



Workshop on Modeling of Genetic Regulatory and Metabolic Networks

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Abstract

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Using graph topology to find precursors of target compounds in a metabolic network

Global topological features of biological networks, and in particular of metabolic networks, have been intensively analysed in the last 10 years using graph models. The question addressed in these analyses was often the same: in which category of networks can we put those modelling metabolism? Is it scale-free, small-world, hierarchical, ... ? Unfortunately, the results of these studies did not bring us much biological insight on the metabolism of the studied organisms.

We propose to go back to a more biological and functional definition of a metabolic network as a set of transformations. We illustrate this by the description of a method able to find the sets of nutrients sufficient to produce a set of essential compounds.

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