

## SMM • Techniques in Molecular Medicine

Autumn school 2024 (Curriculum – MODULE 2 )

*Techniques in molecular medicine - obligatory course, covering the issues of laboratory methodology, analytical methods, bioinformatics and visualization. The issues will be discussed by experts in the respective fields. Courses are grouped into the so-called "thematic schools", conducted in the winter and summer semesters at the University and partner organizational units (full-time classes, two thematic schools per year, each school with a minimum of 30 hours).*

### Day 1 | 18/11/2024 (Monday)

#### Locations:

BRaIn Laboratories at the Medical University of Lodz (A5 building)  
Czechosłowacka 4, 92-216 Łódź, Poland

Clinical and Didactic Center at the Medical University of Lodz (A2 building)  
Pomorska 247/249, 92-209 Łódź, Poland

■ Introduction  
 ■ Lecture  
 ■ Break  
 ■ PhD  
 ■ MODULE 1  
 ■ Workshop

TIME	LENGTH	LOCATION /ROOM	TITLE	SPEAKER
09:00	30m	BRaIn 0.09	<b>Introduction</b>	<b>Prof. Jakub Fichna, MD, PhD</b> Head of Doctoral School of Molecular Medicine)
09:30	15m	BRaIn 0.09	<b>History of SMM</b>	<b>Prof. Bożena Kamińska-Kaczmarek, PhD, DSc</b> Head of Laboratory of Molecular Neurobiology Nencki Institute of Experimental Biology PAS
09:45	45m	BRaIn 0.09	<b>Taming tumor microenvironment to improve immunotherapy</b>	<b>Prof. Bożena Kamińska-Kaczmarek, PhD, DSc</b> Head of Laboratory of Molecular Neurobiology Nencki Institute of Experimental Biology PAS
10:30	15m		<b>Coffee break</b>	

10:45	1h 30m	BRaIn 0.09	<b>Presentation of PhD Students' research projects</b>	10 minutes per person
Instytut Podstaw Informatyki Polskiej Akademii Nauk			<b>Bilska Aleksandra</b>	<i>DNA methylation and gene expression associations in rheumatoid arthritis: identification of patterns in regulatory regions</i>
Narodowy Instytut Onkologii im. Marii Skłodowskiej-Curie – Państwowy Instytut Badawczy, Warszawa			<b>Błoński Piotr</b>	<i>Clinico-biological prognostic biomarkers in melanoma patients with brain metastases treated with immunotherapy</i>
Uniwersytet Medyczny w Łodzi			<b>Dzięcioł Karolina</b>	<i>Early identification of prognostic biomarkers in the diagnostics of frailty syndrome, sarcopenia, and malnutrition in older adults</i>
Wielkopolskie Centrum Onkologii im. Marii Skłodowskiej-Curie (WCO)			<b>Maćkowiak Bartosz</b>	<i>The role of global genome and transcription coupled nucleotide excision system in carcinogenesis</i>
Uniwersytet Medyczny w Łodzi			<b>Mazurek Maciej</b>	<i>In vitro modeling of megakaryopoiesis in patients with congenital bone marrow failures of hemostasis</i>
Wielkopolskie Centrum Onkologii im. Marii Skłodowskiej-Curie (WCO)			<b>Mohr Marcel</b>	<i>To identify the m6A RNA methylation signature in HPV-dependent head and neck squamous cell carcinoma (HNSCC) therapy</i>
Uniwersytet Medyczny w Łodzi			<b>Płoszka Katarzyna</b>	<i>Dynamic evaluation of menstrual cycle's impact on R-loop formation in women with DNA repair deficiency-associated malignancies</i>
12:15	45m	BRaIn 0.09	<b>How to write a good Individual Research Plan?</b>	<b>Damian Kołat, PhD</b> UMED Łódź
13:00	30m		<b>Lunch</b>	
13:30	45m	BRaIn 0.09	<b>Model organisms in Biomedical Research</b>	<b>Prof. Przemysław Tylżanowski, PhD, DSc</b> Independent Unit of Molecular Genetics, Faculty of Biomedicine at the Medical University of Lublin KU Leuven, Belgium
14:15	15m		<b>Location change</b>	from BRaIn Laboratories to Clinical and Didactic Center
14:30	3h 00m	CDC 1.14	<b>Structure of a scientific paper</b> Curriculum (MODULE 1)	<b>Urszula Smyczyńska, PhD</b> <b>Anna Matyjek, MD, PhD</b> Department of Biostatistics and Translational Medicine at MUL
17:30	45m	CDC 1.20	<b>MicroRNA biomarkers</b>	<b>Prof. Wojciech Fendler, MD, PhD</b> Department of Biostatistics and

