



## SFB-Seminar

### ZEIT:

11.5.2010, 16:00 Uhr - 19:00 Uhr

### ORT:

Konrad-Zuse-Zentrum für Informationstechnik Berlin  
Takustrasse 7  
14195 Berlin-Dahlem

### PROGRAMM:

16:00 - 17:00 **Prof. Dr. Oscar Garcia-Prada**

#### **Higgs bundles on Riemann surfaces**

Higgs bundles on Riemann surfaces were introduced by Hitchin in the mid 1980s. After giving some background on how they originated from the study of Yang-Mills connections, and describing their main properties, we show how they can be used to study representations of the fundamental group of the surface into a real reductive Lie group.

17:00 - 17:30 Kaffeepause

17:30 - 18:30 **Prof. Dr. Dirk Kreimer, IHES, Bures-sur-Yvette**

#### **Inside QFT: From local interactions to transcendental periods**

Fundamental physics is formulated in terms of quantized fields. Predictions often are obtained from computations of a perturbative series in terms of Feynman graphs. We explore the mathematical structure behind these computations and highlight in particular number-theoretic aspects and challenges for the future.

### 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)