA polymer-porphyrin conjugates with potential application in photodynamic therapy Alzbeta Turnovska
17:15 - 17:30	<i>In situ</i> synthetic approach of HPMA diblocks for tumor treatment Michaela Hrochova
17:30 - 17:45	Gemcitabine nanotherapeutics based on HPMA copolymers: the effect of drug release kinetics on the cancer treatment efficacy Katerina Behalova
19:00 - 23:00	SOCIAL EVENT

PROGRAM / Evropa Hall Big

WEDNESDAY NOVEMBER 20, 2024

Molecular Basis of Cancer and Molecular Targets

9:00 – 11:00

Chairs: Marek Mraz, Josef Srovnal

9:00 - 9:30	Germline genetics of multiple myeloma Asta Forsti
9:30 - 10:00	Cardiac troponins and natriuretic peptides for monitoring cardiovascular safety of cancer treatment Petr Jarolim
10:00 - 10:15	A novel model to study proliferation signaling in chronic lymphocytic leukemia identifies unique drugs with anti-proliferative effect Marek Mraz
10:15 - 10:30	T-maps: Evaluation of new cell surface markers in pediatric T-cell acute lymphoblastic leukemia to monitor minimal residual disease Tomas Kalina
10:30 - 10:45	Epigenetic control of stem cell decisions via ISWI ATPase Smarca5 Tomas Stopka
10:45 - 11:00	Synergistic role of aldehyde dehydrogenase inhibition in combination with hypomethylating agents in relapse/refractory acute myeloid leukemia Srdjan Grusanovic
11:00 - 11:30	COFFEE BREAK

PROGRAM / Evropa Hall Small

Molecular Basis of Cancers and Biomarkers

9:00 – 10:30

Chairs: Jan Bouchal, Stjepan Uldrijan

9:00 - 9:15	Identification and validation of novel prognostic factors and therapeutic targets in osteosarcoma Petr Benes
9:15 - 9:30	Regeneration initiation expression signatures found in single cell and spatial transcriptomics tumor data Radek Sindelka
9:30 - 9:45	Expression of germline <i>Jak2</i> R1063H represents increased risk of thrombosis and impairs normal hematopoietic development in mice Lucie Lanikova
9:45 - 10:00	CDK4 and CDK6 expression pattern in B-cell non-Hodgkin lymphomas as a predictive marker of response to CDK4/6 inhibitors Denisa Vesela
10:00 - 10:15	New insights into the ERK MAPK pathway regulation in malignant melanoma Stjepan Uldrijan
10:15 - 10:30	eIF4F controls AMPK activity in malignant melanoma Natalia Vadovicova

WEDNESDAY NOVEMBER 20, 2024

Personalised Medicine: From Genes to Therapeutic Approaches

11:30 – 13:15

Chairs: Ondrej Slaby, Marek Kovar

11:30 - 12:00	Investigating tumor heterogeneity using <i>in vivo</i> CRISPR gene editing technologies in head and neck cancer Sampath Loganathan
12:00 - 12:30	Opportunities to deliver the vision of precision oncology through whole genome sequencing Richard Houlston
12:30 - 12:45	Employing dual nature of iron to combat cancer via mitochondrial targeting of deferasirox Jaroslav Truksa
12:45 - 13:00	Pro-apoptotic proteins Bax and Bak modulate in cell-specific manner mitochondrial respiration via regulation of TEFM expression Ladislav Andera
13:00 - 13:15	Tricking cancer cells into an apoptotic response to the false alarm triggered by MDM2 inhibitors Zdenek Andrysik
13:15 - 14:05	LUNCH

14:05 - 15:05

POSTER PRESENTATIONS – EVROPA HALL SMALL

Cancer Immunology and Immunotherapy II

15:15 – 17:30

Chairs: Karel Smetana, Lucca Vanucci

15:15 - 15:45	Immunosuppression in tumor microenvironment mediated by myeloid-derived suppressor cells (MDSC) Viktor Umansky
15:45 - 16:00	Targeting the IL-6 receptor alpha chain to manipulate the cancer microenvironment Karel Smetana, Jr.
16:00 - 16:15	CD25-biased IL-2 agonists synergize with immune checkpoint blockade in cancer immunotherapy despite robust Treg cell expansion but timing is crucial Marek Kovar
16:15 - 16:30	Exploring fibroblast activation protein (FAP) expression in brain metastases and novel alpha-ketoamide FAP inhibitors for theranostic applications Petr Busek
16:30 - 16:45	Experimental targeting of tumor microenvironment by nano-constructs. Our experience. Luca Vannucci
16:45 - 17:00	Cytoskeletal crosslinkers as a target for inhibiting hepatocellular carcinoma growth and metastasis Martin Gregor
17:00 - 17:15	Modulation of Lck in immune and tumors cells and spheroids. The importance of specificity Juan De Sanctis
17:15 - 17:30	CLOSING CEREMONY

