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## The Color Glass Condensate at NLO: Phenomenology at HERA, RHIC and the LHC.

*Thursday, 22 July 2010 14:00 (16 minutes)*

The Color Glass Condensate is the effective theory of QCD for high energy scattering. The recent theoretical progress achieved through the calculation of next-to-leading order corrections to the small- $x$  renormalization group equations has opened up a period for precision CGC phenomenology. I shall present CGC analyses of experimental data for the inclusive structure functions in electron-proton scattering as measured in HERA. Next I shall present a description of inclusive particle production measurements in high energy proton-proton, deuteron-gold and gold-gold collisions carried out at RHIC. Together, these works yield a consistent picture that present experiments can probe the non-linear part of the hadronic and nuclear wave functions at small- $x$ , and that they can be successfully described by the CGC effective theory. Prospects for both the proton-proton and heavy ions programs at the LHC will be discussed.

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