

# Program of RIMS Workshop

## Algebraic Number Theory and Related Topics

Organizers:

Tadashi Ochiai (Osaka University)

Takeshi Tsuji (University of Tokyo)

Date: December 9 (Mon) - December 13 (Fri), 2013

Place: Room 420, Research Institute for Mathematical Sciences (RIMS),  
Kyoto University, Kyoto 606-8502 JAPAN

December 9 (Mon)

9:55 - 10:05 Introduction

10:05 - 11:05 Koichi Kawada (Iwate University)

The ternary Goldbach problem — from Hardy-Littlewood, Vinogradov to Helfgott  
(Survey Talk)

11:20 - 12:10 Yoshinori Mishiba (Kyushu University)

Algebraic independence of certain positive characteristic multizeta values

13:40 - 14:30 Koji Tasaka (Kyushu University)

Multiple Eisenstein series and Brown's totally odd multiple zeta values

14:50 - 15:40 Shin-ichi Yasutomi (Toho University) Jun-ichi Tamura (Tsuda College)

New multidimensional continued fraction algorithms and their applications

16:00 - 17:00 Kazuki Morimoto (Osaka City University)

On algebraicity of special values of  $L$ -functions for  $SO(V) \times GL_2$

December 10 (Tue)

9:00 - 10:00 Shun'ichi Yokoyama (Kyushu University)

Exploring Modular Forms using Computer Algebra Systems (Survey Talk)

10:15 - 11:05 Shin Hattori (Kyushu University)

Ramification theory and perfectoid spaces

11:20 - 12:10 Yoshiyasu Ozeki (RIMS, Kyoto University)

On Galois equivariance of homomorphisms between torsion potentially crystalline  
representations

13:40 - 14:30 Yuichi Hirano (University of Tokyo)

Congruences of Hilbert modular forms over real quadratic fields and the special  
values of  $L$ -functions

14:50 - 15:40 Yoshitaka Maeda

The so-called Maeda conjecture and related topics

16:00 - 17:00 Kazuhiro Fujiwara (Nagoya University)

Indivisibility of relative class numbers for quadratic extensions of totally real fields

December 11 (Wed)

- 9:00 - 10:00 Kentaro Nakamura (Hokkaido University)  
The  $p$ -adic Langlands correspondence I (Survey Talk)
- 10:15 - 11:05 Sho Yoshikawa (University of Tokyo)  
Roots of the discriminant of an elliptic curves and its torsion points
- 11:20 - 12:10 Yasuhiro Terakado (University of Tokyo)  
Determinant of  $l$ -adic cohomology of a double covering of a projective space and the discriminant of the ramification divisor
- 13:40 - 14:30 Kotaro Sugahara (Kyushu University)  
Arithmetic Cohomology Groups
- 14:50 - 15:50 Takao Yamazaki (Tohoku University)  
 $p$ -adic soliton theory and torsion points on Jacobian varieties

December 12 (Thu)

- 9:00 - 10:00 Naoki Imai (University of Tokyo)  
The  $p$ -adic Langlands correspondence II (Survey Talk)
- 10:15 - 11:05 Wataru Kai (University of Tokyo)  
A  $p$ -adic exponential map for the Picard group and its application to the Albanese map
- 11:20 - 12:10 Hiroyasu Miyazaki (University of Tokyo)  
Special values of zeta functions of varieties over finite fields via higher Chow groups
- 13:40 - 14:30 Masatoshi Suzuki (Tokyo Institute of Technology)  
An inverse problem for canonical systems and its applications
- 14:50 - 15:40 Yu Yasufuku (Nihon University)  
Arithmetic Properties of Coordinates of Orbit Points
- 16:00 - 17:00 Noriyuki Abe (Hokkaido University)  
A classification of irreducible admissible modulo  $p$  representations of reductive  $p$ -adic groups
- 18:00 - 20:00 Conference Banquet

December 13 (Fri)

- 9:00 - 10:00 Masato Kurihara (Keio University)  
Rubin-Stark conjecture and Rubin-Stark elements (Survey Talk)
- 10:15 - 11:05 Takamichi Sano (Keio University)  
A new conjecture for Rubin-Stark elements and its applications
- 11:20 - 12:10 Sachio Ohkawa (University of Tokyo)  
On logarithmic nonabelian Hodge theory of higher level in characteristic  $p$
- 13:40 - 14:30 Yuya Matsumoto (University of Tokyo)  
Good reduction criterion for K3 surfaces
- 14:50 - 15:40 Keisuke Arai (Tokyo Denki University)  
Non-existence of points rational over number fields on Shimura curves
- 16:00 - 17:00 Ahmed Abbes (IHES/CNRS)  
The  $p$ -adic Simpson correspondence

Program Committee:

Tadashi Ochiai (Osaka Univ.), Takeshi Tsuji (Univ. of Tokyo), Iwao Kimura (Univ. of Toyama)