



Department of Physics, IIT Patna

Shine a light. They will come sooner or later!



Venue: R-407, Tutorial Block



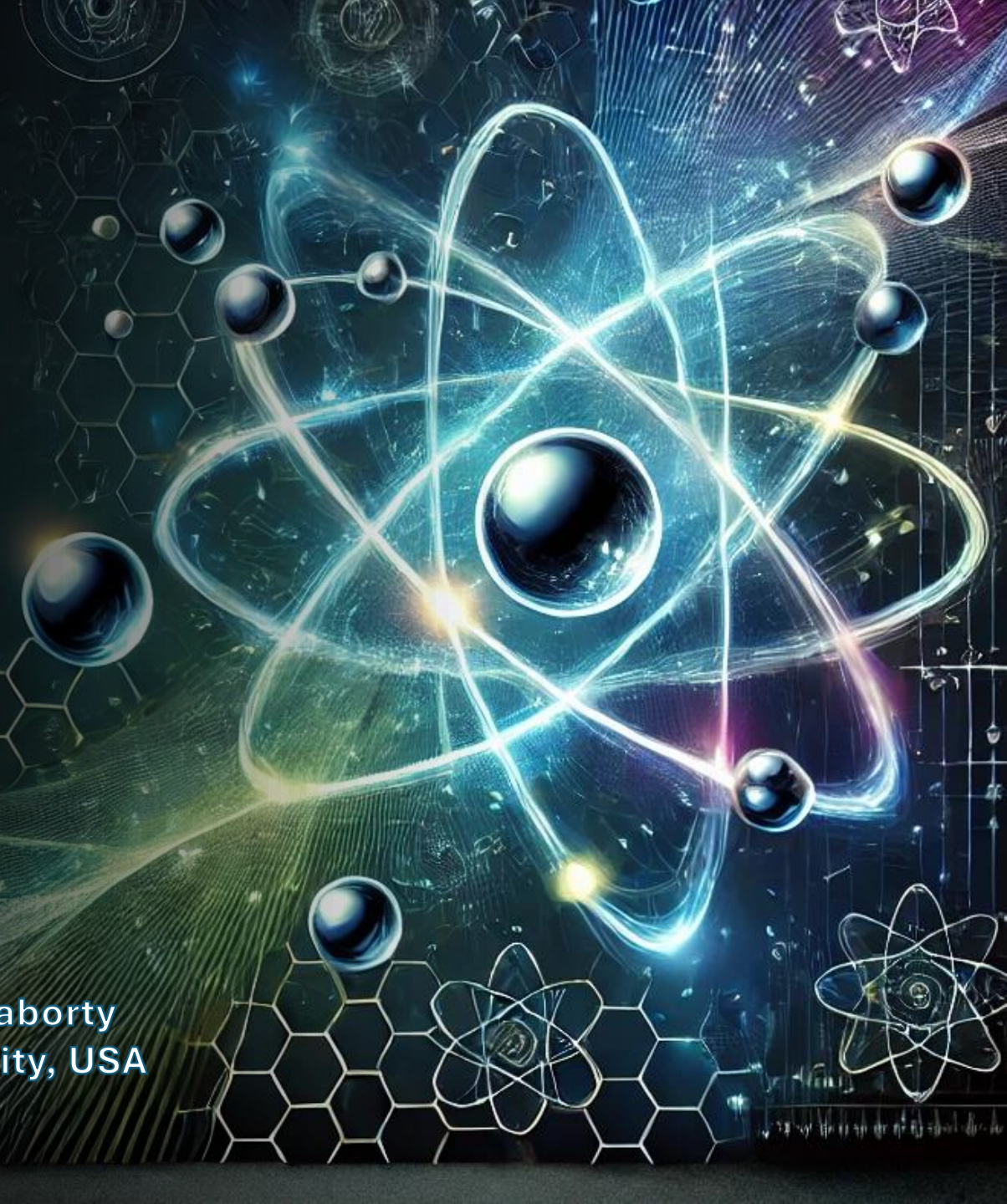
Date: 3rd January 2025



Time: 5:00 PM



Speaker: Prof. Himadri S. Chakraborty
Northwest Missouri State University, USA





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Prof. Himadri S. Chakraborty
Northwest Missouri State University

Abstract: Upon absorbing a photon, the photoelectron sails through the target's force field in attoseconds to reach the free space continuum. This navigation probes details of the potential landscape which imprint on the quantum phase of the ionization amplitude. The Eisenbud-Wigner-Smith (EWS) time delay is the energy derivative of this phase. The EWS delay provides the electron's navigation time relative to the time of the electron's "free" exit, offering details of dynamical information about interactions. If the potential landscape has structures and symmetries, patterns in the time domain, including sub-patterns of *delays and advances*, may occur. These motifs should be discernible in ultrafast metrology and chronoscopy as benchmark information.

About the Speaker:

Dr. Himadri S. Chakraborty is a Professor in the Department of Natural Sciences at Northwest Missouri State University, Maryville, Missouri, USA. His research is at the forefront of atomic, molecular, and nanoscale physics, focusing on:

- **Photon and particle impact spectroscopy of atoms, fullerenes, endofullerenes, buckyonions, and metallic nanoparticles.**
- **Ultrafast attosecond dynamics and inter-Coulombic decay (ICD) processes in the above systems.**
- **Charge transfer in ion-nanostructured surface interactions.**

Dr. Chakraborty's contributions have garnered recognition, including the prestigious *Ingram's Award 2011* as one of "50 Missourians You Should Know." His research group is widely regarded as one of the leading contributors in the AMO field, continually advancing the understanding of fundamental and applied aspects of nanostructured systems.