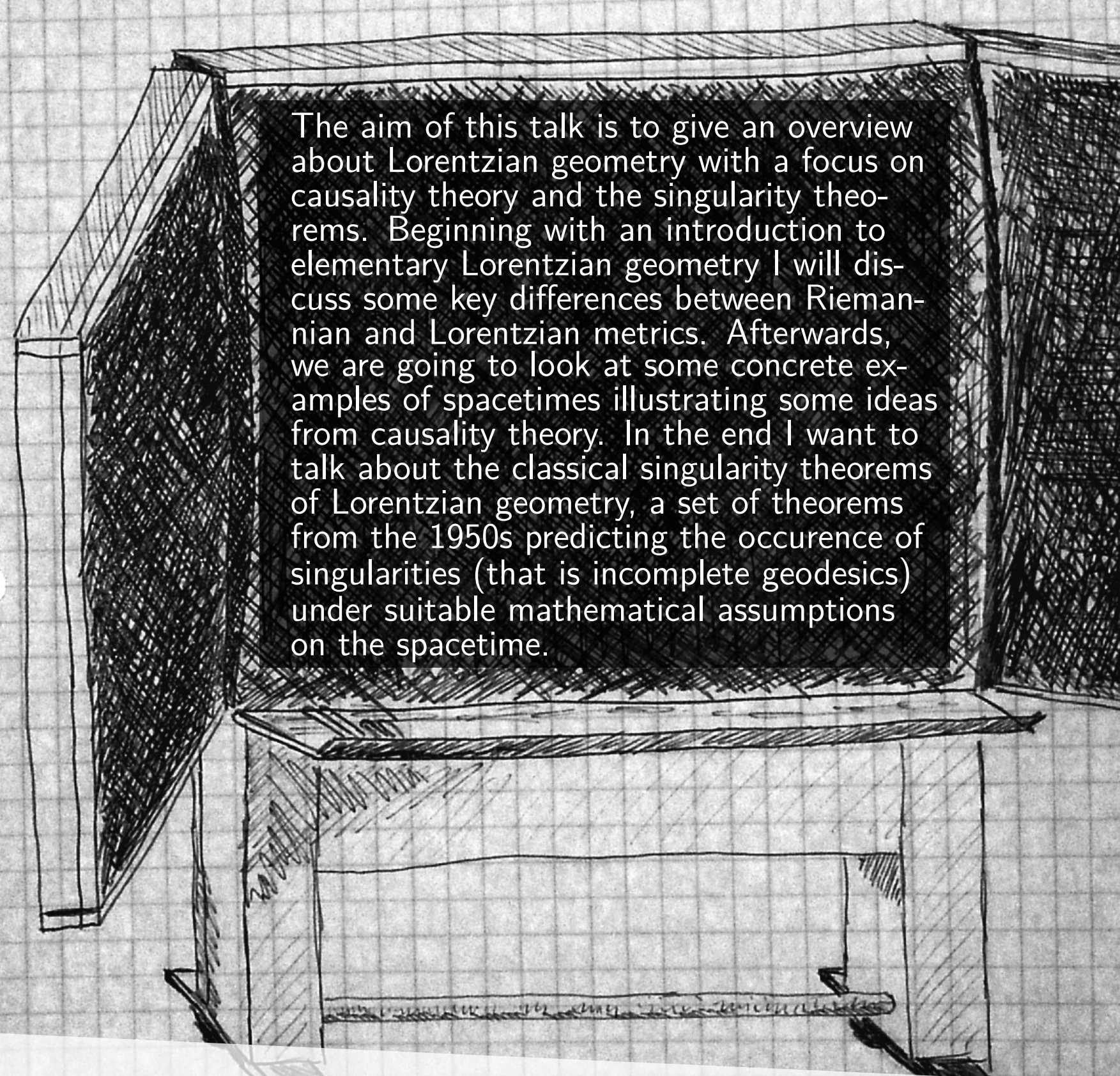# PhD Colloquium

October 19th 2016, 15:00–15:45
Sky Lounge

The singularity theorems of Lorentzian geometry
by Melanie Graf

The aim of this talk is to give an overview about Lorentzian geometry with a focus on causality theory and the singularity theorems. Beginning with an introduction to elementary Lorentzian geometry I will discuss some key differences between Riemannian and Lorentzian metrics. Afterwards, we are going to look at some concrete examples of spacetimes illustrating some ideas from causality theory. In the end I want to talk about the classical singularity theorems of Lorentzian geometry, a set of theorems from the 1950s predicting the occurence of singularities (that is incomplete geodesics) under suitable mathematical assumptions on the spacetime.

Master Students, PhD Students, Postdocs and other members of the Faculty of Mathematics are cordially invited!