## Jan Draisma: Stabilisation in algebraic geometry.

Across many mathematical disciplines one encounters projective systems of algebraic varieties indexed by a combinatorial datum, such as a natural number, a finite graph, or a lattice polytope. As the datum grows, the algebraic complexity of the corresponding variety (measured, for instance, in terms of its defining equations or higher-order syzygies) typically increases. But in good cases it eventually stabilises in a well-defined manner, especially when the family admits a direct system of sufficiently large symmetry groups. Exactly when this stabilisation phenomenon can be expected is still poorly understood, and this question motivates much current research activity in algebraic geometry and adjacent branches.

After a brief general setup, which involves passing to the projective limit of the varieties and the direct limit of their symmetry groups, I will discuss a number of concrete instances where stabilisation occurs, both from classical algebraic geometry and from other areas of mathematics.