

# Physics Department Seminar

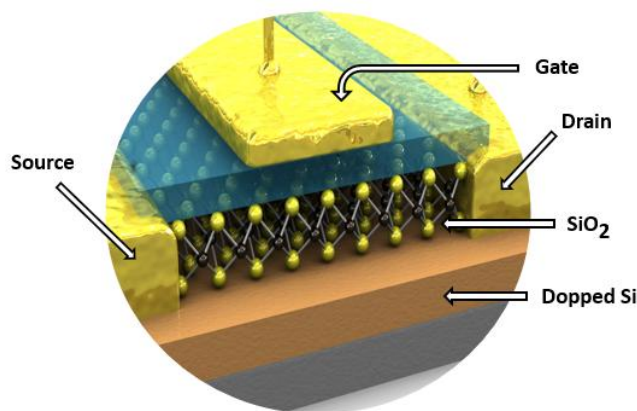
May 9, Friday at 2 PM in Science Building Room 250

## A Study of Silicon Dioxide Defects in MOSFETs through Molecular Simulations

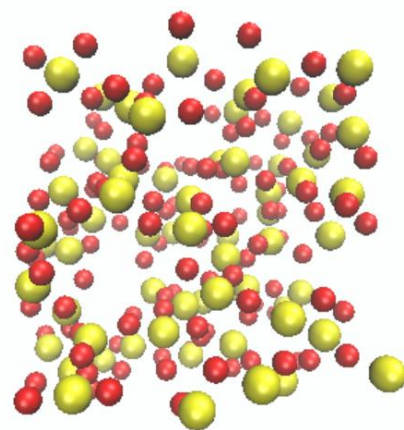


Gwennyth Stokes

Ever think about what makes your devices function? At the heart of it all are nanoscopic switches called MOSFETs, and even the smallest molecular defects can have a big impact on performance. Come explore how charge trapping in silicon dioxide leads to electronic degradation, and how we can investigate these hidden defects using powerful molecular dynamics simulations. In this seminar, we'll dive into MOSFET function, silicon dioxide defects, and how tools like LAMMPS and VMD help us visualize and understand what's happening at the atomic scale.



Close-up diagram of a nanoscale MOSFET



a-SiO<sub>2</sub> structure simulated by LAMMPS