# Recreating microsecond old universe conditions in the laboratory - science and societal benefits

**Bedangadas Mohanty***

**National Institute of Science Education and Research, Jatni-752050, Odisha, India**

* Correspondence: bedanga@niser.ac.in

**Abstract:**

The fundamental constituents of visible matter are quarks, gluons, and leptons. The quarks and gluons are not found to exist in a free state in nature. They are confined inside particles called hadrons. However, they were believed to be in a free state in the micro-second old Universe. We will discuss the formation of such a primordial matter of de-confined quarks and gluons in the laboratory and some of its interesting properties. Towards the end of the talk we will also discuss some of the societal benefits which have happened due to the field of experimental high energy physics.