STNB 2015

SEMINARI DE TEORIA DE NOMBRES DE BARCELONA
BARCELONA NUMBER THEORY SEMINAR

BARCELONA NUMBER THEORY SEMINAR
29th edition

January 26 - 30, 2015, Facultat de Matemàtiques, UB (Room T1)

Gran via de les Corts Catalanes 585, Barcelona

Organising Committee: M. Alsina, P. Milione, H. Stainsby

HIGHER COMPOSITION LAWS, Coordinator: Alberto Cámara

1. *Integer cubes*, Eduard Soto

2. *Quartic rings and pairs of binary cubic forms*, Xevi Guitart

3. *Parametrisation of quintic rings*, Santiago Molina

4. *Origins and applications of higher composition laws*, Alberto Cámara

CONSTRUCTION OF GALOIS REPRESENTATIONS ASSOCIATED TO HILBERT MODULAR FORMS, Coordinator: Víctor Rotger

1. *Galois representations associated to classical modular forms of weight at least two: Deligne's theorem*, Laia Amorós

2. *Artin representations associated to modular forms of weight one: Deligne-Serre's theorem*, Sara Arias de Reyna

3. *Galois representations associated to Hilbert modular forms arising from Shimura curves via Jaquet-Langlands: Carayol's theorem*, Piermarco Milione

4. *Galois representations associated to ordinary Hilbert modular forms: Wiles' theorem*, Francesc Fité

5. *Automorphic forms and Galois representations: Langlands conjecture*, Luis Garcia

CONTRIBUTED TALKS

Alberto Fernandez, Nuno Freitas, Xevi Guitart, Elisa Lorenzo, Piermarco Milione, Victor Rotger, Eduard Roure, Samir Siksek, Hayden Stainsby, Carlos de Vera

Registration and more information at http://stnb.tk

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PROGRAMME

Monday 26 January

10:00 – 10:10   Welcome session
10:10 – 11:30   *Cubes of integers*, Eduard Soto
12:00 – 13:00   *Galois representations associated to classical modular forms of weight at least two: Deligne's theorem*, Laia Amorós

15:15 – 16:00   *Elliptic curves over real quadratic fields are modular*, Samir Siksek
16:15 – 16:45   *From the Generalized Fermat Equation to Hilbert modular forms with prescribed inertia types*, Nuno Freitas
17:00 – 17:30   *Contribution to the study of Cartier algebras and differentials operators*, Alberto Fernandez Boix

Tuesday 27 January

10:00 – 11:00   *Quartic rings and pairs of binary cubic forms*, Xevi Guitart
11:40 – 12:40   *Artin representatations associated to modular forms of weight one: Deligne-Serre's theorem*, Sara Arias de Reyna

15:15 – 16:00   *New developments on the Birch and Swinneton-Dyer conjecture*, Victor Rotger
16:15 – 16:45   *A new Heegner point construction*, Carlos de Vera
17:00 – 17:30   *Goldbach's weak conjecture. Helfgott's theorem and numeric verification*, Eduard Roure

Wednesday 28 January

10:00 – 11:00   *Parametrisation of quintic rings*, Santiago Molina
11:30 – 12:30   *Galois representations associated to Hilbert modular forms arising from Shimura curves via Jaquet-Langlands: Carayol's theorem*, Piermarco Milione

12:40 – 13:10   *Bad reduction of genus 3 curves with complex multiplication*, Elisa Lorenzo
13:20 – 13:50   *Computing equations of elliptic curves over number fields via p-adic methods*, Xevi Guitart

Thursday 29 January

10:00 – 11:00   *Origins and applications of higher composition laws*, Alberto Cámara
11:40 – 12:40   *Galois representations associated to ordinary Hilbert modular forms: Wiles' theorem*, Francesc Fité

16:00 – 19:00   Special session in occasion of $(60 \pm \varepsilon)$ birthdays
20:30   Conference dinner

Friday 30 January

10:30 – 11:00   *Computation of triangular bases of integral clousure*, Hayden Stainsby
11:15 – 11:45   *Statistics in function fields: the case of biquadratic extensions*, Piermarco Milione
12:15 – 13:15   *Automorphic forms and Galois representations: Langlands conjecture*, Luis Garcia
13:15   Discussion about STNB2016

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(60 ± Ɛ)-BIRTHDAYS SESSION

dedicated to:

Núria Vila, Enric Nart
Teresa Crespo, Àngela Arenas

Thursday January 29, 2015
Facultat de Matemàtiques, UB, (Room T1)
Gran via de les Corts Catalanes 585, Barcelona

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PROGRAMME:

16:00   *Early Contributions to the Inverse and Embedding Galois Problems,* P. Bayer

17:30   *A formal promenade*, X. Xarles

18:30   *Series of representations of subgroups generated by SCM elements*, M. Alsina

20:30   Conference dinner   (Request information at stnbarcelona@gmail.com)

More information on the program at http://stnb.tk