

## **SOFIA Lunch Talk**

**Date:** February 27, 2006

**Speaker:** Marshall Perrin

**Title:** “The Discovery of an Edge-On Circumstellar Disk around the Herbig Ae star PDS 144N”

**Abstract:**

Circumstellar disks are now known to be an ubiquitous part of the star formation process, but many aspects of their nature remain unclear. Edge-on disks, such as the well-known T Tauri star HH 30, are particularly useful for studies of disk morphology and dust grain growth. Studies of edge-on disks around T Tauri stars have revealed a rich variety of disk and dust properties, but until now, no edge-on disk has been seen around any Herbig Ae or Be star. I will present our discovery of an edge-on disk around the Herbig Ae star PDS 144N, made with the Lick Observatory adaptive optics system, and subsequent observations with Keck, Gemini, and Spitzer. In a two-for-one bonus, we have found that PDS 144N's binary companion, also a Herbig Ae star, possesses a circumstellar disk of its own with a face-on orientation. I will describe what we have learned about the disk morphologies, dust grain properties, PAH emission, and accretion processes in this intriguing system.