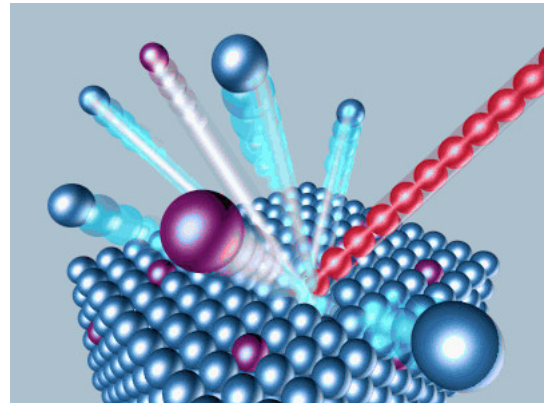


Physics Department Seminar

Friday March 13th, 2009

11:00am in PhSc 108

“Focused Ion Beam Applications in the Semiconductor Industry”



Erin Jordan O’Donnell
Product Development Engineer
Intel Corporation

Abstract:

A Focused Ion Beam (FIB) tool accelerates gallium ions through electrostatic lenses to achieve a nanometer scale focus. FIB’s can etch away or deposit materials such as silicon, insulators, or metals providing the ability to modify circuits within a microprocessor. FIB circuit editing allows the debugging of micro-architecture logic and device speed issues thereby reducing Intel’s product time to market. Intel’s current laptop CPU is fabricated with 45nm gate technology and has 820 million transistors packed into less than a 90mm² area. In the next two generations Intel will shrink the gate length to 32nm and then to 22nm. Therefore, FIB techniques and technology need to scale at the same rapid pace. This talk will introduce the FIB tool, describe how it is used to edit circuits, and discuss the upcoming challenges.

