



SYNOPSIS

For the first time in human history we are exploring other worlds - extrasolar planets that are orbiting stars other than our Sun. Our first discoveries shine a light on a fascinating gallery of extrasolar planets, from worlds with potentially permanent lava oceans on their surfaces, to planets with two Suns in their skies, and hot Jupiters, that only need days to orbit their Suns. Some of these planets are orbiting in the

Habitable Zone of their host star, where temperatures may be low enough for liquid water to exist. If they host liquid water, these planets could be the first habitable worlds discovered. Whether there is life on these worlds is an open question - but the fascinating search will be undertaken with the next generation of telescopes being built. What are these telltale signs for life that we can look for? How do they change through a planet's history? This talk will take you on a tour of the closest extrasolar planets, as well as through the history of our own Earth to spot the signs of life on a world like ours. We are closing in on reading the spectral fingerprint of these worlds - fingerprints that will let us search for telltale signs of life on these other worlds, like a detective on a crime scene.



BIOGRAPHICAL PROFILE:

Dr Lisa Kaltenegger

Dr Lisa Kaltenegger leads the research group on "Super-Earths and Life" at the Max Planck Institute for Astronomy in Heidelberg, Germany.

Dr Kaltenegger is also a research associate at the Harvard Smithsonian Center for Astrophysics in Boston, USA. Her research focuses on rocky planets and super-Earths in the Habitable Zone, as well as

the spectral fingerprints of exoplanets. Among her many awards are the 2012 Heinz Maier-Leibnitz Prize for Physics of Germany.



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The College of Agriculture, Engineering and Science
and
The Astrophysics and Cosmology Research Unit

cordially invite you to attend a

Public Talk

Super-Earths and Life -Characterising Exoplanets

by

Dr Lisa Kaltenegger

Max Planck Institute for Astronomy, Germany



Date: Wednesday, 20 March 2013

Venue: Senate Chamber, University of KwaZulu-Natal,
Westville Campus, Durban

Time: 6:00 PM - 7:00 PM

Inspiring Greatness

