



University
of Basel

Department
Biozentrum



Swiss Institute of
Bioinformatics

BIOZENTRUM

The Center for
Molecular Life Sciences

Basel Computational Biology Seminar

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Stochastic models of biomolecular reaction networks: The What, the Why, and the How

Single-cell studies have revealed that even isogenic cells, grown under identical conditions, can exhibit a significant degree of heterogeneity. The source of this heterogeneity can be traced to the randomness in the timing of reactions that constitute intracellular networks and pathways. These random effects become more profound when the reacting biomolecular species are present with low molecular counts, and they can significantly alter the phenotypic properties of cellular populations. To capture this intrinsic randomness and quantify its effects, stochastic models become necessary. The goal of this talk is to discuss this paradigm and present an overview of the methods that we have been developing to analyze such stochastic models and gain biological insights from them.

Date: Monday, 17.04.2023

Time: 16:15 h

Location: Biozentrum U1.197

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