



# Friends of the Kavli Institute for Theoretical Physics

## Chalk Talk

### Exoplanet Dynamics



### What We Know from Kepler

Planets orbiting other stars can be detected from the shadows they cast as they pass in front of their stellar disk each orbit, but only if their orbital plane aligns with our viewpoint by chance. The Kepler spacecraft mission has discovered thousands of candidate planets by simply staring at more than one hundred thousand stars for four years, and has revealed a new class of planet with sizes between the Earth and the ice giants. This talk will describe the techniques for discovering planets within the Kepler data, and a new approach for finding dynamically interacting planets that can be missed without accounting for their interactions. The planets can have their masses and radii measured, in some cases by only using data from the Kepler spacecraft, which is beginning to shape our understanding of how these planetary systems formed.

Wednesday, March 18

Kohn Hall, UCSB

5:30 pm Courtyard Reception

6:15 - 7 pm Presentation

7 - 7:15 pm Questions & Discussion

**Attendance by Reservation Only**

**RSVP by March 13**

*On-Line:* [www.kitp.ucsb.edu/chalk-talk-rsvp](http://www.kitp.ucsb.edu/chalk-talk-rsvp)

*Phone:* (805) 893-6383 or [events@kitp.ucsb.edu](mailto:events@kitp.ucsb.edu)

#### Lot 10 parking

As you enter campus from Hwy 217, turn right onto Mesa Rd, merge into the left lane, and at the stop light turn left into Parking Structure 10. Park, buy a permit from the dispenser (near the elevator and stairs), and display the permit on your dashboard. The KITP is right next door to the parking structure.



**Eric Agol**  
Professor  
University of  
Washington

**Eric Agol** earned a Physics Ph.D. here at UCSB in 1997 working with Omer Blaes. After studying black holes and gravitational lensing during postdocs at Johns Hopkins and Caltech, he joined the University of Washington in 2003 and began working in the nascent field of extrasolar planets. His research, straddling observation and theory, aims to develop new approaches to studying planets orbiting other stars. He has made a number of discoveries in this area, including several previously unknown, unique planets. Could planet Agol be in humanity's future? He lives in Edmonds, Washington on Puget Sound with his wife and two boys, and enjoys biking, crosswords, and basketball.