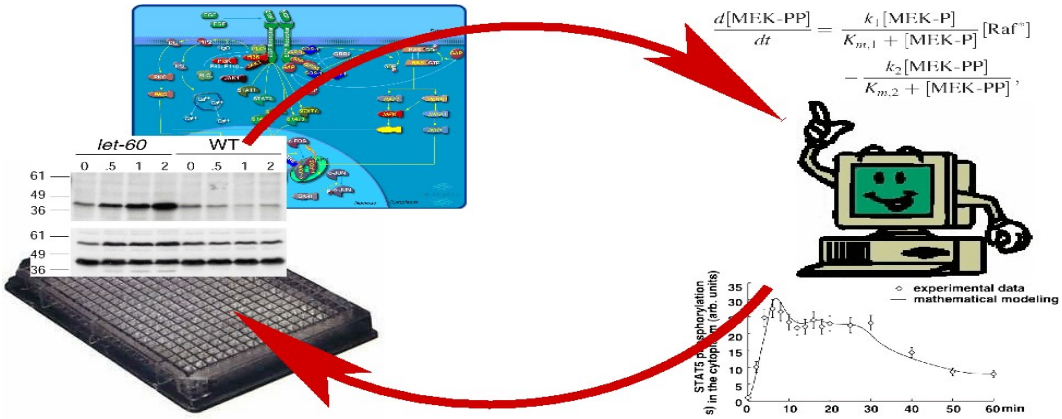
INVITATION TO NEW LECTURE (WS 05/06)

INTRODUCTION TO SYSTEMS BIOLOGY



OBJECTIVE

Systems biology is a research field that aims at understanding the systemic properties, e.g. adaptation, robustness, rhythmic or complex behaviour, of a biological system, e.g. a living cell, given the molecular-biological details of the system's parts and their interactions, e.g. feedback regulation. This approach requires a combination of high-throughput experiments, mathematical models and computational analysis. The new lecture focusses on methods for analysing biochemical networks, setting up a mathematical model and running simulations for quantitative predictions. The methods and work-flow are illustrated with examples from signal transduction and metabolic pathways. The lecture is accompanied by hands-on computational exercises introducing databases (KEGG,BRENDA) and modelling tools (Copasi,XPP,SBML).

The lecture is intended for students and researchers in biology, mathematics, computer science and physics who are interested in this highly interdisciplinary research field. All necessary mathematical and computational tools will be introduced. Participants should have some affinity to mathematics and will present selected topics in seminar presentations that alternate with the lectures.

LECTURERS

Dr. Lutz Brusch, ZIH, TU Dresden
PD Dr. Andreas Deutsch, ZIH, TU Dresden
Dr. Anja Voß-Böhme, Institut für Stochastik, TU Dresden

TIME AND LOCATION (*START: 11 OCTOBER*)

Lecture: *every Tuesday 16.45-18.15, Hans-Grundig-Str. 25, room GRU-150*
Hands-on practice: *4 Thursdays, dates will be announced on the course website*

FURTHER INFORMATION

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