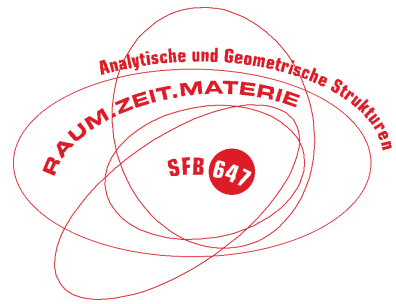




## SFB-Vollversammlung und SFB-Seminar

### ZEIT:

5.2.2013, 14:00 Uhr - 18:15 Uhr

### ORT:

Universität Potsdam  
Audimax  
Am Neuen Palais 10  
14469 Potsdam

### PROGRAMM:

14:00 - 14:45 SFB-Vollversammlung

14:45 - 15:15 **Dr. Batu Güneysu (HU)**

#### **Path integrals from Brownian motion**

15:15 - 15:45 Kaffeepause

15:45 - 16:45 **Prof. Dr. Peter Teichner (MPI Bonn)**

#### **Path integrals via algebraic topology?**

We'll discuss the structural analogies between path integrals and push-forwards in certain generalized cohomology theories. As a consequence, we propose a new way of rigorously defining the 2-dimensional super symmetric Sigma model, at least up to deformation.

This is a report on joint work with Stephan Stolz.

16:45 - 17:15 Kaffeepause

17:15 - 18:15 **Dr. Sonia Mazzucchi (Trient, Italy)**

#### **Feynman Path Integrals as Infinite Dimensional Oscillatory Integrals**

Since their introduction in the 40s Feynman path integrals have

### Kontakt:

Humboldt-Universität zu Berlin . Institut für Mathematik  
SFB 647 . Unter den Linden 6 . 10099 Berlin  
Tel. +49 30 2093 1804 . Fax. +49 30 2093 2727  
sfb647@math.hu-berlin.de

[www.raumzeitmaterie.de](http://www.raumzeitmaterie.de)

represented a suggestive and powerful tool for the description of the dynamics of several quantum systems. On the other hand, it is commonly believed that they are ill defined from a mathematical point of view and represent just an heuristic computational tool. In this talk I shall give an overview of the possible rigorous mathematical definitions of Feynman path integrals, focusing on the infinite dimensional oscillatory integrals, a generalization of classical oscillatory integrals to the case where the integration is performed on an infinite dimensional real separable Hilbert space.

**Kontakt:**

Humboldt-Universität zu Berlin . Institut für Mathematik  
SFB 647 . Unter den Linden 6 . 10099 Berlin  
Tel. +49 30 2093 1804 . Fax. +49 30 2093 2727  
sfb647@math.hu-berlin.de

[www.raumzeitmaterie.de](http://www.raumzeitmaterie.de)