

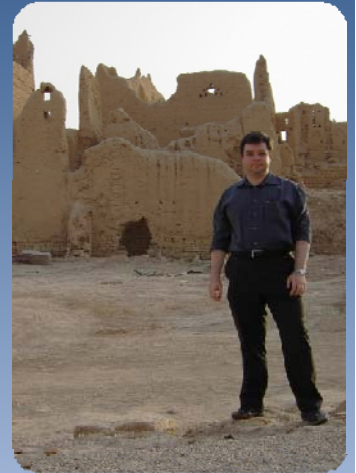
Institute for Analysis and Scientific Computing, and  
Doctoral Program "Dissipation and Dispersion in Nonlinear PDEs"

Course Announcement:

# Stochastic Differential Equations in Population Dynamics

by  
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For further details, please visit

<http://npde.tuwien.ac.at>

### Contents:

- Stochastic modeling of biological processes from first principles,
- Ito's and Stratonovich's stochastic integrals,
- Existence and uniqueness of solutions of stochastic ordinary differential equations (SODEs) in the strong and weak sense, boundedness of solutions of SODEs in the positive orthant, strong and weak Taylor schemas and the simulation of paths,
- Fokker-Planck equation and the evolution of densities,
- Random Dynamical Systems (RDSs)
- Hopf-bifurcations in RDSs, crater densities and the approximation of strange attractors during stochastic Hopf-bifurcations

