

Hausdorff Mathematical Institute
Research Workshop “Diophantine equations”
23rd-29th of April 2009
Organisers: D.R. Heath-Brown, A. MacIntyre, Yu.I. Manin,
Yu.V. Matiyasevich, and B.Z. Moroz

Thursday, April 23rd

Morning Session:

9.30 - 10 a.m. Tea and coffee

10 - 11 a.m. Yu.I. Manin, Mordell-Weil problem for cubic surfaces: in search of a model-theoretic approach.

11 - 11.30 a.m. Coffee break

11.30 a.m. - 12.30 p.m. T. Wooley, Rational points on complete intersections, and mean values of Weyl sums (joint work with P. Salberger).

Afternoon Session:

2.30 - 3 p.m. B. Viray, Failure of the Hasse principle for Enriques surfaces.

3 - 3.30 p.m. Coffee break

3.30 - 4.00 p.m. P. Moree, The Erdős-Moser equation revisited, using continued fractions (joint work with Y. Gallot and W. Zudilin).

Friday, April 24th

Morning Session:

9 - 10 a.m. V. Abrashkin, A semistable case of a generalization of the Shafarevich conjecture.

10 - 10:30 a.m. Coffee break

10:30 - 11:30 a.m. P. Corvaja, Recent results on integral points on surfaces.

Afternoon Session:

1.30 - 2 p.m. N. Billerey, Irreducibility criterion for elliptic Galois representations.

2.15 - 2.45 p.m. J.-H. Evertse, Effective results on points of certain subvarieties of tori (joint work with A. Berczes, K. Györy, and C. Pontreau).

2.45 - 3.15 p.m. Coffee break

3.15 - 3.45 p.m. D. Loughran, Manin’s conjecture for a singular sextic del Pezzo surface.

4 - 4.30 p.m. Ch. Samuels, The collection of metric Mahler measures.

Saturday, April 25th

No lectures are scheduled. A traditional boat trip will be organised.

Sunday, April 26th

Morning Session:

9 - 10 a.m. A. MacIntyre, Schanuel's conjecture and systems of exponential equations over the reals and the complexes.

10 - 10:30 a.m. Coffee break

10:30 - 11:30 a.m. L. Dieulefait, The proof of Serre's conjecture: the ubiquity of modular forms.

Afternoon Session:

1.30 - 2 p.m. J. Zahid, Simultaneous zeros of a cubic and a quadratic form over the p -adic numbers.

2 - 2.30 p.m. Coffee break

2.30 - 3 p.m. A. Ustinov, On the distribution of Frobenius numbers.

3.15 - 3.45 p.m. A. Schinzel, Equal values of trinomials (joint work with G. Peter and A. Pintér).

4 - 4.30 p.m. M. Carrizosa, Relative Lehmer problem for CM abelian varieties.

Monday, April 27th

Morning Session:

9 - 10 a.m. P. Salberger, On the density of rational points on curves and Fermat hypersurfaces.

10 - 10:30 a.m. Coffee break

10:30 - 11:30 a.m. D.R. Heath-Brown, Zeros of systems of p -adic forms.

Afternoon Session:

1.30 - 2 p.m. Yu Yasufuku, Vojta's conjecture on blowups and the abc .

2.15 - 2.45 p.m. J. Brüdern, Pairs of undenary cubic forms.

2.45 - 3.15 p.m. Coffee break

3.15 - 3.45 p.m. H. Godinho, Additive equations over p -adic fields.

4 - 4.30 p.m. N. Jones, Serre curves in one-parameter families (joint work with A. Cojocaru and D. Grant).

Tuesday, April 28th

Morning Session:

9 - 10 a.m. J.-L. Colliot-Thélène, Quadrics over function fields in one variable over a \mathfrak{p} -adic field.

10 - 10:30 a.m. Coffee break

10:30 - 11:30 a.m. J. Pila, Rational points of definable sets and Diophantine problems.

Afternoon Session:

1.30 - 2 p.m. A. Várilly-Alvarado, Cox rings of big rational surfaces (joint work with D. Testa and M. Velasco).

2.15 - 2.45 p.m. D. Harari, Some Poitou-Tate exact sequences.

2.45 - 3.15 p.m. Coffee break

3.15 - 3.45 p.m. V. Blomer, On a sextenary cubic form (joint work with J. Brüdern).

4 - 4.30 p.m. N. Niedermowwe, An asymptotic formula for the number of S -integral points of bounded height in \mathbb{P}^n with respect to a quadric.

7 p.m. Conference dinner.

Wednesday, April 29th

Morning Session:

9 - 10 a.m. K. Györy, Perfect powers in products with terms from an arithmetic progression.

10 - 10:30 a.m. Coffee break

10:30 - 11:30 a.m. A. Skorobogatov, The Brauer group of Kummer surfaces and torsion of elliptic curves.

Afternoon Session:

1.30 - 2 p.m. R. Dietmann, Linear spaces on rational algebraic hypersurfaces.

2 - 2.30 p.m. Coffee break

2.30 - 3 p.m. G. Marasingha, Almost prime roots of ternary quadratic forms.

3.15 - 3.45 p.m. M.P. Harvey, On cubic forms in seven variables.