Corps pseudo-finies, au-delà du terme dominant Ehud Hrushovski, Oxford

The model theory of pseudofinite fields is based on the Lang-Weil estimates, giving the highest term asymptotics of the number of points of varieties over finite fields. In turn, it supports motivic integration (Denef-Loeser, Cluckers-Loeser), connections with motives (Denef-Loeser), definable measures giving this highest term (Chatzidakis-van den Dries - Macintyre), connections to combinatorics (Tao). In continuous logic, it is possible to include the next-to-highest term. In joint work in progress with Will Johnson, we begin an investigation of the resulting theory and prove model-theoretic simplicity. The ideas of Deligne's equidistribution theorem are at the heart of this development.