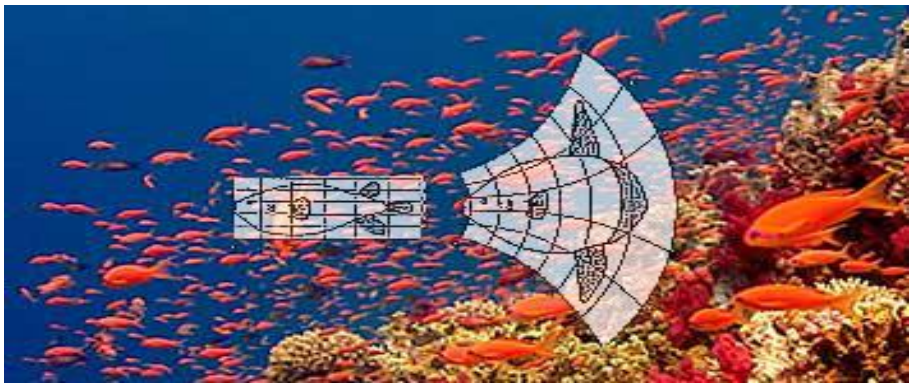
Studying Mathematical Biology at TU Dresden



GENERAL INFORMATION

The life sciences are rapidly turning from qualitative to quantitative sciences. To integrate the increasing amount of data in a systematic way development and application of mathematical models are required. The goal of Mathematical Biology is to gain an understanding of biological problems including genetics, evolution, cell and developmental biology by means of mathematical modelling.

The department “Innovative methods of computing” (head: Andreas Deutsch) within the Centre for Information Services and High Performance Computing (ZIH) at Technische Universität Dresden conducts mathematical biology research and offers lectures/seminars providing a profound introduction to modern biomathematical concepts.

AIMS

- Interdisciplinary training in the rapidly developing area of mathematical biology
- Profound knowledge of mathematical model structures and methods
- Conducting research (e.g. master or PhD project) within research groups at TU Dresden, MPI-CBG, MPI-PKS

LECTURES

During the two-year course ***Introduction to Mathematical Biology I-IV*** (the lecture starts with part I in the summer term) mathematical model classes, especially differential and partial differential equations, stochastic processes, cellular automata and complex networks are introduced and the biological interpretation of mathematical analysis is demonstrated. Accompanying tutorials allow the active learning of important concepts. Each lecture part comprises 2+1 SWS.

SEMINARS

An ongoing seminar series entitled ***Seminar in Mathematical Biology*** features different aspects of biological development, pattern formation, collective phenomena and medical applications (e.g. regeneration and cancer dynamics). By means of talks and discussions, biological key questions and the application of suitable mathematical model classes are introduced. 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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