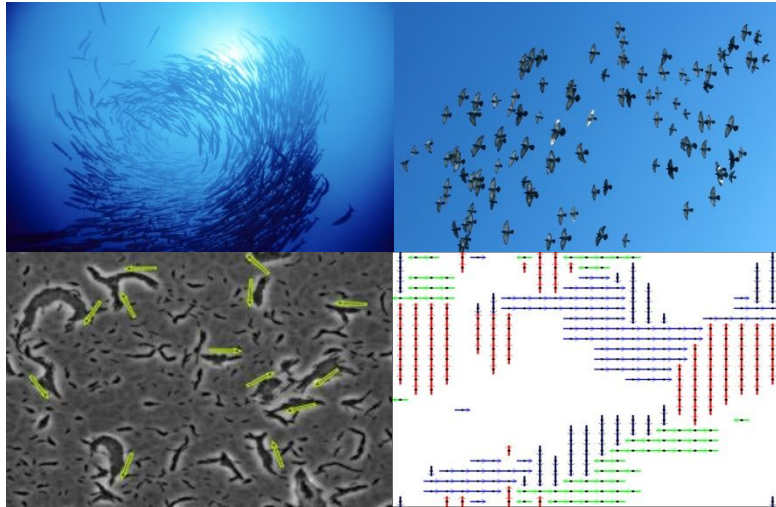


INVITATION TO THE SEMINAR IN MATHEMATICAL BIOLOGY (SS 2010)

Moving Together Without a Leader



OBJECTIVE

Self-organized swarming motion is ubiquitous at all scales in nature. For example, one finds bird flocks, fish schools, marching locusts, swimming and gliding bacteria as well as actin and tubulin filaments which organize themselves into groups with common velocity and constant spacing between members without a global signal that controls the organization. In these cases, collective migration emerges from local interaction, where each member of the group senses its direct neighbors and acts according to this information. Mathematical modeling is essential to understand the key mechanisms in the dynamics of collective migration. In the seminar, we are focusing on the question: What are suitable mathematical models that help to understand self-organized swarming behavior and how can they be analyzed? By means of talks, discussions and computer simulations, attendees will be introduced to a highly interdisciplinary application field. The seminar is intended for graduates (at least Vordiplom) in mathematics, biology or computer science.

TIME AND LOCATION

Four **Monday** afternoons **14.00-17.00**

May 10, May 17, June 28 and July 12, 2010

Location: **INF-1096**, Computer Science Dept. of TU Dresden at Nöthnitzer Str. 46

KICKOFF MEETING AND DISTRIBUTION OF TALKS

April 19, 14.00-15.00, INF-1096

ORGANIZERS

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SEMINAR WEBSITE

http://www.tu-dresden.de/zih/lehre/bio/ss10_sem

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