ROYAL HOLLOWAY - NUMBER THEORY SEMINAR

Tuesday May 10, 4pm in ABLT 2

Speaker: **Simon Myerson** (University of Oxford)

Title: **Real and rational systems of forms**

Abstract: Let $f = (f_1, \dots, f_R)$ be a system of forms of degree d in n variables. A classic result of Birch estimates the density of integral zeroes of f when $n \gg_{d,R} 1$ is large and the variety $f = 0$ is smooth. We give an improvement when $R \gg_d 1$ is large, and an extension to systems of Diophantine inequalities $|f| < 1$ with real coefficients. Our strategy reduces the problem to an upper bound for the number of solutions to a multilinear auxiliary inequality.

Date: April 25, 2016.