

Department of Physics and Astronomy Colloquium



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Date: February 15, 2015

Time: 3:40 p.m. (**Refreshments** in **Rm. 103 @ 3:30 p.m.**)

Place: Rm. 103, Thirkield Hall, Howard University

Host: Prof. Quinton Williams

Matter in nanoscale confinement

Abstract: When a solid porous substrate is placed in contact with a vapor, a thin film rapidly covers it. This film, which can be as thin as a monoatomic layer, is a “phase” in equilibrium with its own vapor and can reach the surface of every pore in the substrate. This phenomenon is called “adsorption” and is a consequence of the Van der Waals attraction between molecules. In this seminar, I will talk about the methods and models used to study adsorption. I will show examples of classical systems (noble gases, water-nitrogen and carbon dioxide- methane mixtures), and quantum systems (Helium 3 and 4) in MOFs, slabs and nanotubes.