THEO MURPHY INTERNATIONAL SCIENTIFIC MEETING

Number fields and function fields: coalescences, contrasts and emerging applications

Thursday 29 – Friday 30 May 2014

Organised by Professor Jon Keating FRS, Professor Zeev Rudnick and Professor Trevor Wooley FRS

DAY 1				DAY 2			
SESSION 1 **Additive combinatorics and analytic number theory in function fields** **Chair: Roger Heath-Brown FRS**		**SESSION 2** **Arithmetic statistics for function fields** **Chair: Alina Bucur**		**SESSION 3** **Connections with random matrix theory** **Chair: Bryan Birch FRS**		**SESSION 4** **Numerical experiments and interactions with physics (String Theory etc)** **Chair: Paul Pollack**	
09.00	Welcome by Sir Peter Knight FRS & Jon Keating FRS						
09.05	**Trevor Wooley FRS** Robust estimates for exponential sums in function fields	**13.30**	**Lior Bary-Soroker** Using Galois theory in analytic number theory	**09.00**	**Brian Conrey** Questions about moments	**13.30**	**Michael Rubinstein** Conjectures, theorems, and experiments concerning the moments of zeta functions associated to quadratic function fields
09.30	Discussion	**14.00**	Discussion	**09.30**	Discussion	**14.00**	Discussion
09.45	**Kannan Soundararajan** Moments of L-functions and a one-sided central limit theorem	**14.15**	**Chantal David** Statistics for cyclic trigonal curves over finite fields	**09.45**	**Nick Katz** Equidistribution questions raised by Entin, Keating, and Rudnick	**14.15**	**Philip Candelas FRS** A physicists take on the conjecture of Birch and Swinnerton-Dyer
10.15	Discussion	**14.45**	Discussion	**10.15**	Discussion	**14.45**	Discussion
10.30	**Coffee**	**15.00**	**Tea**	**10.30**	**Coffee**	**15.00**	**Tea**
11.00	**Zeev Rudnick** Some problems in analytic number theory for polynomials over a finite field	**15.30**	**Emmanuel Kowalski** Sums of products of trace functions over finite fields	**11.00**	**Nina Snaith** Elliptic curves and random matrices	**15.30**	**Xenia de la Ossa** Arithmetic of Calabi-Yau manifolds
11.30	Discussion	**16.00**	Discussion	**11.30**	Discussion	**16.00**	Discussion
11.45	**Ben Green FRS** The inverse large sieve problem	**16.15**	**Kiran Kedlaya** How many points on a random curve over a finite field?	**11.45**	**Andrew Granville** The anatomy and pretentions of function fields	**16.15**	**Summary of discussions and closing remarks**
12.15	Discussion	**16.45**	Discussion	**12.15**	Discussion		
12.30	**LUNCH**	**17.00**	**CLOSE**	**12.30**	**LUNCH**	**17.00**	**CLOSE**