Physic Department
The University of Texas at Arlington

COLLOQUIUM

High Energy Focused Ion Beams - Technology and Applications

Gary A. Glass
University of North Texas

Wednesday October 10, 2018
4:00 p.m. Room 100 Science Hall

Abstract
There is an ongoing critical need for new-generation techniques to probe materials structure and properties with nanoscale resolutions and to manipulate organic and inorganic nano-materials. High energy (MeV) ions can penetrate well below surfaces of materials with negligible scattering and with precisely controllable ion-atom interactions, thereby offering a unique means by which surface to sub-surface regions can be studied and/or manipulated. Typically, magnetic focusing systems have been utilized worldwide as the mainstay of MeV proton microprobe systems and these systems have attained notable operational accomplishments. But the inability of these systems to focus heavy ion beams has skewed virtually all work with focused MeV ion beams to those topics for which proton beams can be used – the remainder of the periodic table had remained essentially untouched. Recently, however, technological advances have allowed the development of electrostatic microprobe focusing systems, thereby opening new avenues for applications. This presentation will provide an overview of MeV ion focusing systems and describe a few development and applications of these systems at the Ion Beam Modification and Analysis Laboratory of the University of North Texas.

Refreshments will be served in the physics lounge at 3:30