

*The Department of Chemistry and Biochemistry*

**Seminar Series**

*Presents a Seminar Titled:*

*“The Use of Thermal Unfolding Molecular Dynamics Simulations to Study Protein Folding”*



**Presented By**

***Dr. Michael Massiah***

*Associate Professor of Chemistry,  
George Washington University*

X-linked Opitz G Syndrome is characterized by birth defects along the ventral midline of the body. Defects include hypertelerism (wide-space eyes), cleft lip/palate, and defects in the brain, heart and penis. XLOS is directly associated with mutations of MID1, a microtubule-associated ubiquitin E3 ligase. I will talk about our structural studies of the N-terminal RING and two Bbox domains of MID1 which adopt  $\beta\beta\alpha$ -RING folds and their functions as a ubiquitin E3 ligase activity. MID1 targets PP2A and alpha4 for ubiquitin modification (ubiquitination), which results in these proteins being marked for degradation or having their functions altered. We are able to demonstrate how a number of XLOS mutations affects both the structure and function of MID1. A portion of my talk will address NMR applications and a portion will demonstrate how we can go from the bedside to the lab bench to understand biological problems. The talk will target the laypersons.

**Thursday, October 25, 2012 at 12:20 in DRAGAS 1117**