
REPRESENTATION THEORY

XVIII

Inter-University Centre, Dubrovnik, Croatia
Jun 18th – 24th, 2023



Scientific Center of Excellence for Quantum and Complex Systems, and Representations of Lie Algebras - QuantiXLie



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SCHEDULE: NUMBER THEORY SECTION

Representation Theory XVIII
IUC, Dubrovnik, Croatia, June 18 – 24, 2023
Schedule: Number Theory Section

Monday, June 19

- 8:55 – 9:00 Welcome and Introduction
9:00 – 9:50 **Michael Stoll:** Conjectural asymptotics for prime orders of points on elliptic curves over number fields
10:00 – 10:50 **Ariel Pacetti:** On solutions of the curve $x^4+dy^2=z^p$

Chair: Filip Najman

- 10:50 – 11:10 **Coffee break**
11:10 – 11:40 **Philippe Michaud-Jacobs:** Sieving for quadratic points on bielliptic curves
11:50 – 12:20 **Diana Mocanu:** The modular approach for solving $x^r+y^r=z^p$ over totally real number fields
12:30 – 13:00 **Nuno Frietas:** Fermat-type equations via computation of elliptic curves with prescribed trace of Frobenius

Chair: Nicolas Billerey

- 16:00 – 16:50 **Borka Jadrijević:** Characterization of quadratic ε -CNS polynomials and determination of all ε -CNS bases in quadratic number fields
17:00 – 17:30 **Rudi Mrazović:** A random model for the Paley graph

Chair: Zrinka Franušić

Tuesday, June 20

- 9:00 – 9:50 **Davide Lombardo:** A simple dichotomy in Serre's uniformity question
10:00 – 10:50 **Ari Shnidman:** Torsion points on QM abelian surfaces

Chair: Goran Muić

- 10:50 – 11:10 **Coffee break**
11:10 – 12:00 **Rachel Newton:** Counting S_4 and S_5 extensions satisfying the Hasse norm principle
12:10 – 13:00 **Adam Morgan:** Counterexamples to the Hasse principle in quadratic twist families of genus 1 hyperelliptic curves

Chair: Alina Bucur

Wednesday, June 21

- 9:00 – 9:50 **Nicolas Billerey:** On the modularity of reducible Galois representations
10:00 – 10:50 **Petar Orlić:** Modular curves $X_0(N)$ with infinitely many quartic points

Chair: Michael Stoll

- 10:50 – 11:10 **Coffee break**
11:10 – 11:40 **Goran Muić:** On Higher Order Weierstrass Points on $X_0(N)$ and beyond

11:50 – 12:20 **Igor Ciganović:** The Zelevinsky classification of unramified representations of the metaplectic group

Chair: Ariel Pacetti

Thursday, June 22

9:00 – 9:50 **Alina Bucur:** Counting D_4 quartic extensions of a number field ordered by discriminant

10:00 – 10:50 **Nikola Adžaga:** Asymptotics of the number of $D(q)$ -pairs and $D(q)$ -triples via L-functions

Chair: Rachel Newton

10:50 – 11:10 **Coffee break**

11:10 – 11:40 **Francesc Fite:** Effective Sato-Tate conjecture for abelian varieties and applications

11:50 – 12:20 **Timo Keller:** Computing quadratic points on modular curves $X_0(N)$

12:30 – 13:00 **Oana Padurariu:** The primes of bad reduction of the modular star quotient $X_0(N)^*$

Chair: Matija Kazalicki

Friday, June 23

9:00 – 9:30 **Samuele Anni:** Modular Galois representations: twists and Diophantine applications

9:40 – 10:10 **Katerina Santicola:** Curves with prescribed rational points

10:20 – 10:50 **Enrique Gonzalez-Jimenez:** Parametrizations of isogeny-torsion graphs of elliptic curves over \mathbb{Q}

Chair: Davide Lombardo

10:50 – 11:10 **Coffee break**

11:10 – 11:40 **Matija Kazalicki:** Quadratic twists of genus one curves and Diophantine quintuples

11:50 – 12:20 **Vinko Petričević:** Searching for elliptic curves with high rank in the PARI/GP software package

Chair: Nikola Adžaga