PARALLEL SESSIONS / Evropa Hall Small

MONDAY NOVEMBER 18, 2024

10:00 - 12:00	NICR Education workshop (satellite workshop)
13:00 - 15:00	SALVAGE project meeting
17:15 - 18:00	Project meeting of the NICR Research Program 2 – Research and development of anticancer pharmaceuticals and therapeutic methods

TUESDAY NOVEMBER 19, 2024

11:00 - 12:30	Project meeting of the NICR Research Program 4 – Early detection and prevention of tumours Project meeting of the NICR Research Program 3 – Biomarkers of cancers and cancer diagnostics
16:45 - 18:00	Project meeting of the NICR Research Program 1 – Molecular basis of cancer and molecular targets Project meeting of the NICR Research Program 5 – Translational oncology: Verification clinical studies of the proof-of-concept type

PARALLEL SESSIONS / Ventana Lounge

MONDAY NOVEMBER 18, 2024

14:00 - 16:00	NICR administrative meeting
18:00 - 21:00	Board meeting of the National Institute for Cancer Research

WEDNESDAY NOVEMBER 20, 2024

18:00 - 21:00	NICR International Science and Advisory Board Meeting
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POSTER SECTION

1. The effects of *Andrographis paniculata* extract induced lung cancer cells apoptosis and autophagy through the activation of ROS formation
Benjaporn Buranrat
2. Therapeutic Efficacy of the Combinatorial Regimen of Temozolomide and Bacoside A on U87MG Glioblastoma cell lines
Mohammed Unais
3. b-AP15 bound CDK4/6 and decreased colon cancer cells proliferation
Thidarath Rattanaburee
4. Antiviral Activity of Selected Lamiaceae Essential Oils and Their Monoterpenes Against SARS-Cov-2
Ermin Schadich
5. Analysis of gliomas using portable Raman spectroscopy
Vaclav Ranc
6. Advancing Transcriptome Analysis in Oncological Research: Comparative Evaluation of Total RNA-Seq Library Preparation Kits for Comprehensive Transcriptomic Profiling
Tereza Tesarova
7. HPV-related oropharyngeal cancer: Circulating and salivary DNA-based biomarkers for early diagnosis and recurrence monitoring
Ondrej Bouska
8. Characterization of growth and spontaneous regression of cutaneous melanoma
Salim Abuhajjar
9. Reactivation of the embryonic genes *Trop2* and *Sca1* correlates with the cellular zonation of the intestinal tumors
Jakub Onhajzer
10. Investigating the impact of nuclear PIP2 manipulation on transcriptional regulation in cancer cells
Rabia Gonul
11. Investigation of changes in protein phase separation induced by metabolic adaptation to hypoxia in glioblastoma cells
Elena Herencia
12. High-Contrast PET Imaging of the "Cancer Integrin" $\alpha v \beta 6$ with Ga-68-D0103
Katerina Dvorakova Bendova
13. Deciphering the role of desmoglein 2 in maintaining the epithelial phenotype of breast cancer cells
Ondrej Vacek
14. Interplay between miRNA and adaptive immune cells in tumor microenvironment and their prognostic value in non-viral hepatocellular carcinoma.
Filip Ambrozkiwicz
15. Third-Generation Stony Brook Taxanes Overcome Taxane Resistance and Modulate NOTCH Signaling Pathway in Ovarian Cancer Models
Alzbeta Spalenkova
16. 2-Substituted triterpenoids inhibit Hedgehog signalling pathway in cancer cell lines with GLI1 overexpression
Ivo Frydrych
17. Investigation of Phospholipidation as a Novel Post-Translational Protein Modification in Cancer Cells
Soodabeh Abbasi Sani
18. CARMIL1 as a novel interaction partner of the PKN3 kinase
Petra Novotna
19. Synergistic role of mechanical tension and tyrosine phosphorylation in regulation of p130Cas substrate domain
Marie Hejnarova
20. Click estradiol dimers with novel aromatic bridgingunits: synthesis and anticancer evaluation
Jiri Rehulka
21. Molecular Regulation of Src Kinase and Its Functional Role in Invasive Cellular Structures
Marketa Pelantova
22. CD25-biased IL-2-based Immunocytokines In Combination With Immune Checkpoint Inhibitors Completely Eradicate Established Large Tumors Through Potent Expansion of CD8+ T Cells
Irfan Baki Kilic
23. The Role of Nuclear Phosphoinositides in Cancer: From Biomolecular Condensates to Gene Expression Control
Agnieszka Chytlá
24. Novel Azaspirooxindolinone-Based PROTACs for Selective BTK Degradation and Enhanced Anticancer Activity
Viswanth Das
25. New small-molecule modulators of p53 tumor suppressor isoforms expression
Karolina Kubova
26. Machine learning algorithms and MALDI-TOF MS: Discriminating samples from multiple myeloma and extramedullary disease patients
Monika Vlachova
27. Xenograft derived from circulating tumor cells as a model for preclinical research
Zuzana Kahounova
28. Novel casein kinase 1 alpha inhibitors for acute myeloid leukemia therapy – tolerability, efficacy and biomarkers study
Pavlina Janovska

