Title:
Real analytification and Tropicalization of Semialgebraic Sets

Abstract:
We introduce the so called real analytification of a semialgebraic set over real closed field. This should be thought of as an analogue of the Berkovich analytification that takes both the absolute value as well as the sign function on the base field into account. We show that this space works well with the real tropicalization map. In particular, it satisfies analogues of both the tropical fundamental theorem as well as Payne's limit theorem.
We also talk about the topology of the real analytification and its connections to the Berkovich space and the real spectrum (which is an analogue of the classical prime spectrum in real algebraic geometry).
I will introduce all these terms, especially the terms from real algebraic geometry.
This is joint work with Claus Scheiderer and Josephine Yu.