

Virtual BSC RS/Life Session: Advancing patient treatment through integrative computational biology

Objectives

Title: Advancing patient treatment through integrative computational biology

Abstract: Integrative computational biology and artificial intelligence help improving treatment of complex diseases by building explainable models. From systematic data analysis to improved biomarkers, drug mechanism of action, and patient selection, such analyses influence multiple steps of drug discovery pipeline. Data mining, machine learning, graph theory and advanced visualization help characterize interactome and drug orphans with accurate predictions, making disease modeling more comprehensive. Intertwining computational prediction and modeling with biological experiments will lead to more useful findings faster and more economically.

Speakers

Host: Natasa Przulj, BSC Life Sciences - Integrative Computational Network Biology Group Leader

Speaker: Dr. Igor Jurisica, PhD, Professor and Senior Scientist.



Scientist at Osteoarthritis Research Program, Division of Orthopedic Surgery, Schroeder Arthritis Institute and Krembil Research Institute, Professor at University of Toronto and Visiting Scientist at IBM CAS. He is also an Adjunct Professor at the Department of Pathology and Molecular Medicine at Queen's University, and an adjunct scientist at the Institute of Neuroimmunology, Slovak Academy of Sciences. Since 2015, he has also served as Chief Scientist at the Creative Destruction Lab, Rotman School of Management.

His research focuses on integrative informatics and the representation, analysis and visualization of high-dimensional data to identify prognostic/predictive signatures, determine clinically relevant combination therapies, and develop accurate models of drug mechanism of action and disease-altered signaling cascades.

Dr Jurisica has also published extensively on data mining, visualization and integrative computational biology, including multiple papers in Science, Nature, Nature Medicine, Nature Methods, J Clinical Oncology, J Clinical Investigations. He has been included in Thomson Reuters 2014, 2015 & 2016 lists of Highly Cited Researchers (<http://highlycited.com>), and The World's Most Influential Scientific Minds: 2015 & 2014 Reports. In 2019, he has been included in the Top 100 AI Leaders in Drug Discovery and Advanced Healthcare list (Deep Knowledge Analytics, <http://analytics.dkv.global>)

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