# PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

**Mittwoch, den 10.02.2016, 16 Uhr c.t.**
**Großer Hörsaal, Raum _0.111,**
**Max-von-Laue-Str. 1**

## Prof. Dr.
## Manuel Calderón de la Barca Sánchez

Department of Physics
University of California, USA

## *"The quest for beauty in Heavy Ion collisions"*

We can study strongly interacting matter by colliding heavy ions, and the quarks and gluons they carry, at the highest possible energies. Simulations of Quantum Chromodynamics predict that a new state of nuclear matter exists at high temperature, known as the Quark-Gluon Plasma, where the color fields are not confined inside nucleons. One way to probe the high-temperature deconfinement effects is via the measurements of heavy quark bound states. These have a long history in the case of charm quark states, but only in the last few years have we reached energies allowing us to study beauty. The b-quark bound states, commonly called bottomonia, are expected to be modified in a hot Quark-Gluon Plasma. Experimentally, the Upsilon mesons are the members of the bottomonium family that are most readily accessible.

I will review the key ideas driving us to measure Upsilons in heavy ion collisions, and discuss the recent experimental results of this research..

Die Dozenten der Physik

local host: Prof. Hannah Petersen, petersen@fias.uni-frankfurt.de