

**FREIE UNIVERSITÄT BERLIN**  
**Fachbereich Mathematik und Informatik**

Promotionsbüro, Arnimallee 14, 14195 Berlin

## **D I S P U T A T I O N**

**Montag, 14. März 2016, 16.00 Uhr**

**Ort: Raum 032, Arnimallee 6, 14195 Berlin**

**Disputation über die Doktorarbeit von**

**Herrn Adam Streck**

**Thema der Dissertation:**  
**Toolkit for Reverse Engineering of Molecular Pathways  
via Parameter Identification**

**Thema der Disputation:**  
**Discretization of Gene Expression Profiles**

Die Arbeit wurde unter der Betreuung von **Prof. Dr. H. Siebert** durchgeführt.

Abstract: High-throughput measurements of gene expression are probably the most efficient instrument for establishing high-level behavior of cells to date. A significant portion of tools and methods developed in the field of systems biology depends on these measurements in some way. Consequently, techniques for processing and interpreting these data are of great importance, and there are numerous options, each highlighting different features of the dataset. One possible approach is to discretize the values, separating them into a few categorical groups that represent some qualitative feature, for example stating whether a gene is being transcribed at the time.

Many methods of contemporary systems biology depend on discretization, which is however by itself a complicated technique. Since the discretization is the first step in a workflow, if it is done poorly, the subsequent results bear little value. In this talk we will discuss the possible pitfalls in data discretization as well as its advantages and present and discuss some of the popular techniques.

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

**Interessierte werden hiermit herzlich eingeladen**

Die Vorsitzende der Promotionskommission  
Prof. Dr. H. Siebert