



**Note: New Date & Location**

## **Anirudha Sumant**

*Nanoscientist, CNM/NST*

**“Unfolding the Origin of Superlubricity at Macroscale  
with Graphene-Nanodiamond Ensembles”**

---

**Tuesday, July 21, 2015 – 10:00 a.m.**

**Bldg. 241, Conf. Rm. D-172**

---

Minimizing friction and wear-related mechanical failures remains as one of the greatest challenges in today's moving mechanical systems leading to a search for new materials that can reduce friction and wear related energy losses and the understanding of fundamental mechanisms that control friction. In this context, our work on graphene has shown that this materials properties can be manipulated at the atomic level to achieve exceptionally high wear resistance, as well as well as achievement of superlubricity (or near zero friction) through combined uses of graphene and nanodiamonds on sliding surfaces. This discovery presents a paradigm shift in understanding frictional behavior of 2D materials and offers a direct pathway for designing energy efficient frictionless tribological systems.

Light refreshments will be served 15 minutes before talk.