

**Title:** Negative K-theory and bounded t-structures on the category of perfect complexes

**Speaker:** Neeman Amnon (Università degli Studi di Milano Statale)

**Date:** 03 Jun 4:30pm (with tea time at 4pm)

**Place:** Hörsaal (Room 203)

**Abstract:** After a brief review of algebraic K-theory, the starting point of the talk will be a 2019 theorem by Antieau, Gepner and Heller. The theorem asserts that negative K-theory provides obstructions to the existence of bounded t-structures. This remarkable theorem gave rise to several conjectures. We now know that three of them are false, and we will very quickly go through these. The fourth conjecture happens to be true, and the talk will focus on the idea of the proof. The proof involves techniques quite different from the K-theoretic ones involved in the work of Antieau, Gepner and Heller. This raises two questions: (1) Is there a proof more along the obstruction-theoretic approach of Antieau, Gepner and Heller? (2) Are the techniques of the non-obstructive proof applicable in other contexts? We will say a little about (1), and much more about (2).