

Physics Colloquium

Ronald Belmont

“Heavy ion physics with small systems—creating droplets of the early universe?”

A few microseconds after the big bang, the universe was in a phase of matter known as quark-gluon plasma (QGP). The goal of heavy-ion physics is to create, identify, and study the properties of the QGP using collisions of large nuclei at relativistic energies. One of the key results of this research is the finding that the QGP created in heavy-ion collisions is very well-described by viscous hydrodynamics. So-called small systems, those of a small projectile nucleus on a large target nucleus, have been used as a control experiment to help disentangle effects due to the QGP from effects due to the presence of a nucleus. Recent measurements, however, have indicated that small systems exhibit many of the same signatures believed to indicate the presence of the QGP in large systems. In this colloquium, we will discuss the latest experimental results and consider the implications for various theoretical scenarios.

Ronald Belmont went to college at Seton Hall University and received a BS Physics in 2005. He went to graduate school at Vanderbilt University and received his MS Physics in 2009 and a PhD in Physics in 2012. He has been a visiting scholar at University of Michigan (Ann Arbor) from 2012-2015. Postdoctoral Research Associate at Wayne State University (Detroit) 2013-2015 and a Postdoctoral Research Associate at University of Colorado Boulder 2015-2018. Currently, he is a Research Scientist at University of North Carolina Greensboro. Belmont's research includes involvement in cutting edge research topics including: hadronization mechanisms, chiral magnetic effects, collectivity in small systems. He is involved in a variety of service, including: RHIC & AGS Users Executive Committee Member; PHENIX Executive Council member; PHENIX heavy ion physics working group convener; prototype beam tests for sPHENIX expert shifter, controlled access leader, shift leader, data acquisition operator, etc.; numerous paper writing committees and internal review committees for PHENIX, sPHENIX, and ALICE; regular PRL reviewer for chiral magnetic effects and small systems.

Physics Faculty and Search Committee Candidate

Thursday, January 31st in LL 316 at 4:10
Refreshments available at 3:45