



BIOCHEMISTRY AND MOLECULAR GENETICS IN MEDICINE

Scientific symposium with international participation on the occasion of the 50th anniversary of the Institute of Biochemistry and Molecular Genetics (1972-2022) and the 30th anniversary of the Medical Centre for Molecular Biology (1992-2022) at the Faculty of Medicine, University of Ljubljana

6.-7. 7. 2023

Large lecture hall, Faculty of Medicine, Korytkova 2, Ljubljana



Univerza v Ljubljani
Medicinska fakulteta
*Inštitut za biokemijo in
molekularno genetiko*

06.07.2023

DAY 1

- 8.00 – 8.30 Registration
- 8.30 – 9.00 Opening of the symposia and welcome address
- 9.00 – 10.30 **Plenary session 1:
ENZYME RESEARCH FROM BENCH TO BEDSIDE**
Chair: A. Bavec, Laboratory of enzyme research
- 9.00 – 9.10 **Aljoša Bavec** (Laboratory of enzyme research)
Laboratory of enzyme research: current projects and future perspectives
- 9.10 – 9.40 **Zrinka Kovarik** (Institute for Medical Research and Occupational Health, Zagreb, Croatia):
The Toxicity of Organophosphorus Compounds Can Be Reduced by Cholinesterase Activity
- 9.40 – 10.10 **Alessandro Pesaresi** (Istituto di Cristallografia - C.N.R, Trieste, Italy):
Structural and mechanistic enzymology of acetylcholinesterase at the crossroads between Ljubljana and Trieste
- 10.10 – 10.30 **Boštjan Petrič** (IBKMG, Faculty of Medicine, University of Ljubljana):
How does paraoxonase 1 function in cerebrospinal fluid? Some findings from a study of Alzheimer's dementia patients

10.30 – 11.00 Coffee break

- 11.00 – 12.30 **Plenary session 2:
PHARMACOGENETICS AND PERSONALIZED MEDICINE**
Chair: V. Dolžan, Pharmacogenetics laboratory
- 11.00 – 11.10 **Vita Dolžan** (IBKMG, Faculty of Medicine, University of Ljubljana):
Pharmacogenetics Laboratory: current projects and future perspectives
- 11.10 – 11.40 **Magnus Ingelman Sundberg** (Karolinska institutet, Stockholm, Sweden):
The missing heritability in pharmacogenomics

- 11.40 – 12.10 **Julia C. Stingl** (University Clinic Aachen, Germany):
Safety in polymed-cation and pharmacogenetics based
precision dosing: the clinical perspective of drug-drug-
gene interactions
- 12.10 – 12.30 **Sara Redenšek Trampuž** (IBKMG, Faculty of Medicine,
University of Ljubljana):
Biomarkers of neurodegeneration: towards personalized
management of Alzheimer's and Parkinson's disease

12.30 – 14.00 **Lunch break**

- 14.00 – 15.30 **Plenary session 3:**
**EXTRACELLULAR VESICLES - NEW SOURCE
OF BIOMARKERS OF DISEASE**
*Chair: M. Lenassi, Laboratory for extracellular vesicle
research*
- 14.00 – 14.10 **Metka Lenassi** (IBKMG, Faculty of Medicine, University
of Ljubljana):
Laboratory for extracellular vesicles: driving
fundamental and biomarkers discoveries of EVs
- 14.10 – 14.40 **Benedetta Bussolati** (University of Torino, Italy):
Stem cell-derived extracellular vesicles as therapeutic
and diagnostic tools in kidney diseases
- 14.40 – 15.00 **Miha Arnol** (University Medical Centre Ljubljana):
Molecular biomarkers in kidney transplantation
- 15.00 – 15.15 **Marija Holcar** (IBKMG, Faculty of Medicine, University of
Ljubljana):
Variability of blood-derived extracellular vesicles in
healthy humans
- 15.15 – 15.30 **David Badovinac** (University Medical Centre Ljubljana):
Predicting surgical resectability of pancreatic cancer
based on plasma extracellular vesicle characteristics

15.30 – 16.30 **Poster session with coffee**

- 16.30 – 18.00 **Plenary session 4:**
TRANSLATIONAL MEDICAL BIOCHEMISTRY
*Chair: K. Trebušak Podkrajšek, Laboratory for translational
medical biochemistry*
- 16.30 – 16.40 **Katarina Trebušak Podkrajšek** (IBKMG, Faculty of
Medicine, University of Ljubljana):
Laboratory for translational medical biochemistry:
current projects and future perspectives

- 16.40 – 17.10 **Bojan Vujkovic** (General Hospital Slovenj Gradec):
Fabry nephropathy in focus: diagnostics and management
- 17.10 – 17.40 **Albina Nowak** (University Hospital Zürich, Switzerland):
Novel biomarkers of Fabry nephropathy
- 17.40 – 18.00 **Tina Levstek** (IBKMG, Faculty of Medicine, University of Ljubljana):
Genetic and epigenetic biomarkers for the development and progression of Fabry nephropathy

