WESTFÄLISCHE
WILHELMS-UNIVERSITÄT
MÜNSTER

FACHBEREICH 10
MATHEMATIK UND INFORMATIK
Prof. Dr. Martin Stein

18.01.2013

Einladung

Am Donnerstag, 31.01.2013, 16:00 Uhr,
Seminarraum N2, Orléans-Ring 10,

spricht

Dr. Anton Klimovsky (Universität Leiden)

über

Lehrvortrag: Konstruktion der Brown'schen Bewegung

Forschungsvortrag: Renormalisation of hierarchically interacting Lambda-Cannings processes

Competition between stochastic evolutionary forces such as selection, migration, mutation, reproduction, etc. which act on spatially structured populations creates intricate space-time patterns of genetic variation. Consider a large system of individuals of multiple types, who live in spatially distributed colonies. Let the individuals move randomly around between the colonies (= migration). Assume additionally that the individuals are subject to occasional stochastic non-local reshuffling-resampling events (= reproduction under constraint amount of resources). What can we say about the ergodic behaviour of such systems? How does it depend on the intensities of the competing evolutionary forces? What is the dynamics of the genetic diversity of these systems? Under which circumstances shall we expect in the long run local coexistence of individuals of different types in the colonies? Under which circumstances do mono-type clusters of colonies appear? We suggest a class of stochastic models of such systems (based on the Cannings models from population genetics) and obtain a clear-cut criterion for the clustering vs. local coexistence dichotomy. Our analysis relies on renormalisation and duality arguments.
This is joint work with Frank den Hollander, Andreas Greven, and Sandra Kliem.

Auf diese Vorträge wird besonders hingewiesen.

Martin Stein, Dekan