

Gemeinsame Veranstaltung von
Humboldt-Universität zu Berlin, Institut für Physik
(Theorie der Elementarteilchen / Computerorientierte Theoretische Physik)
DESY, Zeuthen

SEMINAR
Feldtheorie auf dem Gitter und
Phänomenologie der Elementarteilchen

Am Montag, dem **02. Mai 2011**, um **16:00 Uhr s.t.** spricht

Urs Wenger

University of Bern

zum Thema

**Loop formulation of supersymmetric
models on the lattice**

Abstract

Simulations of supersymmetric models on the lattice with (spontaneously) broken supersymmetry suffer from a fermion sign problem related to the vanishing of the Witten index. We discuss a novel approach which evades this problem in low dimensions by formulating the path integral on the lattice in terms of fermion loops. In this context we also review the construction of twisted supersymmetry and \mathcal{Q} -exact actions on the lattice and present results from simulations, as well as some exact results on the spectrum and the Witten index for $N=2$ supersymmetric quantum mechanics.

Ort: Humboldt-Universität zu Berlin, Institut für Physik
Newtonstraße 15, 12489 Berlin-Adlershof, **Raum 1'202**
(Lageplan: http://linde.physik.hu-berlin.de/images/lageplan_neu.gif)

Web: <http://latticeseminar.desy.de/>