

A U S H A N G

FREIE UNIVERSITÄT BERLIN

Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

D I S P U T A T I O N

Montag, 11. Juli 2022, 15:00 Uhr

Ort: Seminarraum 049

(Fachbereich Mathematik und Informatik, Takustr.9, 14195 Berlin)

Disputation über die Doktorarbeit von

Frau Lam-Ha Ly

Thema der Dissertation:

Deciphering cellular heterogeneity by single-cell transcriptome analysis

Thema der Disputation:

Approaches for network reconstruction using transcriptome data

Die Arbeit wurde unter der Betreuung von **Prof. Dr. M. Vingron** durchgeführt.

Abstract: A gene regulatory network (GRN) is a powerful representation to study the interplay between genes during cell differentiation processes or other dynamical processes in molecular biology. With the advances of single-cell technologies the development of tools that reconstruct GRNs from transcriptome data have attracted a lot of interest. In this talk we will introduce tools with different underlying mathematical approaches to predict associations between genes and how transitive edges that are implicitly and unnecessarily connected between two nodes can be avoided.

The second talk will be a summary of the dissertation focussing on a dynamical approach to reconstruct networks using "neighborhood selection" and the effect of data imputation methods on network reconstruction in single-cell transcriptome data.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. Dr. M. Vingron