



## Physics & Astronomy Colloquium

Spring 2010

### *The Search for Earth-Sized Planets around Other Stars*

*During the last decade, astronomers have finally begun finding planets around other stars. We still don't know anything about the number of planets like the Earth (almost none of the known planets has a solid surface). A NASA mission ("Kepler") should directly answer the question by finding many such planets. This dedicated space telescope will monitor more than 100,000 stars in its wide field-of-view for several years, looking for the telltale dip in their light caused when a planet crosses in front of them. It relies on the strict periodicity of planetary orbits to eliminate noise from stellar variability. Given our current understanding of planet formation, it should find at least several hundred terrestrial planets, some of which will be in the "habitable zone" of their stars (meaning liquid water could survive on the surface given a reasonable atmosphere). Kepler should provide estimates for the total number of these planets with stellar properties for inner planetary systems, as well as the orbital periods, size distributions, and correlations of these. This will be very helpful in assessing the likelihood of Earth-sized (or larger) planets in our Galaxy.*

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Thursday, April 8, 2010  
4:00-5:20 PM - MND 1015

Open and free to all students, faculty, and public