

## PHYSIKALISCHES KOLLOQUIUM EINLADUNG

\_\_\_\_\_

Monday, 15.06.2015, 16.15 p.m., W2-1-148

speaks

Prof. Dr. Jens Niemeyer

**Institute for Astrophysics,** 

Georg-August-Universität Göttingen, Germany

about

"Cosmology 2.0 - The Universe in a Computer"

The standard model for the geometry, composition, and history of our universe - the so-called Lambda-CDM model - is consistent with all current astronomical observations. While much of the recent progress in determining its key parameters, in particular from observations of the cosmic microwave background, has relied on linear perturbation theory, predictions for the formation of cosmological structures in the late universe often require sophisticated numerical simulations. I will sketch the numerical methods used to simulate the formation of galaxies from small initial perturbations and present examples of cases where simulations might help to confirm - or falsify - the current standard model.