Programme for the first meeting of the

Volkswagen Foundation German – South African Partnership Project:

"Arithmetic Geometry and Data Security"

University of Stellenbosch, South Africa, 1 – 6 December 1997

WORKSHOP TITLE: On Algebraic Curves and their Automorphism Groups

VENUE: Department of Mathematics, University of Stellenbosch.

Monday 1 December:

9.30 - 10.30:   *Codes and function fields over finite fields I*, Henning Stichtenoth.

11.00 - 12.00:   *On Public-key-cryptosystems and hyperelliptic curves*, Gerhard Frey.

12.30 - 14.30:   *Lunch outing (Morgenhoff)*

14.30 - 15.00:   *Supersingular curves over finite fields 0, Preliminaries on Reed-Muller codes*, Roland Fray.

15.00 - 15.30:   *Supersingular curves over finite fields I*, Brink van der Merwe.

15.30 - 16.00:   *Tea/Coffee.*

16.00 - 17.00:   *Supersingular curves over finite fields II*, Brink van der Merwe.

Tuesday 2 December:

9.00 - 10.00:   *Function fields over finite fields II*, Henning Stichtenoth.

10.15 - 11.15:   *Fundamental Groups of Curves (particularly of small genus)*, Gerhard Frey.

11.30 - 12.30:   *Liftings of galois covers of smooth curves I: Introduction and motivation*, Barry Green.

12.30 - 14.00:   *Lunch.*

14.00 - 15.00:   *Supersingular curves over finite fields III*, Rafiq Omar.

15.15 - 16.15:   *On the algebra and arithmetic of higher degree forms: A survey*, Kenneth Hughes.

Wednesday 3 December:

Change of venue for this day: *Department of Mathematics, University of the Western Cape.*

9.30 - 10.30:   *On higher degree forms II*, Arnold Keet.

11.00 - 12.00:   *Liftings of galois covers II: An obstruction theorem*, Barry Green.

12.00 - 14.00:   *Lunch, UWC.*

14.00 - 18.00:   *Outing*: Trip to Cape Point and Waterfront.

Thursday 4 December:

9.00 - 10.00:   *Function fields over finite fields III*, Henning Stichtenoth.

10.15 - 11.15:   *Supersingular curves over finite fields IV*, Paul Cherenack.

11.30 - 12.30:   *Liftings of galois covers III: Geometry of the fixed points of order p automorphisms*, Barry Green.

12.30 - 14.00:   *Lunch.*

14.00 - 15.00:   *On higher degree forms III*, Rafiq Omar.

15.30 - 16.00:   *Tea/Coffee.*

16.00 - 17.00:   *Computing genus 2 curves with complex multiplication*, Paul van Wamelen.

19.00 — :   *Workshop dinner.*

Friday 5 December:

9.00 - 10.00:   *Function fields over finite fields IV*, Henning Stichtenoth.

10.15 - 11.00:   *Supersingular curves over finite fields V*, Kenneth Hughes.

11.30 - 12.30:   *Survey talk on important open problems in the theory of elliptic curves*, Gerhard Frey.

12.30 - 14.00:   *Light Lunch together with the German Consul and University Dean of Science.*

14.00 - 15.00:   *Planning session.*

15.00 — :   *Outing*: Visit to a wine farm.

Saterday 6 December: *Visit to Cape Town.*

Enquiries: *Prof. Barry Green. Tel (021) 808 3284.*