Seminar des SFB 647

ZEIT:
14.7.2009, 16:00 Uhr - 19:00 Uhr

ORT:
Konrad-Zuse-Zentrum für Informationstechnik Berlin (ZIB)
Takustrasse 7
14195 Berlin-Dahlem

PROGRAMM:

16:00 - 17:00   **Dr. Fabian Ziltener (Toronto)**

Symplectic Vortices and a Quantum Kirwan Map
A Hamiltonian action of a Lie group on a symplectic manifold
gives rise to a gauge theoretic deformation of the
Cauchy-Riemann equations, called the symplectic vortex equations.
Counting solutions of these equations over the plane leads to a
quantum version of the Kirwan map. In joint work with Christopher
Woodward, we interpret this map as a weak morphism of
cohomological field theories.

17:00 - 17:30   Kaffeepause

17:30 - 18:30   **Juliette Hell (FU Berlin)**

Blow-up and Conley index at infinity
The partial differential equations arising in geometric analysis often
develop singularities corresponding to the blow-up (or finite time
explosion) of some quantity.
In this talk we will address the main questions arising in the study of
blow-up phenomena. Besides the existence of blow-up solutions, one
is interested in the shape of the blow-up profiles. How fast does the
blow-up takes place? Where do blow-up trajectories come from?
A natural strategy to answer such questions is to translate the
problem at infinity into a finite problem and apply or adapt some

www.raumzeitmaterie.de

powerful methods to this finite problem. Dynamical systems theory provides useful tools for the analysis of these phenomena, such as the study of stable, unstable, center manifolds or the Conley index techniques for the detection of connecting orbits. These ideas will be discussed as well as illustrated on some examples.