

Colorado

CAFÉ SCIENTIFIQUE

Tuesday 9 October 2012

at the Wynkoop Brewing Company

<http://www.wynkoop.com/>

Corner of 18th and Wynkoop in LoDo, Denver

About a block from Light Rail. Thirteen minutes by foot from Auraria.

Finding Sister Earth: Quivering Stars

and the Quest for Habitable Planets

Travis Metcalfe, PhD

Research Scientist, Space Science Institute, Boulder

The Pale Blue Dot Project:
adopt a star from a non-profit
organization and support scientific
research
whitedwarf.org/palebluedot/

An asteroseismologist, Travis Metcalfe studies stars similar to the Sun in order to understand in what ways our Sun is peculiar. In our solar system, the planets' compositions vary with orbital distance from the Sun, with rocky planets like Earth in close orbits and lower-density gas giants in wider orbits. The detection of close-in giant planets around other stars was the first clue that this pattern is not universal and that planets' orbits can change substantially after their formation. Travis will give an overview of NASA's Kepler space telescope, how it searches for planets around distant stars, and how we characterize those planets using the natural vibrations ("starquakes") of their suns. In August, he and an international team reported another violation of the orbit-composition pattern: two planets orbiting the same star (Kepler-36) with orbital distances differing by only 10% but with densities differing by a factor of 8. One planet is likely a rocky "super-Earth," whereas the other is more akin to Neptune. These planets are 20 times more closely spaced and have a larger density contrast than any adjacent pair of planets in the solar system. What does this tell us about the formation and fate of planetary systems?

EVERYONE IS WELCOME. The discussion starts at 6:30 in the Mercantile Room (no food service there). Come before 6 PM to leave yourself time to get something to eat, or stay and eat afterwards. We end around 8 PM.

There's no charge. The Wynkoop is generously providing the facility; we buy our own drinks. It is first come, first seated, and **seating is limited** so that everyone can take part in the discussion.

The Colorado Café Scientifique is organized by an informal group of faculty from CU and institutions up and down the Front Range, as well as science fans from industry, government and elsewhere. We welcome your input, including ideas for speakers and topics. Bring them with you to the next Café, or e-mail them and any questions to John.Cohen@UCDenver.edu

Essential information about the topic and the event on our Web site at:
CafeSciColorado.org