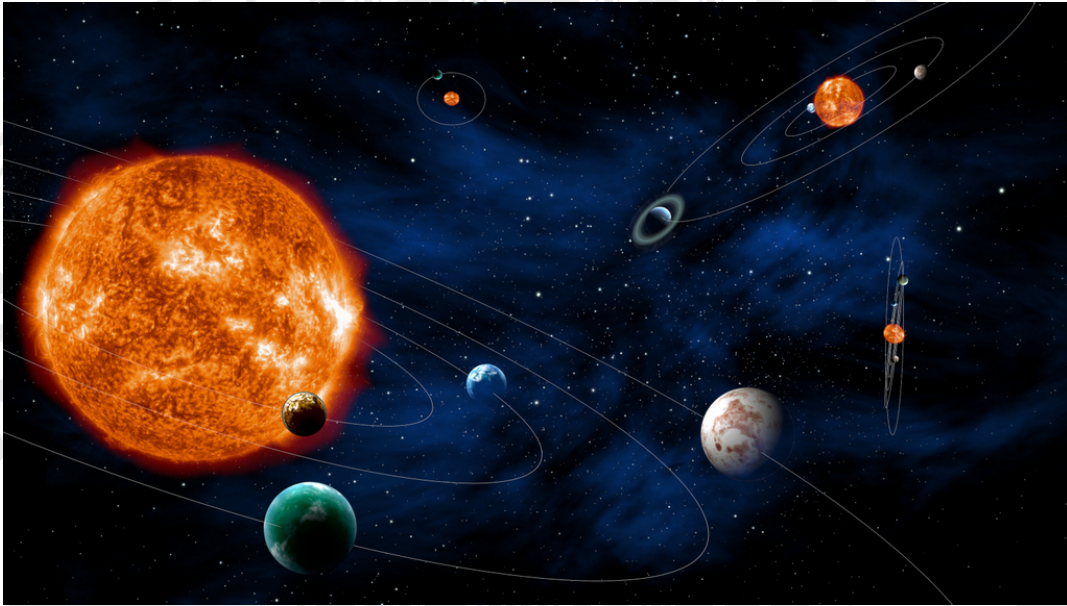


# PHYSIKALISCHES KOLLOQUIUM

AM 1. FEBRUAR 2016 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



## EXTRASOLAR PLANETS: FROM "HOT-JUPITERS" TO COOL EARTHS

PROF. DR. HEIKE RAUER

*INSTITUT FÜR PLANETENFORSCHUNG, DLR BERLIN  
UND ZENTRUM F. ASTRONOMIE UND ASTROPHYSIK, TU BERLIN*

In this decade we have seen a rapid increase in our understanding of the nature of extra-solar planetary systems. Space missions such as CoRoT and Kepler have confirmed that extrasolar planets are common. The detection of 'super-Earth' planets has expanded our planet inventory towards small, rocky planets, e.g. hot planets like CoRoT-7b and Kepler-10b and warm planets like in the Kepler 62 system. In recent years, a large diversity of planets became evident. This diversity raises new questions to the nature of these planets and their formation and evolution processes, such as: What is the composition and internal structure of these planets? What is their atmospheric composition? And for the smallest planets: are they potentially habitable and how could we detect this? Constraining our understanding of the underlying processes requires first an improved knowledge of the basic planet parameters, hence their mean densities, atmospheres and their age. The talk will give an overview on our knowledge of terrestrial exoplanets and how we will explore their nature with future space missions, like CHEOPS, TESS and PLATO 2.0.