

# COLLOQUIUM

## **“Regulation of microtubule dynamics by MAPs and small molecule inhibitors: Implication in cancer chemotherapy”**

**Abstract:** Dynamic microtubules are involved in various cellular functions including maintenance of cell architecture, cell polarity, intracellular trafficking, cell migration and mitosis. Recently, we have shown LC8, a component of dynein motor protein, regulates microtubule dynamics independently of its role in intracellular trafficking<sup>1</sup>. Acetylated microtubules were considered as a marker of stabilized microtubules. HDAC6, the tubulin deacetylase, is known to regulate the level of acetylated microtubules in cells. Using pharmacological inhibitors and siRNA against HDAC6, we have found that microtubule stability increases due to increased binding of HDAC6 with microtubules<sup>2</sup>. Important role played by microtubules during mitosis make them a successful drug target in cancer chemotherapy. Microtubule targeted agents inhibited the proliferation of various types of cancer cells including highly metastasis and multidrug resistant cells and activated apoptotic cell death by targeting microtubule assembly dynamics and halting the cell cycle progression in mitosis<sup>3-4</sup>. Further, the suppression of microtubule dynamics by microtubule inhibitors causes defects in cell polarity that inhibits cell migration and can be used to treat metastasis<sup>5</sup>.

By

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**Day & Date : Tuesday, October 8, 2013**

**Time : 15:45 hrs**

**Venue : Seminar Room, PF-AG-14, Prefabs, Near Annabhau  
Sathe Bhavan University of Mumbai, Vidyanagari,  
Kalina Campus, Mumbai - 400 098.**

All are Welcome