ISAAC GOLDBRING, University of California, Irvine

Explicit sentences distinguishing McDuff's II_1 factors

McDuff was the first to give a family of continuum many pairwise nonisomorphic separable II_1 factors. In a recent paper by Boutonnet, Chifan, and Ioana, it was shown that the elements of this family also have pairwise nonisomorphic ultrapowers. As a result, none of these factors are *elementarily equivalent*, meaning that for every pair of distinct elements M_α and M_β of this family, there is some sentence σ such that the value of σ in M_α differs from the value of σ in M_β. However, at first glance, it was not clear how to extract such sentences from their proof. In joint work with Bradd Hart, we used *Ehrenfeucht-Fraisse games* to give an upper bound on the complexity of sentences distinguishing the McDuff factors. In this talk, I will discuss recent joint work with Hart and Henry Towsner, where we show how a finer analysis of the Boutonnet-Chifan-Ioana result can be used to write down explicit sentences distinguishing the McDuff factors.