

Friday, 22.05.2026, 1:15 p.m.  
in Lecture Hall **ROT (0.056)**

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### „Radio Cosmology and the Cosmic Dawn“

A new generation of low-frequency radio telescopes is attempting to detect the 21cm signal of neutral hydrogen at the time of the first galaxies and the epoch of reionization. Mapping this 21cm signal would offer a novel probe of astrophysics and cosmology during the first billion years of the Universe.

In this talk, I will discuss the physics of this 21 cm signal and review the status of these efforts. In particular, I will discuss 21cm global experiments, especially REACH - a global 21 cm experiment deployed in the the Karou in South Africa. I will also discuss the challenges for connecting theoretical models to upcoming studies of reionization with the Square Kilometre Array. Inference here requires connecting expensive numerical simulations to complex data sets. This provides space for application of many machine learning tools, such as emulators and simulation based inference.

**Everybody is welcome, especially students of all semester**

