

# Arithmetic and Algebraic Geometry 2004

1. Dates: December 17, 2004– December 22, 2004
2. Location: Graduate School of Mathematical Sciences  
The University of Tokyo
3. Organizers  
K. Kato (Kyoto Univ.), T. Katsura (Univ. of Tokyo),  
T. Saito (Univ. of Tokyo), T. Terasoma (Univ. of Tokyo)
4. Program

## December 17 (Friday)

10:30 –11:10 Registration

11:20 –12:20 M. Raynaud (Univ. de Paris XI):

Local regular models for elliptic torsors

14:00 –15:00 K. Kato (Kyoto Univ.):

$K_1$  of some non-commutative Iwasawa algebras

15:30 –16:30 K. Fujiwara (Nagoya Univ.)

Rigid geometry and derived category transformation

## December 18 (Saturday)

10:00 –11:00 N. Katz (Princeton Univ.):

L-functions over finite fields

11:20 –12:20 G. Frey (Univ. of Duisburg-Essen):

Curves over fields of finite type with infinite rational fundamental groups

14:00 –15:00 K. Saito (RIMS):

Categorical approach to infinite Lie algebras

15:30 –16:10 T. Katsura (Univ. of Tokyo):

Shioda's work I

16:20 –17:00 K. Oguiso (Univ. of Tokyo)

Shioda's work II — Mordell-Weil Lattices

## December 19 (Sunday)

Excursion (to Kamakura (an old town close to Tokyo))

December 20 (Monday)

10:00 –11:00 J. de Jong (MIT):

A conjecture on variations of Hodge structures

11:20 –12:20 I. Shimada (Hokkaido Univ.):

Supersingular K3 surfaces as double covers of a projective plane

14:00 –15:00 J. Top (Univ. of Groningen) :

A correspondence between certain families of K3 surfaces

15:30 –16:30 T. Saito (Univ. of Tokyo):

The characteristic class and the Swan class of an  $\ell$ -adic sheaf  
(joint works with Ahmed Abbes and with Kazuya Kato)

December 21 (Tuesday)

10:00 –11:00 G. van der Geer (Univ. of Amsterdam):

The top Chern class of the Hodge bundle on the moduli of abelian varieties

11:20 –12:20 S. Kimura (Hiroshima Univ.):

Finite dimensionality of the motives of hypersurfaces

14:00 –15:00 U. Persson (Göteborg Univ.):

A survey of three-fold geography

15:30 –16:30 T. Terasoma (Univ. of Tokyo):

Convolution and Harmonic shuffle relation

December 22 (Wednesday)

10:00 –11:00 V. V. Nikulin (Univ. of Liverpool):

On classification of log del Pezzo surfaces of index  $\leq 2$

11:20 –12:20 S. Saito (Univ. of Tokyo):

Finiteness results for motivic cohomology of arithmetic schemes

14:00 –15:00 M. Hanamura (Tohoku Univ.):

Degeneration of varieties and Chow-Künneth decomposition

15:30 –16:30 L. Illusie (Univ. de Paris XI):

Miscellaneous on traces in  $l$ -adic cohomology, a survey