

Student Algebraic Geometry Seminar

Organizer(s): Andrew Critch and Andrew Dudzik

Fridays, 4:00–5:00pm, 740 Evans

Fri, Jan 27 **Andrew Critch**, UC Berkeley

Computing examples in algebraic geometry

Algebraic geometry can sometimes seem like an impossibly abstract discipline, but even the most abstract algebraic geometry is done mostly by people with a fantastic intuition for examples. For really high-dimensional varieties, sometimes there is too much algebra to do by hand, but it is easy to organize the steps that you *would do* if you had time, and have a computer do it instead. In this talk I'll demonstrate how it looks and feels to work out some interesting examples problems using Macaulay2 (a symbolic package), and possibly also Bertini (a numerical package) if time permits. I'll also talk a bit about how to write your own package in Macaulay2 to do just what you want; the language is amazingly adaptable to mathematical intuition. If you have a particular problem you'd like to work through, please suggest it during the talk, and if it looks doable, it might replace some of my planned material.

After the seminar, everyone is invited out for drinks and dinner with the speaker.