

# SCIENCE SEMINAR

FRIDAY, NOVEMBER 14  
KNOTT HALL B01  
3PM

## RAYLEIGH INSTABILITY IN NANOWIRES

ANDREW BUNCH  
GRADUATE STUDENT OF PHYSICS AT UMBC

RAYLEIGH INSTABILITY, A CLASSICAL FLUID DYNAMICS THEORY, DESCRIBES HOW AND WHY A COLUMN OF LIQUID BREAKS UP INTO A SET OF SPHERES. RECENT STUDIES HAVE SHOWN THAT THIS SAME PROCESS OCCURS IN NANOWIRES, WHERE THE MASS TRANSPORT MECHANISM IS SURFACE DIFFUSION. IN THIS TALK, I WILL GIVE AN OVERVIEW OF RAYLEIGH INSTABILITY AS APPLIED TO NANOWIRES, AND PRESENT KINETIC MONTE CARLO SIMULATIONS OF ALUMINUM NANOWIRES TO TEST HOW FAR RAYLEIGH INSTABILITY HOLDS IN THE NANOSCALE REGIME.

REFRESHMENTS WILL BE SERVED