

**1ST SUMMER SCHOOL
OF THE MALOPOLSKA CENTRE OF BIOTECHNOLOGY
JAGIELLONIAN UNIVERSITY**

[BigData in Life Science: challenges and opportunities](#)

Date: 22-25 May, 2018

Place: Hotel Bel-Ami, 34-500 Zakopane, Seweryna Goszczyńskiego 24 St.,
Phone: 18 201 35 11

PROGRAMME

TUESDAY, 22 MAY, 2018

9:00	Departure to Zakopane	
9:00-12:30	Registration	
12:30-13:30	Lunch	
13:45	Kazimierz Strzałka Opening of the 1 st MCB Summer School	
Session 1: (Epi)genomics Host: Wojciech Branicki		
14:00-14:15	Wojciech Branicki Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Opening of the session 1
14:15-14:40	Thomas Haaf Institute for Human Genetics, University of Wuerzburg, Germany	Epigenetic perspective on advanced reproductive technologies
14:40-15:05	Rafał Płoski Department of Medical Genetics, Warsaw Medical University, Warsaw, Poland	Massive parallel sequencing technology for discovery of novel genetic diseases
15:05-15:30	Mirosław Bik-Multanowski, Department of Medical Genetics, University Children's Hospital of Cracow, Krakow, Poland	Microarray analysis of DNA methylation
15:30-15:45	Ewa Stępień Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	MicroRNA as biomarkers of cardiovascular diseases - opportunities and obstacles
15:45-16:00	Wojciech Branicki Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Scalable DNA variation analysis using massive parallel sequencing technology
16:00-16:15	Ewelina Pośpiech Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Whole exome sequencing analysis for discovery of new appearance traits predictors
16:15-16:30	Magdalena Kukla-Bartoszek Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland	Prediction of pigmentation traits with high throughput sequencing methods
16:30-17:00	Coffee break	

Session 2: Bioinformatics Host: Paweł Łabaj		
17:00-17:05	Paweł Łabaj Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Opening of the session 2
17:05-17:35	Joanna Polańska Faculty of Automatic Control, Electronics, and Computer Science Silesian University of Technology, Gliwice, Poland	Feature selection in life sciences
17:35-18:05	Witold Rudnicki Interdisciplinary Centre for Mathematical and Computational Modelling University of Warsaw, Warsaw, Poland	Identification of informative synergistic variables in big biological datasets
18:05-18:25	Wojciech Bieniek Perlan Technologies Polska	Gene Expression Profiling of hundreds to millions of cells
18:25-18:40	Dalibor Trapl Prague University, Prague, Czech Republic	Molecular modeling of Single Amino Acid Repeats in Signal Peptides
18:40-18:55	Paweł Łabaj Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Power and Limitations of RNA-Seq - putting reproducibility to the test
18:55-19:15	Agata Muszyńska Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Assessing the impact of profiling methods in cancer studies
19:15-19:30	Małgorzata Gołda Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland	Quality metrics in ATAC-Seq
19:30-20.30	Poster session	
20:45	Dinner	

