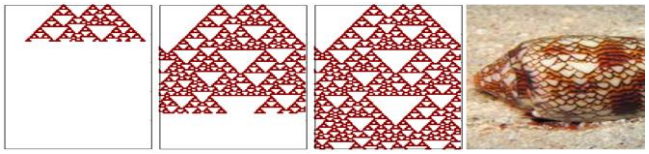
Studying Mathematical Biology at TU Dresden



GENERAL INFORMATION

Biology is rapidly turning from a qualitative to a quantitative science. To integrate the increasing amount of biological data in a systematic way and to get mechanistic insights development and application of mathematical models is required. The goal of Mathematical Biology is to gain an understanding of biological problems through mathematical modelling and analysis.

The department "Innovative methods of computing" (head: Andreas Deutsch) at the Centre for Information Services and High Performance Computing, Technische Universität Dresden, conducts mathematical biology research and offers lectures and seminars in mathematical biology.

AIMS

- Interdisciplinary training in the rapidly evolving research field of mathematical biology
- Acquiring profound knowledge of mathematical model structures and methods
- Enabling to conduct independent research, e.g. master or PhD project

LECTURES

The two-semester course **Introduction to Mathematical Biology I-II** (offered in two subsequent winter terms) introduces mathematical model classes. Course topics include continuum (differential equations) and discrete (agent-based/cellular automaton) models as well as biological model applications. Accompanying tutorials allow the active learning of important concepts.

Each lecture part comprises 2+1 SWS.

SEMINARS

The Seminar in Mathematical Biology (offered exclusively in the summer term) features selected mathematical models motivated by problems from development, pattern formation, regeneration, medical applications (e.g. cancer dynamics), epidemiology, and evolution. Talks by seminar participants present biological key questions and the application of suitable mathematical models.

Seminar credits amount to 2 SWS.

ADMISSION

Lectures and seminars are suitable for but not restricted to undergraduates and graduates in biology, mathematics, physics, medical and computer science.

CONTACT

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