



PUBLIC LECTURE

LECTURES ARE FREE – BUT EARLY SEATING IS STRONGLY RECOMMENDED



SPACE-TIME



STRUCTURE
IN THE COSMOS



ELEMENTS



LIFE



SPECIES AND
BIODIVERSITY



HUMANITY

The **Kepler Mission:** Finding Exotic Solar Systems on the Road to **Earth-Like Planets**

Humans have long wondered what other planetary systems are like, and if potentially Earth-like planets exist around other stars. NASA's Kepler Mission is a space telescope that was designed to answer these questions. From four years of Kepler data we can now confidently say that the average planetary system looks nothing like our own. Nature often makes compact planetary systems where several planets orbit closer in than Mercury's distance, where our planetary system is entirely empty. Within the startling diversity in planetary systems, Kepler data can be combed to understand how common Earth-size planets really are. I will discuss a variety of recent estimates that all point to tens of billions of Earth-sized planets in our Milky Way, and discuss the fraction of these that may be temperate enough to potentially support life.



Background image credit: NASA

Prof. Jonathan Fortney

UNIVERSITY OF CALIFORNIA, SANTA CRUZ

Jonathan Fortney is an Associate Professor in the Department of Astronomy and Astrophysics at the University of California, Santa Cruz. He is an expert in understanding the atmospheres, interiors, and compositions of planets inside and outside of the solar system. He has been a member of the Kepler Science Team since 2009. An author of over 125 scientific papers, Fortney was awarded the 2010 Urey Prize from the American Astronomical Society for his work on understanding the properties of exoplanets.

WHEN

8:00 P.M.
TUESDAY ■ JANUARY 21 ■ 2014

WHERE

McMASTER UNIVERSITY
MEDICAL CENTRE (MUMC) 1A1
McMASTER UNIVERSITY
HAMILTON ■ ONTARIO

The **Origins Institute** at McMaster University creates and fosters transdisciplinary research on origins themes across a broad range of fundamental science. It also sponsors a public outreach and lectures program, as well an undergraduate specialization that can be combined with several honours science programs and Canada's first graduate program in astrobiology.

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