Special Seminar

Friday February 20, 2015
2:00 PM
Kolker Room (26-414)

**Soft and Hard Physics with Relativistic Heavy Ion Collisions**

**Dr. Alexander Schmah- Lawrence Berkeley National Laboratory**

**Abstract:** Studying the emergent properties of hot and dense nuclear matter is one of the main goals of relativistic heavy-ion collision experiments. At the highest energies a Quark-Gluon Plasma (QGP) phase arises with partonic degrees of freedom. Due to the extremely short life time of the QGP, only probes created curing the collision can be used to study its properties.

I will discuss recent developments at STAR for two of the most important probes from soft and hardphysics, namely elliptic flow and jets. I will furthermore give an overview of the Beam Energy Scan (BES) at RHIC, which was carried out to find signatures of a QCD critical point and a first order phase transition. At the end I will give an outlook of BES phase II, which is anticipated for the years 2018-2019.