

## ICTS Seminar

- Title : Dynamics in simple monsoon models
- Speaker : Vijit Maithel, Indian Institute of Science, Bangalore
- Date : Thursday, May 18, 2017
- Time : 3:30 PM
- Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore
- Abstract : Simple monsoon models have been used to analytically study monsoon dynamics. Previous studies by Levermann et al. (2009), Boos and Storelvmo (2016), Seshadri (2016) use simple models to study the possibility of bifurcations in monsoon dynamics. While Levermann et al. (2009) present a mechanism for existence of a bifurcation point, the other two studies argue otherwise. Through this study, we attempt to reconcile these differences and understand the underlying dynamics in these models.
- Quasi-equilibrium Tropical Circulation Model (QTCM) is an intermediate complexity atmospheric model, based on the quasi-equilibrium framework. We develop three simple models of varying complexity, based on simplifications to QTCM, and study the behaviour of the steady state solution, particularly whether bifurcation points exist. Conditions that can allow for existence of bifurcation points are discussed, and we discuss whether these are realistic.