# HAO Colloquium Series

(Refreshments served)

***Speaker:*** **Piyali Chaterjee, HAO**

***Time:*** **3:00–4:00 pm**

***Date:*** **Wednesday, July 18, 2012**

***Location:*** **CG1-3131**

***Title:*** **Magnetic Buoyancy Instability: The formation of twisted flux tubes and chiral symmetry breaking**


***Abstract:***

It is believed that a strong toroidal magnetic field exists in the form of a layer at the bottom of the solar convection zone. The sunspots are widely believed to be flux tubes formed from this layer which have made their way up to the solar surface. We explore the formation of twisted flux tubes from such a layer in the presence of rotation using 3D full MHD simulations. The instability which leads to the break-up of the magnetic layer is known as the Magnetic Buoyancy Instability (MBI). We investigate the turbulence properties due to the MBI using a special technique and find that under certain conditions MBI displays the phenomena of chiral symmetry breaking.