ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Doctoral Seminar

P. M. Huy Huynh
Universität Klagenfurt

"Attractors of nonautonomous IDEs and discretizations"

N.2.01 Wednesday, 18 December 2019 10:40 a.m.

Abstract

As a relevant tool to illustrate general nonautonomous dynamical systems, integrodifference equations (IDEs) are used to model the spread of populations growing in discrete generations and dispersing spatially with nonoverlapping generations. Since they are infinite-dimensional dynamical systems where the solutions cannot be implemented, in this talk, we are interested in the spatial discretizations of them in finite-dimensional state spaces and their consistency and convergence properties by using the local error. In addition, to describe the long term behavior of an IDE, two attractors, namely pullback and forward attractors, will also be introduced. Lastly, we aim to construct the behavior of both pullback and forward attractors of nonautonomous IDEs when the system is discretized, e.g., during compute simulations.

Christian Pötzsche and the Department of Mathematics look forward to seeing you at the talk!