18:15

TOTAL LENGTH: 9h 15m

## Day 2 | 19/11/2024 (Tuesday)

### Locations:

BRaIn Laboratories at the Medical University of Lodz (A5 building)  
Czechosłowacka 4, 92-216 Łódź, Poland

MediHUB, Mazowiecka 3 (building C9), 92-215 Łódź, Poland

 Seminar  Break  Lecture

TIME	LENGTH	LOCATION /ROOM	TITLE	SPEAKER
09:00	1h 30m	BRaIn 0.09	<b>From molecular biology of learning and memory to treating development of epilepsy</b>	<b>Prof. Leszek Kaczmarek, PhD, DSc</b> Laboratory of Neurobiology Nencki Institute of Experimental Biology PAS
10:30	15m		<b>Coffee break</b>	
10:45	1h 30m	BRaIn 0.09	<b>Drug repurposing: new therapeutic opportunities for Marimastat</b>	<b>Stanisław Pikul, PhD</b> President of the Management Board at Pikralida
12:15	45m	BRaIn 0.09	<b>Chemically modified mRNAs for therapeutic applications</b>	<b>Prof. Jacek Jemielity, PhD, DSc</b> Centre of New Technologies, University of Warsaw University of Warsaw
13:00	30m		<b>Lunch</b>	
13:30	45m	BRaIn 0.09	<b>Palmitoleic acid: from nutritional insights, health benefits with risks to molecular mechanisms of action</b>	<b>Prof. Edyta Gendaszewska-Darmach, PhD, DSc</b> Institute of Technical Biochemistry, Lodz University of Technology
14:15	15m		<b>Break</b>	
14:30	1h 30m	BRaIn 0.09	<b>Cancer Stemness and Oncogenic Dedifferentiation</b>	<b>Prof. Maciej Wiznerowicz, MD, PhD</b> International Institute for Molecular Oncology

16:00	15m		<b>Location change</b>	from BRaIn Laboratories to MediHUB
16:15	1h 30m	MediHUB	<b>Legal protection of intellectual property</b> Curriculum (MODULE 1)	<b>Bartłomiej Grobelski, PhD</b> Director of CiTT, Medical University of Lodz
17:45				

TOTAL LENGTH: 8h 45m

## Day 3 | 20/11/2024 (Wednesday)

### Locations:

BRaIn Laboratories at the Medical University of Lodz (A5 building)  
Czechostowacka 4, 92-216 Łódź, Poland

Medical Simulation Center at the Medical University of Lodz  
entry B, 12<sup>th</sup> floor, Pomorska 251, 92-213 Łódź, Poland

Clinical and Didactic Center at the Medical University of Lodz (A2 building)  
Pomorska 247/249, 92-209 Łódź, Poland

■ Lecture  
 ■ Exercise  
 ■ Break  
 ■ Demonstration visit

TIME	LENGTH	LOCATION /ROOM	TITLE	SPEAKER
8:00	45m	BRaIn 0.09	<b>Is milk a functional food?</b> <b>Milk products and healthy aging</b>	<b>Prof. Jakub Fichna, PhD, DSc</b> Department of Biochemistry, Medical University of Lodz Head of the Doctoral School of Molecular Medicine, Medical University of Lodz
8:45	15m		<b>Break</b>	
09:00	45m	BRaIn 0.09	<b>Ageing and chronic kidney disease - example of a prospective cohort study</b>	<b>Asst. Prof. Agnieszka Guligowska, PhD, DSc</b> Clinics of Geriatrics, Medical University of Lodz
9:45	15m		<b>Location change</b>	from BRaIn Laboratories to Medical Simulation Center

10:00	1h 30m	entry B 12 <sup>th</sup> floor	<b>Medical Simulation Center at the MUL</b>	<b>Maria Bartczak, PhD</b> Director of the Medical Simulation Center
			<b>Location change</b>	from Medical Simulation Center to Clinical and Didactic Center
11:30	1h 30m	CDC 1.14	<b>Fundamentals of statistics (Part 1)</b>	<b>Urszula Smyczyńska, MSc, PhD</b> <b>Anna Matyjek, MD, PhD</b> Department of Biostatistics and Translational Medicine at MUL
13:00	15m		<b>Break</b>	
13:15	1h 30m	CDC 1.14	<b>Fundamentals of statistics (Part 2)</b>	<b>Urszula Smyczyńska, MSc, PhD</b> <b>Anna Matyjek, MD, PhD</b> Department of Biostatistics and Translational Medicine at MUL
14:45	30m		<b>Break</b>	
15:15	2h 15m	CDC 1.14	<b>Fundamentals of statistics (Part 3)</b>	<b>Urszula Smyczyńska, MSc, PhD</b> <b>Anna Matyjek, MD, PhD</b> Department of Biostatistics and Translational Medicine at MUL
<b>17:30</b>				

TOTAL LENGTH: 9h