Contribution ID: **988** Type: **Invited Speaker / Conférencier invité**

Recent developments in characterization of Quark-Gluon Plasma

Tuesday, 14 June 2016 16:45 (30 minutes)

For the past two decades, two powerful heavy ion accelerators, the Relativistic Heavy Ion Collider (RHIC) and the Large Hadron Collider (LHC), have ushered in a new era of high energy nuclear physics. When the temperature reaches above 200 MeV/kB, quarks and gluons are no longer confined inside hadrons. Instead, they form a plasma state. This new state of nuclear matter, Quark-Gluon Plasma (QGP), existed for about a microsecond after the Big-Bang. QGP is about a hundred thousand times hotter than the centre of a star and denser than the core of a neutron star, yet flows more freely than any known fluid.
At RHIC and the LHC, collisions of heavy ions now routinely create QGP and the research is entering the precision measurement stage. To understand the properties of QGP, it is essential that we understand the many stages of relativistic heavy ion collisions theoretically which includes understanding the structure of the colliding nuclei, perturbative and non-perturbative QCD, hydrodynamics of QGP, hadronic re-scatterings and electromagnetic radiations in hot medium. In this talk, I will summarized McGill theory group's effort in exploring this extreme state of matter and what we have learned so far of its rich and often surprising properties.

Primary author: JEON, Sangyong (McGill University)

Presenter: JEON, Sangyong (McGill University)

Session Classification: T3-1 Hadronic Structure (DNP) / Structure hadronique (DPN)

Track Classification: Nuclear Physics / Physique nucléaire (DNP-DPN)