Ishai Dan-Cohen: **Towards Chabauty-Kim loci for the polylogarithmic quotient over an arbitrary number field**

Let K be a number field and let S be an open subscheme of $\mathrm{Spec} \; \mathcal{O}_K$. Minhyong Kim has developed a method for bounding the set of S-valued points on a hyperbolic curve X over S; his method opens a new avenue in the quest for an \textit{effective Mordell}. But although Kim's approach has lead to the construction of explicit bounds in special cases, the problem of realizing the potential effectivity of his methods remains a difficult and beautiful open problem. In the case of the thrice punctured line, this problem may be approached via the methods of mixed Tate motives. Using these methods we are able to describe an algorithm; its output upon halting is provably the set of integral points, while its halting depends on conjectures. This ongoing project builds on joint work with Stefan Wewers, and relies on another ongoing joint project with Andr\'e Chatzistamatiou.