

Center for Soft Matter and Biological Physics

Discussion Meeting

**Riya Nandi**

**Physics Dept. Virginia Tech**

**Short-Time Dynamics of Three-Dimensional Magnetic Systems  
with Heisenberg Interaction**

Friday, April 13, 2018

4:00 pm—5:00 pm

304 Robeson Hall

This project aims to explore the initial relaxation dynamics of Heisenberg ferro and anti-ferromagnets. It involves a new simulation technique of combining reversible mode coupling dynamics with the simple diffusive relaxation dynamics in order to obtain the correct dynamic exponent and identify the correct universality class. The system undergoes critical aging and relevant exponents identified. Finally, for a system with non-conserved order-parameter, i.e., the anti-ferromagnet, theory predicts non-universal initial slip exponent. This work aims to study its dependence on the width of the initial distribution of the conserved quantities. This is a work in progress, at best just beginning to show promising results.