

The search for the early stage Electromagnetic field and novel QCD phenomena

NBI High Energy Heavy-ion Seminar



Speaker: Prof. Dr. Panos Christakoglou
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Abstract:

Few micro-seconds after the Big Bang the building blocks of ordinary matter, the quarks and the gluons, were not confined but could instead be found in a state called the quark-gluon plasma (QGP). At the Large Hadron Collider (LHC) of CERN, by colliding heavy ions at ultra-relativistic energies, physicists recreate similar conditions to the ones existed during these first moments of the evolution of the universe, forming the hottest QCD matter on earth. These collisions open up, in parallel, the possibility to study intriguing, novel QCD phenomena that are not directly accessible elsewhere, and are associated with chiral anomalies and consequently with parity violation effects in strong interactions. In this talk, I will summarise the status of the experimental searches at both RHIC and the LHC about identifying novel QCD phenomena using, what I believe is, the strongest magnetic field we know of. I will conclude by sharing my thoughts about the future directions of this field of research.

Speaker:

Prof. Panos Christakoglou received his Ph.D. at National and Kapodistrian University of Athens. He became a Marie Curie fellow at CERN in 2005 and then a postdoctoral researcher at Nikhef and Utrecht University in 2007. He has been the Senior Scientist at Nikhef since 2010 and a Physics Professor at Maastricht University since 2024.

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