07.07.2023

DAY 2

- 8.30 – 10.00 **Plenary session 5:**
FUNCTIONAL GENOMICS AND SYSTEMS MEDICINE
Chair: D. Rozman, Centre for functional genomics and Biochips
- 8.30 – 8.45 **Damjana Rozman, Tadeja Režen** (CFGBC, IBKMG, Faculty of Medicine, University of Ljubljana):
Centre for functional genomics and bio-chips – from omics to systems medicine and translational research
- 8.45 – 9.10 **Ruchi Bansal** (University of Twente, The Netherlands):
(Nano)Technologies empowering understanding and treatment of liver diseases
- 9.10 – 9.30 **Dubravka Švob Štrac** (Inštitut Ruđer Bošković, Zagreb, Croatia):
In search for biomarkers of neuropsychiatric disorders: new perspectives on early diagnosis and personalized therapy
- 9.30 – 9.45 **Tadej Battelino, Jernej Kovač** (University Medical Centre and Faculty of Medicine, University of Ljubljana):
Slovenian Reference Genome Project
- 9.45 – 10.00 **Vladka Čurin Šerbec** (Blood Transfusion Centre, Ljubljana):
Biobanking in Slovenia

10.00 – 10.30 **Coffee break**

- 10.30 – 12.00 **Plenary session 6:**
MOLECULAR MECHANISMS AND BIOMARKERS IN HORMONE-DEPENDENT DISEASES
Chair: T. Lanišnik Rižner, Laboratory for molecular basis of hormone-dependent diseases and biomarkers
- 10.30 – 10.40 **Tea Lanišnik Rižner** (IBKMG, Faculty of Medicine, University of Ljubljana):
Integrative approach: from steroid hormones to multiomics biomarker discovery

- 10.40 – 11.05 **Jerzy Adamski** (Helmholtz Zentrum München, Germany; Yong Loo Lin School of Medicine, National University of Singapore, Singapore; IBKMG, Faculty of Medicine, University of Ljubljana):
Metabolomics studies of mechanisms and biomarkers of complex diseases
- 11.05 – 11:30 **Karl Storbeck** (Stellenbosch University, SAR):
Biosynthesis, metabolism and bioactivity of 11-oxygenated androgens
- 11.30 – 11.45 **Marija Gjorgoska** (IBKMG, Faculty of Medicine, University of Ljubljana):
11-oxyandrogens in endometrial and ovarian cancers
- 11.45 – 12.00 **Luka Roškar** (General Hospital Murska Sobota; Faculty of Medicine, University of Ljubljana):
Models including angiogenic factors as candidate biomarkers of endometrial cancer

12.00 – 13.00 **Lunch break**

- 13.00 – 14.30 **Plenary session 7:**
MOLECULAR BIOLOGY AND CLINICAL RESEARCH ON RARE DISEASES OF THE SKIN
Chair: M. Liović, Medical Centre for Molecular Biology
- 13.00 – 13.10 **Mirjana Liović** (MCMB, IBKMG, Faculty of Medicine, University of Ljubljana):
Medical Centre for Molecular Biology: current projects and future perspectives
(MCMB): current projects and future perspectives
- 13.10 – 13.25 **Mirjana Liović** (MCMB, IBKMG, Faculty of Medicine, University of Ljubljana):
Skin fragility in epidermolysis bullosa and novel therapy approaches development
- 13.25 – 13.40 **Polona Zakošek** (Debra Slovenia):
Patient association DEBRA Slovenia
- 13.40 – 14.05 **Duško Ilić** (Kings College London, UK):
Stem cells in treatment of rare diseases of skin, from disease modelling to therapy
- 14.05 – 14.30 **Andreja Ambriović Ristov** (Rudjer Bošković Institute, Zagreb, Croatia):
Talin2 and KANK2 functionally interact to regulate microtubule dynamics, paclitaxel sensitivity and cell migration

14.30 – 15.30 **Poster session with coffee**

- 15.30 – 16.30 **Plenary session 8:
MOLECULAR BIOLOGY IN CLINICAL RESEARCH
OF RARE DISEASES**
Chair: N. Debeljak, Medical Centre for Molecular Biology
- 15.30 – 15.50 **Rajko Kušec** (School of Medicine, University of Zagreb, Croatia):
How is the MPN genetics information changing our clinical judgment?
- 15.50 – 16.10 **Irena Preložnik Zupan / Saša Anžej Doma** (University Medical Centre Ljubljana):
Diagnosis and management of familial erythrocytosis
- 16.10 – 16.20 **Aleš Maver** (University Medical Centre Ljubljana):
Next generation sequencing for diagnosis of rare diseases in Slovenia
- 16.20 – 16.30 **Tadej Pajič** (University Medical Centre Ljubljana):
Analysis and interpretation of next-generation sequencing data in practice
- 16.30 – 17.30 **Plenary session 9:
MOLECULAR BIOLOGY IN PRECLINICAL RESEARCH
OF CANCER**
Chair: P. Hudler, Medical Centre for Molecular Biology
- 16.30 – 16.50 **Martina Bergant** (Laboratory for Environmental and Life Sciences, University Nova Gorica):
APOBEC proteins play an important role in Human papillomavirus infection and oncogenesis
- 16.50 – 17.10 **Ario de Marco** (Laboratory for Environmental and Life Sciences, University Nova Gorica):
Combination of pre-immune libraries and tailored panning design allows for the selection of ligands with pre-definite binding characteristics
- 17.10 – 17.30 **Klementina Fon Tacer** (Texas Center for Comparative Cancer Research, USA):
Tumor antigens at the crossroads of male fertility and cancer therapy resistance – a single-cell perspective
- 17.30 **Closing of the symposium**