POSTER SECTION

29. Streamlining the processing of multi-batch LCMS data with an easy-to-use offline Python pipeline.
Jan Machan
30. An Influence of the Cryopreservative Medium on the Methylation Pattern of Semen Samples
Lucie Kotkova
31. Prognostic value of MALAT1 and ANRIL in epithelial ovarian carcinoma: Expression analysis and serum RNA isolation techniques
Karolina Seborova
32. Morphological profiling of JUMP compounds by high throughput screening using cell painting assay
Pavel Polishchuk
33. Comparative Biodistribution Profiles of 161Tb-PSMA-I&T and 161Tb-PSMA-617 in LNCaP Tumor-Bearing Mice
Katarina Hajduova
34. Microbial Diversity in Non-Small Cell Lung Cancer Patients
Aneta Brisudová
35. Functional validation of somatic variability in KRAS and TP53 for prediction of platinum sensitivity and prognosis in epithelial ovarian carcinoma patients
Ivona Krus
36. Evaluation of cyclobut-3-ene-1,2-dione-3-hydrazones with benzothiazole moiety as novel anticancer agents inducing nonapoptotic oncosis-like cell death
Alzbeta Srovnalova
37. Vascular endothelial growth factor A signalling pathway in human neural stem cells and glioblastoma stem cells
Jakub Cervenka
38. Implementation of liquid biopsy-based analyses of solid tumors
Pavel Stejskal
39. Identification of novel specific inhibitors of carbonic anhydrase IX.
Sona Gurska
40. Role of fibroblast activation protein expressing stromal cells in angiogenesis and vascular destabilization in glioblastoma
Eva Balaziová
41. Inhibition of the PI3K/AKT Pathway and Its Impact on Vesicle Trafficking and Exosome-Mediated Intercellular Communication in Glioblastoma.
Claudia Carrera Bravo
42. Live imaging of A3 adenosine receptor interactions using a fluorescent antagonist probe
Katerina Jecmenova
43. Selective inhibition of Carbonic Anhydrase IX for Cancer Diagnosis and Therapy
Linh Huong Ngo
44. Accelerating Kinase Inhibitor Identification with ECHO MS
Martina Kintlova
45. Selective Expansion of Antigen-Primed CD8+ T Cells by CD25-Biased IL-2/anti-IL-2 mAb Complexes and Their Resistance to Treg Cell-Mediated Suppression
Petra Weberova
46. FADD and executioner caspases are indispensable for cell death of Jurkat cells upon anti-cancer drugs treatment
Iva Slaninova
47. PHPMA-b-PPO amphiphilic copolymers for treatment of resistant solid tumors
Alena Braunova
48. Accelerating the development of isogenic cystic fibrosis cell models
Lukas Lenart
49. Effects of Steroid Ligands on Pancreatic Cancer Cells in Two- and Three-Dimensional Culture
Martina Perinova
50. Application of lipid profiles for the characterisation of cardiovascular diseases
Richard Masar
51. Novel 2-phenylethenyl-1H-benzo[e]indoles and their photo-induced anticancer activity in melanoma cell lines
Eva Reznickova
52. The impact of inhibition of lactosylceramide synthases B4GALT5 and B4GALT6 on colon cancer cell death
Barbora Lujka
53. Wnt ligand secretion regulates emergency granulopoiesis by inducing myeloid differentiation
Karolina Vanickova
54. CD53 and MHCII expression define a unique HSC present in extramedullary hematopoietic sites under chronic inflammation
Maria Kuzmina
55. Structural and functional study of histone deacetylase 11
Zora Novakova
56. Unveiling the AGR2-NPM3 axis in PD-L1 regulation in Colorectal Cancer
Tereza Sosolikova
57. Isolation of Extracellular Vesicles: Comparison of Five Different Isolation Methods
Klara Mrazova

POSTER SECTION

58. Synthesis and characterization of silica nanoparticles functionalized with titanocene derivatives
Petr Vonka
59. 5-Azacytidine specific in myeloma cells promotes binding of DNMT3B to a protein complex containing of repressive histone markers
Katerina Smesny Trtkova
60. Regulation of microtubule nucleation in glioblastoma cells by ARF GTPase-activating protein GIT2 and protein kinase C
Vadym Sulimenko
61. Exploring novel polycyclic hetero-aryl7-deazapurine nucleosides with potential therapeutic application
Marta Gargantilla
62. Novel 2,6-disubstituted 7-deazapurine ribonucleosides: synthesis and biological activities
Ugne Sinkeviciute
63. Deciphering the relationship between cytidine metabolic pathways and cytarabine treatment of haematological tumours
Martina Horejsova
64. Discovery of a Stattic-derived compound K2071 with STAT3 inhibitory, antimitotic, and senotherapeutic properties
David Rysanek
65. Introduction of the digital MLPA method in adult patients with acute B-precursor lymphoblastic leukemia
Zuzana Vrzalova
66. Targeting myeloid cells and modulation of their function by fully synthetic antibody mimetics
Dominik Musil
67. PPM1D activity promotes cellular transformation by preventing senescence and cell death
Miroslav Stoyanov



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