



Forschergruppe 877



**Universität Leipzig**  
Fakultät für Physik und  
Geowissenschaften  
Institut für Theoretische Physik

Gemeinsames

## **NTZ - Kolloquium / FOR877-Seminar**

Am Donnerstag, dem 07.07.2011 um 17:00 Uhr spricht

**Prof. Dr. R. Zia**  
(Virginia Tech, USA)

über

### **Modeling Translation by Totally Asymmetric Simple Exclusion Processes (TASEP)**

About 40 years ago, a mathematician and a chemist were motivated by very different problems to study models with "particles" hopping along a one dimensional lattice. The simplest of these, TASEP, enjoyed considerable attention in the last two decades. Much of its properties is known rigorously and can be computed exactly. After a short overview of TASEP, generalizations which are more appropriate for modeling the translation process in protein synthesis will be introduced. These include (a) particles that cover many sites, (b) site-dependent (i.e., sequence-dependent) hopping rates, (c) finite pool of particles and (d) competition between multiple TASEPs. Recent findings on some of these topics will be presented.

**Ort:** ITP, Großer Seminarraum

*Interessenten sind herzlich eingeladen!*