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ALGEBRAIC GEOMETRY AND COMMUTATIVE ALGEBRA SEMINAR

Speaker: Rob Eggermont
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Date: Wednesday, November 30, 2016
Time: 3:00 PM
Location: 258 Hurley Hall

Lecture Title:
Finiteness properties in infinite dimension

Abstract
Is any ideal in a polynomial ring over a field finitely generated? By Hilbert's Basis Theorem, the answer is obviously yes provided that the ring has only finitely many variables. Equally obvious is the fact that the answer is no provided that the ring has infinitely many variables. Equivalent statements are true if we replace the word ideal by the word variety. However, if we pose that the ideals (respectively varieties) satisfy the constraint that they are stable under the action of some group of symmetries, we can sometimes show that only finitely many equations are required up to symmetry. In this talk, I will discuss a few examples in which we know whether there are finiteness properties like this, as well as introduce some of the many examples in which we still don't know anything for sure. I will also say a few words about our recent results in this area (joint work with Harm Derksen and Andrew Snowden).