

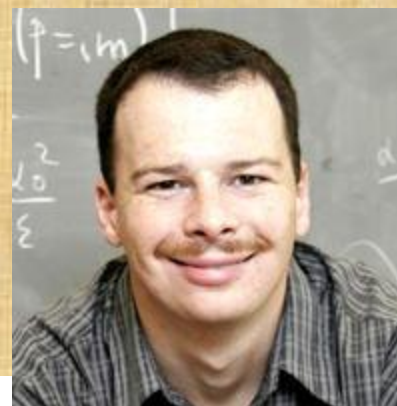


## Theory Seminar

### "Saturation Physics and Rapidity Correlations"

We will present an overview of the recent progress in our understanding of strong interactions in high energy scattering. We will demonstrate how in high energy scattering the wave functions of hadrons and nuclei are densely packed with gluons and quarks leading to a new phenomenon of parton saturation. The transition to the saturation regime is described by the saturation scale, which has a dimension of momentum and can be large in high energy scattering, making the strong coupling small, and allowing for a universal perturbative description of a host of hadronic and nuclear scattering processes. In particular we will discuss the prediction of the saturation physics for di-hadron correlations in high energy collisions. We show that multi-parton interactions inherent in the saturation approach lead to long-range rapidity correlations between the hadrons which have identical near- and away-side "ridge" structure. We compare this prediction to the recent data from the p+Pb run at the LHC.

**Yuri Kovchegov, The Ohio State University**



**WEDNESDAY, January 30, 2013 / 831 Pupin Hall / 2:10PM**