



Doctoral School of Molecular Medicine
Medical University of Lodz

SMM Autumn School 2026

**From Data to Evidence in Molecular Medicine:
Statistics, AI, Genomics, and Scientific Writing and
Publishing**

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Doctoral School of Molecular Medicine
Medical University of Lodz

SMM Autumn School 2026

**Organized by the Doctoral School of Molecular Medicine and the
Institute of Computer Science, Polish Academy of Sciences**

SMM day 1 - 25 November 2026

Hours	Session type		Session title	Session leader	Requirements	Duration[h]
8:30-10:00	SMM Scientific Council Meeting					1.5
Coffee break						
10:20-10:30	Welcome					
10:30-11:00	Lecture		Where angels fear to tread, Statisticians calculate: An introduction to statistical measures and testing	dr inż. Joanna Żyła	None	0.5
11:00-13:00	Workshop	group A	First Steps in R and RStudio	dr Michał J. Dąbrowski	Laptop	1.75
		group B	Hackathon - Single-cell multi-omic cancer data analysis	dr hab. Bartosz Wojtaś, dr inż. Joanna Żyła		
Coffee break						
13:15-15:15	Workshop	group A	Introduction to Statistical Testing — From Hypotheses to the Right Test. A Practical Guide to Choosing and Applying Statistical Tests in R	dr inż. Michał Damiński	Laptop	2
		group B	Hackathon - Single-cell multi-omic cancer data analysis	dr hab. Bartosz Wojtaś, dr inż. Joanna Żyła		
Lunch break						
16:00-17:30	Workshop	group A	Introduction to data visualisation in R	dr Marta Jardonowska-Kotuniak	Laptop	1.5
		group B	Hackathon - Single-cell multi-omic cancer data analysis	dr hab. Bartosz Wojtaś, dr inż. Joanna Żyła		
17:30-18:30	Lecture		From Calculating the Mean to Large Language Models — The Algorithms Behind AI	dr inż. Michał Damiński	None	1



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SMM day 2 - 26 November 2026

Hours	Session type	Session title	Session leader	Requirements	Duration[h]
09:00-11:00	Workshop	How Not to Fall into the Traps of Experimental Design, Data Analysis and Scientific Reasoning	dr hab. Bartosz Wojtaś	None	2
Coffee break					
11:30-13:30	Workshop	In search of important signals - statistical significance, noise elimination, selection of informative features	dr Michał J. Dąbrowski	Laptop	2
Lunch break					
14:15-16:15	Workshop	Scientific Evidence and Scholarly Publishing	prof. Magdalena Chechlińska	None	2
Coffee break					
16:45-18:45	Workshop	Predictive Models: How Not to Fool Yourself with Data Analysis	dr inż. Michał Damiński	Laptop	2



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SMM day 3 - 27 November 2026

Hours	Session type	Session title	Session leader	Requirements	Duration[h]
09:00-10:30	Student presentations	PhD summary			1.5
Coffee break					
11:00-13:00	Lecture and workshop	AI for Practical Statistical Analysis and Scientific Writing	dr Przemysław Tomczyk	Laptop and a free ChatGPT account	2
Coffee break					
13:30-15:30	Lecture	From Next-Generation Sequencing to Precision Oncology: Modern Genomics in Cancer Research	dr hab. Bartosz Wojtaś	None	2
Lunch break					
16:15-18:15	Lecture	Cracking the Black Box: The mechanics of PCA, UMAP, and pathway enrichment in Single-Cell Analysis	dr inż. Joanna Żyła, dr hab. Bartosz Wojtaś	None	2

Venue

Institute of Computer Science, Polish Academy of Sciences
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