

ICTS String Seminar

- Title : Non-equilibrium QCD in heavy ion collisions
- Speaker : Soeren Schlichting, Bielefeld University, Germany
- Date : Wednesday, 16 December, 2020
- Time : 04:00 pm
- Abstract : Over the past decades, experiments at the Relativistic Heavy-Ion Collider (RHIC) and the Large Hadron Collider (LHC) have collected an overwhelming amount of evidence of the formation of a de-confined Quark-Gluon Plasma (QGP), and established a standard picture of the space-time evolution of the QGP based on relativistic viscous hydrodynamics. While high-energy Heavy-Ion Collisions thus provide a unique laboratory to study strong-interaction matter under extreme conditions, it has proven challenging to understand how the far-from equilibrium initial state eventually turns into a nearly equilibrated plasma of quarks and gluons. In this talk I will highlight recent theoretical progress in understanding different thermalization mechanisms in QCD plasmas and address the question how an almost equilibrated Quark-Gluon plasma is created during the early stages of high-energy collisions. I will also discuss how these studies provide new insights into the range of applicability of dissipative fluid dynamics and the emergence of universal properties in out-of-equilibrium systems, and if time remains address some phenomenological consequences of the early time non-equilibrium dynamics.
- ICTS virtual seminar : Please register at <https://docs.google.com/forms/d/e/1FAIpQLSf0jLgoqiOgDnxbEBGiuIWiOmh9WX8caH-pr13qDBZOO91img/viewform>
(Links to join the seminars will be sent to your registered email address)

Recordings of past talks can be found here:

<https://www.youtube.com/channel/UCw9LdPQ5t7Q7muD0qzn70TA>