

# Großes Physikalisches Kolloquium an der Universität zu Köln

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## *From 51 Peg to the Kepler Space Mission – Twenty Years of Exoplanet Research*

Twenty years ago the first Jupiter-mass planet was found orbiting a sun-like star. With a 4-day orbital period 51 Peg b was the first indication that planetary systems could be far more diverse than what we expected from the properties of our own solar system. Early exoplanet discoveries consisted mostly of giant planets in single systems.

We now know of thousands of multi-planet systems and have detected planets with the mass of earth, albeit with short orbital periods. The field has also moved into an era where exoplanets are being characterized in terms of their true mass, radius, density, surface temperature, and atmospheric features. I will discuss the early history of exoplanet research but will focus largely on two space missions CoRoT and Kepler, that have been at the forefront of these characterization studies. Almost 20 years after the discovery of 51 Peg, a giant planet in a 4-day orbit, the field of extrasolar planets continues to produce unexpected discoveries



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