On the List Coloring Version of Reed's Conjecture

Michelle Delcourt

University of Birmingham

Reed conjectured in 1998 the chromatic number of a graph should be at most halfway between clique number (trivial lower bound) and maximum degree plus one (trivial upper bound); Reed proved it is at most some convex combination of these quantities. Last year, Bonamy, Perrett, and Postle proved for large enough maximum degree, a fraction of $1/26$ away from the upper bound holds. Using new techniques, we show the list-coloring version holds; for large enough maximum degree, a fraction of $1/13$ suffices for list chromatic number. Thus, $1/13$ suffices for ordinary chromatic number. This is joint work with Luke Postle.