

Department of Physics and Materials Science



SEMINAR

From the Stars to the Seas

Dr. Rahul I. Patel

CNA

Abstract: Astronomers have detected and confirmed thousands of exoplanets — planets outside our solar system. We use many methods to first discover these exoplanets, and subsequently study them. High-contrast direct imaging is one of these methods, where we search for the infrared light given off by any “newly” formed Jovian planets. To identify suitable stellar systems for exoplanet detection, we identify stars with circumstellar rings and disks of dust. These debris disks are seen as beacons pointing to exoplanetary systems, as the dust in the disk is replenished from collisions of asteroids and comets, which in turn is believed to be caused by the gravitational stirring of larger planetary bodies. In this talk, I will discuss about some of my work on debris disks and high-contrast imaging.

My current work is more “Earth-bound” and outside of the typical academic career track. As a large chunk of people in academia tend to transition into non-academic career paths, I will not only talk about my previous exoplanet research, but also how I ended up in an alternative academic career with the hope that you will take something meaningful away to use as a steppingstone for your own journey.

Bio: Dr. Rahul Patel is currently a research scientist with CNA (Center for Naval Analysis) with the Systems, Tactics, and Force Development division. He obtained his BS in Physics from Florida International University, and his PhD in Physics from Stony Brook University. Following Stony Brook University, he worked as a postdoctoral fellow at IPAC at CalTech. His work focused on detecting exoplanets, including large scale data analysis to identify debris disk host stars using WISE and high-contrast imaging with multiple adaptive optics and coronagraphic systems. He continues to develop astronomical tools using python.

YOU ARE INVITED!

Friday Oct. 21st, 3 - 4 PM Manning Hall 201



Driven by doing.