Summer School
Clinical and laboratory data management and modelling

Rīga Stradiņš University, 16 Dzirciema Street, Riga
Hippocrates Lecture Theatre, Block A
and remotely via *Zoom* platform

3–7 July 2023

Summer School leader Professor Angelika Krūmiņa

AGENDA

Day/ Date	Time GMT+3	Activity
Monday, 3 July	9.00 – 9.30	Registration
	9.30 – 9.45	Opening and welcome
	09.45 – 10.30	**Prof. Miri Blank** (Sheba Medical Center, Israel) Development of a new immunomodulatory drug for Autoimmune diseases – from the bench to the patient.
	10.30 – 11.00	**Dr Slawomir Kujawski** (Nicolaus Copernicus University in Torun, Poland) A subjective review on modern software for statistical analysis.
	11.00 – 11.20	*Coffee break*
	11.20 – 12.05	**Dr Gilad Halpert** (Sheba Medical Center, Israel) Exploring the underlying mechanism of Silicone breast implants illness using integrated clinical and laboratory data.
	12.05 – 12.50	**Baiba Vilne, PhD** (Rīga Stradiņš University, Latvia) Big data in biomedicine – Genoma Data Analysis.
	12.50 – 13.50	*Lunch*
	13.50 – 14.35	**Dr Boris Gilburd** (Sheba Medical Center, Israel) Pathophysiology of fibromyalgia syndrome – scientific evidence from clinical research.
	14.35 – 15.05	**Dr Slawomir Kujawski** (Nicolaus Copernicus University in Torun, Poland) An introduction to a network analysis.
	15.05 – 16.00	*Coffee break / Q&A, discussions and networking*

Day/ Date	Time GMT+3	Activity
Tuesday, 4 July	09.30 – 10.15	**Prof. Alexandra Balbir** (Rambam Health Care Campus, Israel) Systemic sclerosis. Clinical trials, the hope, the reality and the future.
	10.15 – 11.00	**Prof. Miri Blank** (Sheba Medical Center, Israel) EBV – the notorious autoimmune virus – from data to clinical practice.
	11.00 – 11.20	*Coffee break*
	11.20 – 12.05	**Prof. Marion Schneider** (Ulm University, Germany) Clinical data managements and biomarkers in fibromyalgia patients (part 1).
	12.05 – 12.50	**Prof. Alexandra Balbir** (Rambam Health Care Campus, Israel) Rheumatoid arthritis. Evolution of clinical trials.
	12.50 – 13.50	*Lunch*
	13.50 – 14.35	**Prof. Marion Schneider** (Ulm University, Germany) Clinical data managements and biomarkers in fibromyalgia patients (part 2).
	14.35 – 15.05	**Dr Slawomir Kujawski** (Nicolaus Copernicus University in Torun, Poland) A brief overview on application of machine learning on tabular data.
	15.05 – 16.15	*Coffee break / Q&A, discussions and networking*
Wednesday, 5 July	9.30 – 12.30	*Practical work in laboratory (RSU Institute of Microbiology and Virology, 5 Rātsupītes Street)* **Dr Boris Gilburd, Dr Gilad Halpert** (Sheba Medical Center, Israel) Isolation of plasma-derived extracellular vesicles using size exclusion chromatography (SEC) technique and to learn how we can characterize these vesicles using transition electron microscopy (TEM) and western blot analysis.
	12.30 – 13.30	*Lunch*
	13.30 – 16.30	*Practical work in the laboratory (RSU Institute of Microbiology and Virology, 5 Rātsupītes Street)* **Prof. Marion Schneider** (Ulm University, Germany) Quantification of circulating DNA and RNA in biological fluids using QUANTUS^{TM} .

Day/ Date	Time GMT+3	Activity
Thursday, 6 July	9.00 – 12.00	*Practical work in the laboratory (RSU Joint Laboratory of Electron Microscopy, 9 Kronvalda Boulevard)* **Dr Boris Gilburd, Dr Gilad Halpert** (Sheba Medical Center, Israel) Isolation of plasma-derived extracellular vesicles using size exclusion chromatography (SEC) technique and to learn how we can characterize these vesicles using transition electron microscopy (TEM) and western blot analysis.
	9.00 – 12.00	*Practical work in the laboratory (Institute of Microbiology and Virology, 5 Rātsupītes Street)* **Prof. Marion Schneider** (Ulm University, Germany) Isolation of Monocytes by Dynal-CD63 coupled beads to be identified by flow cytometry.
	12.00 – 12.45	*Transfer to RSU*
	12.45 – 13.45	*Lunch in RSU*
	13.45 – 14.30	**Prof. Marion Schneider** (Ulm University, Germany) Monocyte subpopulations in sepsis patients with and without diabetes type II and obesity (part 1).
	14.30 – 15.00	**Lynn Matits, PhD student** (Ulm University, Germany) Unpacking R-A short introduction to R-Markdown.
	15.00 – 15.45	**Prof. Marion Schneider** (Ulm University, Germany) Monocyte subpopulations in sepsis patients with and without diabetes type II and obesity (part 2).
	15.45 – 16.15	*Coffee break / Q&A, discussions and networking*
Friday, 7 July	9.30 – 10.15	**Baiba Vilne, PhD** (Rīga Stradiņš University, Latvia) Big data in biomedicine – Proteome and Microbiome Data Analysis.
	10.15 – 11.00	**Renārs Erts, PhD** (University of Latvia) Using the R program for Big data analysis, Part 1 – working with SQL and databases.
	11.00 – 11.20	*Coffee break*
	11.20 – 12.05	**Renārs Erts, PhD** (University of Latvia) Using the R program for Big data analysis, Part 2 – work with data transformations, automation and visualization.
	12.05 – 12.50	**Prof. Arnon Afek** (Sheba Medical Center, Israel) From data to policy – Sheba Medical Center leadership in the time of COVID-19 pandemic.

Day/ Date	Time GMT+3	Activity
	12.50 – 13.50	*Lunch*
	13.50 – 14.35	**Prof. Arnon Afek** (Sheba Medical Center, Israel) The future of healthcare professional education.
	14.35 – 15.20	**Dr Rihards Pēteris Ročāns** (Rīga Stradiņš University, Latvia) Prediction Models – Practical Development and Validation.
	15.20 – 15.35	*Q & A*
	15.35 – 16.00	*Coffee break / Summary and Feedback* **Prof. Angelika Krūmiņa** (Rīga Stradiņš University, Latvia)