Samaria Montenegro Multi topological fields and NTP2

Joint work with Silvain Rideau-Kikuchi

Pseudo algebraically closed, pseudo real closed, and pseudo p-adically closed fields are examples of unstable fields that share many similarities, but have mostly been studied separately. In this talk, we propose a unified framework for studying them: the class of pseudo T-closed fields, where T is an enriched theory of fields. These fields verify a "local-global" principle for the existence of points on varieties with respect to models of T. This approach also enables a good description of some fields equipped with multiple V-topologies, particularly pseudo algebraically closed fields with a finite number of valuations. An important result that will be discussed in this talk is a (model theoretic) classification theorem for bounded pseudo T-closed fields, in particular we show that under specific hypotheses on T, these fields are NTP2 of finite burden.