Can structurally simple molecular switches that can be synthesized in a few easy steps, perform complicated functions? This question is imperative to the field of molecular switches and machines because the multistep synthesis used in the current state-of-the-art systems is a bottleneck that impedes fast progress and deployment. To address this problem we have been developing for the past few years, simple, modular and tunable hydrazone-based rotary switches that can be easily incorporated into adaptive materials. The presentation will deal with our recent advances with these switches, and efforts to convert the versatile hydrazone systems into solid-state and/or water soluble fluorophores that can be used in sensing applications.

Representative references:

**CBC SEMINAR ANNOUNCEMENT**

*Professor Ivan Aprahamian*
*Dartmouth College*

*Hydrazone-Based Switches, Fluorophores, and Sensors*

Can structurally simple molecular switches that can be synthesized in a few easy steps, perform complicated functions? This question is imperative to the field of molecular switches and machines because the multistep synthesis used in the current state-of-the-art systems is a bottleneck that impedes fast progress and deployment. To address this problem we have been developing for the past few years, simple, modular and tunable hydrazone-based rotary switches that can be easily incorporated into adaptive materials. The presentation will deal with our recent advances with these switches, and efforts to convert the versatile hydrazone systems into solid-state and/or water soluble fluorophores that can be used in sensing applications.

Representative references:

**Date:** 24th July 2013 (Wednesday)
**Time:** 11:00am – 12:30pm
**Venue:** NTU SPMS CBC Building Level 2, Conference Room
**Host:** Asst Professor Zhao Yanli