Workshop on Arithmetic Geometry

Related Areas and Applications

Preliminary Programme

University of Stellenbosch, 1 − 4 February 2005

Venue: *Department of Mathematics, Van der Sterr Building, 3021*

Organizers: Florian Breuer, Barry Green (Stellenbosch University)

Tuesday 1 February

9:00 - 10:00   *M. Hindry*, On the number of primes represented by polynomials

10:00 - 10:30   *Tea*

10:30 - 11:30   *T. Sekiguchi*, Geometric aspects on the addition algorithm on the Jacobian variety of a C_{ab} curve

11:30 - 14:30   *Admin and Lunch*

14.30 - 15.20   *H.-G. Rück*, Curves over finite fields with the maximal number of rational points

15:40 - 16:30   *D. Kohel*, Constructing CM invariants of genus 2 curves

16:40 - 17:30   *E.-U. Gekeler*, Frobenius distributions of elliptic curves

Wednesday 2 February: Symposium day at the *African Institute for the Mathematical Sciences*

9:00 - 10:00   *G. Frey*, Applications of Arithmetic Geometry to Data Security

10:30 - 11:20   *D. Kohel*, Introduction to Magma and Applications

11:40 - 12:30   *E.-U. Gekeler*, Heuristics in Number Theory

12.30 - 14.00   *Lunch*

14.30 - 17:30   *Outing*

Thursday 3 February

9:00 - 10:00   *N. Suwa*, Twisted Kummer and Kummer-Artin-Schreier Theories

10:00 - 10:30   *Tea*

10:30 - 11:20   *B. Kunyavski*, Application of arithmetic geometry to the characterization of finite solvable groups

11:30 - 12:20   *M. Girard*, Maximality of the Weierstrass subgroup of the generic genus g curve

12:30 - 14:30   *Lunch*

14.30 - 15.20   *Y. Haraguchi*, On non-commutative extensions of $\mathbb{G}_a$ by $\mathbb{G}_m$ over an $\mathbb{F}_p$-algebra

15:40 - 16.30   *Y. Niitsuma*, On the extensions of $\widehat{W}_n$ by $\widehat{\mathcal{G}}^{(\mu)}$ over a $\mathbb{Z}_{(p)}$-algebra

16:40 - 17:30   *M. Kriel*, Endomorphism rings of hyperelliptic Jacobians

Friday 4 February

9:30 - 10:30   *A. Pacheco*, Rank of abelian varieties over function fields

10:30 - 11:00   *Tea*

11:00 - 12:00   *S. David*, Uniformity questions in the Mordell-Lang problem

12:00 - 14:30   *Lunch*

14.30 - 15.20   *F. Breuer*, Galois representations associated to Drinfeld modules

15:40 - 16.30   *K. Hughes*, Wolstenholme's Theorem, Formal groups, and p-adic L-functions

16:40 - 17:30   *C Swart*, A very simple attack on an elliptic curve $E/\mathbb{F}_p$ where
$\#E(\mathbb{F}_p) = p - 1$ or p.

Enquiries:

Florian Breuer	**Tel:** (021) 808 3288	**e-mail:** fbreuer@sun.ac.za
Barry Green	**Tel:** (021) 808 3284	**e-mail:** bwg@sun.ac.za