## Algebraic Geometry Seminar

## Resolvent degree, Hilbert's 13th Problem and geometry

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Abstract: The problem of understanding how the roots of a polynomial depend on its coefficients goes back to the 16th century. In this talk I will explain a beautiful geometric point-of-view on this problem initiated by Klein and Hilbert, but which seems to be mostly forgotten. I will explain how these ideas are pertinent to Hilbert's 13th Problem and Sextic and Octic Conjectures, which are fundamental problems about formulas for roots of polynomials, and which we will relate to problems in enumerative geometry. This is ongoing work with Jesse Wolfson (UC Irvine) and Mark Kisin (Harvard).

