TECHNISCHE UNIVERSITÄT DRESDEN

Zentrum für Informationsdienste und Hochleistungsrechnen (ZIH)

EINLADUNG

zum

ZIH-Seminar

Titel: **Modelling and analysis of structured population models**

Referent: **Dr. Philipp Getto**
BCAM - Basque Center for Applied Mathematics

Abstract:
After an introduction on structured population models, I will outline some methods that we have developed as well as some current interests and possibilities for collaboration. Characteristic for a structured population model is the taking into account of differences among individuals, like individual age or body size. Such models can describe rich dynamics that can be found in nature but not be explained by standard ODE models. A crucial point for the detection of the dynamics is the definition of the region in a parameter plane where an equilibrium is an attractor and at the border of which it destabilizes, notably through the emergence of oscillations. We have developed a numerical method to compute the boundaries of this stability region for a class of size-structured consumer resource models. The method is implemented for a Daphnia consuming Algae model. At present I am working on the translation of the method to cell biological models, for which I look for collaboration with biologists and computational scientists alike.

Ort: **Fakultät Informatik, Beratungsraum 2101 (2. Etage)**

Zeit: **Freitag, 8. Oktober 2010, 14:00 Uhr**

gez. Prof. Dr. Wolfgang E. Nagel