

# Arithmetic and Algebraic Geometry Related to Moduli Spaces

1. Dates: January 19 – 23, 2009
2. Location: Graduate School of Mathematical Sciences  
The University of Tokyo
3. Organizers  
G. van der Geer (Univ. Amsterdam), T. Katsura (Univ. Tokyo),  
S. Kondo (Nagoya Univ), T. Terasoma (Univ. Tokyo)
4. Program  
January 19 (Monday)  
10:00 –11:00 G. van der Geer (Univ. Amsterdam) :  
Local systems on moduli spaces and Siegel modular forms  
11:30 –12:30 I. Shimada (Hiroshima Univ.):  
On equisingular families of plane curves of degree 6  
14:30 –15:30 I. Nakamura (Hokkaido Univ.):  
Two canonical compactifications of moduli of abelian varieties  
16:00 –17:00 R. Laza (Univ. Michigan ) :  
The combinatorics and arithmetic of the degenerations of K3 surfaces  
January 20 (Tuesday)  
10:00 –11:00 S. Grushevsky (Princeton Univ.) :  
Singularities of the theta divisor  
11:30 –12:30 S. Morita (Univ. Tokyo):  
Moduli space of curves and representations of symplectic groups  
14:30 –15:30 T. Shioda (RIMS):  
Curves on Fermat surfaces revisited  
16:00 –17:00 K. Saito (IPMU):  
Partition functions for a discrete group  
17:30 Reception

January 21 (Wednesday)

10:00 –11:00 G. Faltings (MPI) :

The isomorphism between Drinfeld- and Lubin-Tate-towers

11:30 –12:30 K. Fujiwara (Nagoya Univ.):

Compactifications of schemes and algebraic spaces

14:30 –15:30 K. Kato (Kyoto Univ.):

Spaces of  $SL(2)$ -orbits for  $\mathbf{C}$  and for  $\mathbf{Q}_p$

16:00 –17:00 F. Kato (Kyoto Univ.):

Artin-Schreier-Mumford curves

January 22 (Thursday)

10:00 –11:00 J. Keum (KIAS) :

Rational homology projective planes and Algebraic Montgomery-Yang Problem

11:30 –12:30 K. Oguiso (Keio Univ.):

On Enriques manifolds

14:30 –15:30 A. Verra (Univ. Roma 3) :

Generic finiteness of the theta map for the moduli spaces of vector bundles on a curve.

16:00 –17:00 S. Harashita (IPMU) :

Generic Newton polygons of Ekedahl-Oort strata in the moduli of abelian varieties

January 23 (Friday)

10:00 –11:00 N. Shepherd-Barron (Cambridge Univ.) :

Formulae for Jacobians and their theta functions

11:30 –12:30 L. Illusie (Univ. Paris XI) :

On finite group actions in  $\ell$ -adic cohomology : traces and fixed points