



# CHEMISTRY SEMINAR

## THE PURSUIT OF A PH.D. IN BIOLOGY: DETAILED ANALYSIS OF MITOCHONDRIAL DYNAMICS

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SCSU CHEMISTRY ALUMNA

### WEDNESDAY, NOV. 25

### 12:00 P.M.

### WSB-122

Abstract: In 2005 I graduated with Biochemistry and Biomedical Science degrees from SCSU. Since then I have been pursuing my doctorate degree in Biology via a joint program between the Johns Hopkins University and the National Institutes of Health. The program is highly competitive and without my research experience from SCSU and my two summer research programs, I would not be where I am today. My thesis work is primarily focused on mitochondria. Prior to graduate school, I thought mitochondria were just these little beans that just churn out ATP, the energy currency of the cell. In fact, they are dynamic organelles that constantly move around the cell, divide in half or fuse together to maintain mitochondrial DNA and deliver ATP to parts of the cell that need it most. The first proteins involved in these processes were discovered in the early 1990's. Since then the field has expanded dramatically as it becomes increasingly evident that mitochondrial dynamics are important for the life and death of the cell. My research focuses on how proteins normally responsible for killing the cell (Bcl-2 family member proteins) could actually be required for fusion and fission of the mitochondria. During the course of my graduate studies I have become enthralled with live cell confocal microscopy. Using confocal microscopy, I have been able to study how proteins move within the mitochondrial membrane, how fast the mitochondria undergo fusion events, the general state of the mitochondrial network as well as how protein localize relative to the mitochondria.

**Megan will meet with students in WSB-344 from 1:00 to 1:30 p.m.**

