



From equations to the patient's bedside: role of biomathematics in solving medical problems in real-life

Israel - Poland Workshop

20-24 February, 2020

Bnei – Atarot

Israel



Schedule

(Lectures should last 45' plus 15' discussion)

Thursday February 20, 2020 Theory of molecular dynamics and cancer	
09:00	<i>Get together with hot drinks and cookies</i>
09:30	Prof. Mirosław Lachowicz , Warsaw U.: Collagen remodelling in latter stage of tendon healing process and the integro-differential equations
10:30	Dr. Zuzanna Szymanska , Inst Mathematics, Polish Academy of Sciences/ Warsaw U.: Mathematical modelling of intracellular protein dynamics: the importance of active transport along microtubules
11:30	Dr. Gili Hochman , Ariel U. /IMBM: Using a validated mathematical model of the wnt signaling pathway to predict effects of regulatory molecules for anti-cancer treatment
12:30 14:00	<i>Lunch</i>
14:00	Dr. Svetlana Bunimowich , Ariel U.: Optimal model of bladder cancer treatment
15:00	Dr. Mariusz Bodzioch , Warmia U. and Mazury in Olsztyn: Optimal control for mathematical models of drug-resistant tumour growth
16:00	Dr. Agnieszka Bartłomiejczyk , Gdansk U. of Technology: Existence of travelling wave solutions of the glioma model

Friday February 21, 2020
sepsis and immunity

09:00	<i>Get together with hot drinks and cookies</i>
9:30	Prof. Anna Marciniak-Czochra , Heidelberg U.: Dynamics of granulocyte production in acute leukemias and in sepsis: Insights from mathematical modelling
10:30	Avi Gillis and Dr. Anat Ben-Yaakov , IMBM: The Complexity of Sepsis – and How to Simplify the Picture
11:30	Dr. Monika Joanna Piotrowska , Warsaw U. : Impact of inter-hospital transfers on the prevalence of resistant pathogens in a hospital-community system
12:30 14:00	<i>Lunch</i>
14:00	Frederic Grabowski , Warsaw U. and Grzegorz Preibisch , Warsaw U. /Medical U Warsaw: Spatial stochastic modeling of Respiratory syncytial virus (RSV) infection based on confocal imaging
15:00	Dotan Perlstein , IMBM: Personal response of patients with advanced melanoma to therapy by immune checkpoint blockers: mathematical models and clinical validation

Monday February 24, 2020
From modelling to the clinic and back to modelling

09:15	<i>Get together with hot drinks and cookies</i>
09:30	Dr. Moran Elishmereni , IMBM: Predicting time to progression through a mixed-effects model integrating real-world data in hormone-sensitive prostate cancer patients
10:30	Alon Nahshoni , IMBM and Prof Urszula Forys , Warsaw U. : Using real data for construction of a dynamical model to personalize androgen deprivation therapy in hormone-sensitive prostate cancer
11:30	Yuri Kogan , IMBM: Back from the clinic - a generic model for T cell immune memory in response to antigenic stimulation
12:30 14:00	<i>Lunch</i>
14:00	Dr. Marina Kleiman , Optimata Ltd.: The intricacy in validating computational algorithms in the clinic
15:00 16:00	Roundtable Discussion/ Evaluations/ Conference Closing Remarks