APR17-2016-020026

### Beyond Collinear Factorization

DUFF NEILL, LANL

Collinear factorization is the basis of many collider observables, and is one of the most highly tested bedrocks of QCD. And yet, it reveals a very limited picture of the nucleon, and the internal dynamics of the partons bound within. I will attempt to elucidate what observables do not fall into a naive collinear factorization framework, what sorts of pictures that have been proposed to replace it in these observables, and what one can learn about the nucleon. Time permitting, I will cover new developments in Soft Collinear Effective Field Theory that allow one to discuss and calculate both collinear factorization and spectator interactions on a first principles basis, hopefully paving the way to investigate the whole coherent structure of the nucleon, not just a single lucky parton involved in the hard interaction.