



## SFB-Seminar

### ZEIT:

31.5.2011, 16:00 Uhr - 19:00 Uhr

### ORT:

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

### PROGRAMM:

16:00 - 17:00 **Prof. Spencer Bloch, PhD**

#### **Renormalization via algebraic geometry**

The theory of limiting mixed hodge structures in algebraic geometry yields a canonical renormalization scheme for feynman integrals with at worst logarithmic divergences. I will talk about a joint paper with Dirk Kreimer working out the details in the case of trivial masses and momenta. From this viewpoint, Feynman rules are naturally interpreted as 1-parameter subgroups in the algebraic group associated to the Hopf algebra of graphs.

17:00 - 17:30 Kaffeepause

17:30 - 18:30 **Dr. Theodora Bourni**

#### **A criterion on embeddedness of surfaces with 'small' mean curvature**

In a paper of '02, Ekholm, White and Wienholtz showed that a minimal surface bounded by a simple closed curve of total curvature at most  $4\pi$  is embedded. In this talk I will describe some results that extend this theorem to surfaces whose mean curvature has small  $L^p$  norm ( $p > 2$ ). As an application, for surfaces in  $R^3$ , I will derive curvature estimates and a bound on the genus of such surfaces. This is a joint work with G. Tinaglia.

### Kontakt:

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