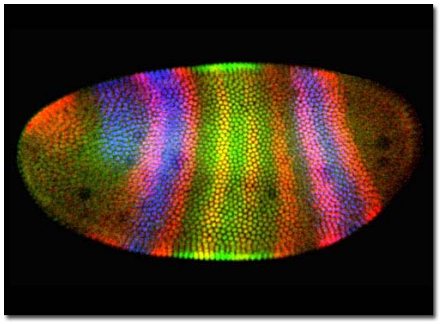
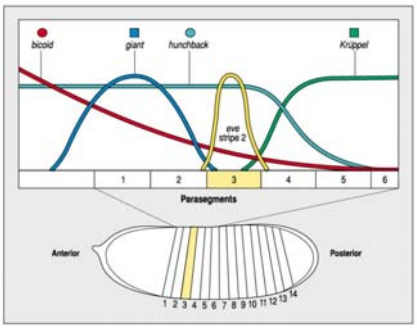
INVITATION TO NEW LECTURE (SS 06)

From numbers to tissues: understanding organizational principles of developing biological systems by mathematical modelling





OBJECTIVE

"How do cells form tissues" is a central question in cell and developmental biology. Analysis of single genes and proteins is not sufficient to explain the development of an organism, which is determined by collective phenomena at molecular and cellular scales. For an understanding of their functionality, mathematical modelling, simulation studies, and mathematical analysis are essential. In this newly designed one-year course, key questions in biological development and corresponding mathematical models (e.g. differential equations, stochastic processes, cellular automata, networks) are introduced and the biological implications of mathematical modelling are demonstrated. Participants receive a profound introduction to modern biomathematical concepts by lectures and may participate in guided project groups working on specific modelling problems.

PROSPECTS

- Conduct biomathematical and experimental research (e.g. planning and quantitative analysis of biological experiments)
- Perform master or Phd thesis (e.g. in Department "Innovative methods of computing" at ZIH, Technische Universität, or in MPI-CBG, Dresden)

AUDIENCE

Students (after "Vordiplom"/bachelor) in biology, biotechnology, mathematics, physics, medical and computer science.

TIME AND LOCATION

Tuesday 16.45-18.15, **Start: April 25**
Hans-Grundig-Str. 25, Room 150

LECTURERS

Dr. Lutz Brusch, ZIH, TU Dresden
PD Dr. Andreas Deutsch (coordinator), ZIH, TU Dresden
Dr. Anja Voss-Böhme, Institut für Stochastik, TU Dresden

FURTHER INFORMATION

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