EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

**Mathematisch-
Naturwissenschaftliche
Fakultät**

Fachbereich Mathematik

Einladung
zum Mathematischen Kolloquium

Es spricht am

Freitag, den 23.05.2014, um 17.15 Uhr

Prof. Greg Galloway

(University of Miami)

über das Thema

„On the topology of black holes and beyond"

In recent years there has been a great deal of interest in black holes in higher dimensional gravity. This, in particular, has led to questions about the topology of black holes in higher dimensions. In this talk we review Hawking's classical theorem on the topology of black holes in 3+1 dimensions (and its connection to black hole uniqueness) and present a generalization of it to higher dimensions. The latter is a geometric result which places restrictions on the topology of black holes in higher dimensions. We shall also discuss recent work on the topology of space exterior to a black hole. This is closely connected to the Principle of Topological Censorship, which roughly asserts that the topology of the region outside of all black holes (and white holes) should be simple. All of the results to be discussed rely on recent developments in the theory of marginally outer trapped surfaces, which are natural spacetime analogues of minimal surfaces in Riemannian geometry. This talk is based primarily on joint work with Rick Schoen and with Michael Eichmair and Dan Pollack.

Der Vortrag findet im Hörsaal N14 (M1) des Mathematischen Instituts (Gebäude C, Auf der Morgenstelle 10) statt. Zuvor wird zum Tee im Hermann-Hankel-Raum (6. Stock, ab 16 Uhr 45) eingeladen.

Tübingen, den 12.05.14   Die Dozenten für Mathematik