Contribution ID: **44** Type: **Oral**

# EIC: New Scientific and Technology Frontiers for Parton Femtoscopy

*Tuesday, 5 November 2013 14:50 (20 minutes)*

Our understanding of the structure of nucleons is described by the properties and dynamics of quarks and gluons in the theory of quantum chromodynamics. With advancements in theory and the development of phenomenological tools we are preparing for the next step in subnuclear tomographic imaging at a future electron-ion collider. High center-of-mass energies (up to 150 GeV) in combination with extremely high luminosities (up to 10^34 /s/cm^2) will provide the precision and a kinematic reach well into the gluon dominated regime of very low parton momenta where a saturation of the gluon density is expected, in particular in collisions of electrons with heavy nuclei. In addition, highly polarized nucleon and electron beams (70% polarization) can probe the parton polarizations in previously unexplored kinematic regions and with unprecedented accuracy, as well as address the role of orbital angular momentum with respect to the nucleon spin. This talk will summarize the theoretical, experimental and technical challenges of such a versatile experimental endeavor as planned for the Electron Ion Collider.

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**Session Classification:** Initial State and Proton-Nucleus Collision Phenomena

**Track Classification:** Initial State and Proton-Nucleus Collision Phenomena