

IPRC Seminar
Ping Chang
Department of Oceanography
Texas A&M University

**Internal Atmospheric Variability:
Pacific Meridional Mode and ENSO**

Monday, March 5, 2007
2:00 pm - 3:00 pm POST 723

ABSTRACT:

Much of the literature on the study of ENSO has been directed towards understanding the dynamic aspects of the tropical coupled system. The current theory of ENSO perceives it as strictly a tropical phenomenon. A few recent studies, however, have linked extra-tropical internal atmospheric variability to ENSO. In this talk, we will attempt to further our understanding of this linkage. We will present intriguing evidence that a significant number of El Nino events over the past four decades are preceded by a distinctive warming at the sea-surface accompanied by a southwesterly wind anomaly in the vicinity of the Intertropical Convergence Zone during the boreal spring. This phenomenon, known as the Meridional Mode (MM), is shown to be inherent to the thermodynamic coupling between the atmosphere and ocean. It acts as an effective conduit for extratropical atmospheric influence on ENSO. We will present modeling evidence that this conduit plays a vital role in the onset and the seasonal phase-locking behavior of ENSO. Finally, we will demonstrate how improving model skills in simulating and predicting the MM may lead to improved skill in forecasting ENSO, particularly with respect to the spring predictability barrier.