
LEONID CHINDELEVITCH, Simon Fraser University

Metabolic networks: geometry, optimization, and complexity

Metabolic network models are simple to describe, yet complicated to analyze at the genome-scale. They pose a number of interesting questions that can be tackled with tools from discrete geometry, linear and convex optimization, as well as complexity theory. This talk will give an overview of the key issues underlying the analysis of metabolic network models, highlight the connections to a variety of mathematical and algorithmic areas, and present some results exploiting those connections in order to elucidate the structure of metabolism.