Abstract: We show that (assuming large cardinals) set theory is a tractable (and we dare to say tame) first order theory when formalized in a first order signature with natural predicate symbols for the basic definable concepts of second and third order arithmetic, and appealing to the model-theoretic notions of model completeness and model companionship.

Specifically we develop a general framework linking generic absoluteness results to model companionship and show that (with the required care in details) a $\Pi_2$-property formalized in an appropriate language for second or third order number theory is forcible from some $T$ extending ZFC + large cardinals if and only if it is consistent with the universal fragment of $T$ if and only if it is realized in the model companion of $T$.

Part (but not all) of our results are conditional to the proof of Schindler and Asperò that Woodin’s axiom (♯) can be forced by a stationary set preserving forcing.

Tuesday, October 13 at 2:00 PM in Zoom