WEDNESDAY, 23 MAYRIP, 2018

9.00: The bus for those willing to go on a mountain trip, Rusinowa Polana

8:00-10:00	Breakfast	
10:00-13:00	Free time	
13:00-14:00	Lunch	

<u>Session 3: Reproductive biology – ERAofART</u>		
Host: Grażyna Ptak		
14:00-14:15	Grażyna Ptak Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Opening of the session 3
14:15-14:40	Monika Kaczmarek Institute of Animal Reproduction and Food Research of Polish Academy of Sciences, Olsztyn, Poland	MicroRNAs & Extracellular Vesicles: a potent machinery regulating early pregnancy events
14:40-15:05	Anna Ajduk Department of Embryology, Faculty of Biology University of Warsaw, Warsaw, Poland	Novel imaging methods as a tool to assess oocyte and embryo quality
15:05-15:30	Adrian Stankiewicz Institute of Genetics and Animal Breeding of Polish Academy of Sciences, Jastrzębiec, Poland	Reduced representation bisulfite sequencing (RRBS): from sample to results – blastomere biopsy affects methylome of mouse foetus
15:30-15:45	Anna Bodzoń –Kułakowska Department of Biochemistry and Neurobiology, Faculty of Materials Science and Ceramics. AGH University of Science and Technology, Krakow, Poland	Single oocyte analysis using MALDI MS
15:45-16:00	Katarzyna Filimonow Institute of Genetics and Animal Breeding of Polish Academy of Sciences, Jastrzębiec, Poland	Transgenic mice models in biotechnology and medicine
16:00-16:15	Ewa Zuba Surma Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland,	Stem cell- derived extracellular vesicles as regulators of cell differentiation and tissue repair

16:15-17:00	Advisory Board and Steering Committee Meeting (only for ERAofART advisors/partners)	
19:00-20:00	General Assembly of the project ERAofART	
16:40-17:00	Coffee break	
<u>Session 4: Making Science Great Again</u> Host: Sebastian Glatt		
17:00-17:15	Sebastian Glatt Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Opening of the session 4
17:15-18:00	International Grant officer - Name will follow	
18:00-18:30	Sebastian Glatt Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Vision, mission and beyond
18:30-18:50	Postdoc life at MCB	
18:50-19:10	PhD life at MCB	
19:10-19:30	Piotr Wardęga	Nanoteper
19:30-20.30	Poster session	
20:45	Dinner	

THURSDAY, 24 MAY, 2018

8.00: The bus for those willing to go on a mountain trip, Dolina Kościeliska

7:15-10:00	Breakfast	
10:00-13:00	Free time	
13:00-14:00	Lunch	

<u>Session 5: Bionano Science</u> Host: Jonathan Heddle		
14:00-14:15	Jonathan Heddle	Opening of the session 5

14:15-14:40	Ilia Platzman , Max Planck Institute of Medical Research, Heidelberg, Germany	Artificial Cells
14:40-15:05	Jonathan Heddle	An introduction to Bionano with Proteins and DNA
15:05-15:30	Soumyananda Chakraborti	Ferritin: The most popular bionano component?
15:30-15:55	Piotr Stępień Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Lipid Nanodiscs as a tool in bionano
15:55-16:10	Gerrit Wilkens	DNA nanorobots I
16:10-16:25	Dhanasekaran Balakrishnan	DNA nanorobots II
16:25-16:40	Łukasz Mazurek	DNA gyrase: a naturally occurring nanomachine
16:40-17:00	Coffee break	
Session 6: Structural biology Host: Grzegorz Dubin		
17:00-17:10	Grzegorz Dubin Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Opening of the session 6
17:10-17:30	Mariusz Milik Head of Computational Drug Discovery unit, Selvita, Krakow, Poland	Computational Methods for Hit Finding and Optimization in Drug Discover
17:30-17:50	Maciej Dawidowski Warsaw Medical University, Warsaw, Poland	Inhibitors of PEX14-PEX5 protein-protein interaction: rationally developed small molecules for treatment of Trypanosoma infections
17:50-18:10	Michał Bista AstraZeneca	Rational generation of a DNA-RNA hybrid-guided Cas9 endonuclease
18:10-18:30	David Kopečný Palacký University	Structure-function study on plant aldehyde dehydrogenases

18:30-18:45	Krzysztof Rembacz Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Structural understanding of PIM kinase inhibition by small molecules
18:45-19:00	Grzegorz Dubin MCB	Structural characterization of PD1/PD-L1 immune checkpoint
19:00-19:15	Core facility representatives	Overview of MCB core facilities
19:15-19:30	Krzysztof Pyrc Malopolska Centre of Biotechnology, Jagiellonian University, Krakow, Poland	Early stages of viral infection: basic research vs. new therapeutic strategies
19:30-20.30	Poster session	
20:45	Dinner	

FRIDAY, 25 MAY, 2018

8:00-10:00	Breakfast	
11.00	Departure to Krakow	

Sponsors



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