

# Representation Theory, Systems of Differential Equations and their Related Topics

**Dates:** 2 - 6 July 2007

**Venue:** 4-508, Department of Mathematics, Hokkaido University  
(on the 5th floor of Science Bldg #4)

**URL:** <http://coe.math.sci.hokudai.ac.jp/sympo/070702/>

**Organizers:** Keiji Matsumoto (Hokkaido University)  
Hiroyuki Ochiai (Nagoya University)  
Toshio Oshima (University of Tokyo)  
Mutsumi Saito (Hokkaido University)  
Hiroaki Terao (Hokkaido University)  
Hiroshi Yamashita (Hokkaido University)

## **Program:**

### Monday, July 2

- 13:30-14:30 Toshio Oshima (University of Tokyo)  
Heckman-Opdam hypergeometric functions and their confluences
- 15:00-16:00 Taku Ishii (Chiba Institute of Technology)  
Explicit formulas of Whittaker functions on real semisimple Lie groups
- 16:15-17:15 Birne Binengar (Oklahoma State University)  
Whittaker vectors, generalized hypergeometric functions and a matrix calculus

### Tuesday, July 3

- 9:30-10:30 Nobuki Takayama (Kobe University)  
Modified  $A$ -hypergeometric system
- 10:45-11:45 Uli Walther (Purdue University)  
Regularity and slopes of hypergeometric systems along linear subspaces
- 13:30-14:30 Hironobu Kimura (Kumamoto University)  
The general Schlesinger system and Ward correspondence
- 15:00-16:00 Yoshishige Haraoka (Kumamoto University)  
Studies on regular holonomic systems from the viewpoint of rigidity
- 16:15-17:15 Jiro Sekiguchi (Tokyo University of Agriculture and Technology)  
Singular curves, Saito free divisors and root systems
- 18:00-20:00 Reception at Enreiso

### Wednesday, July 4

- 9:00-10:00 Gen Mano (University of Tokyo)  
The unitary inversion operator for the minimal representation of the indefinite orthogonal group  $O(p, q)$
- 10:15-11:15 Tomohide Terasoma (University of Tokyo)  
Beilinson regulator and bar complex for Deligne cohomology
- 11:30-12:30 Ken-ichi Sugiyama (Chiba University)  
A geometric analog of the Iwasawa conjecture

### Thursday, July 5

- 9:30-10:30 Yutaka Matsui (University of Tokyo)  
Lefschetz fixed point formulas over singular varieties  
(a joint work with K. Takeuchi)
- 10:45-11:45 Ryohei Hattori (Hokkaido University)  
On periods of cyclic triple coverings of the complex projective line and theta constants
- 13:30-14:30 William Traves (United States Naval Academy)  
Differential operators and invariant theory
- 15:00-16:00 Kazufumi Kimoto (University of the Ryukyus)  
Invariant theory of singular  $\alpha$ -determinants
- 16:15-17:15 Minoru Itoh (Kagoshima University)  
Schur type functions associated to polynomial sequences of binomial type

### Friday, July 6

- 9:00-10:00 Salem Ben Said (Université Henri Poincaré)  
On the role of  $SL(2, \mathbf{R})$  in the theory of Dunkl operators
- 10:15-11:15 Atsushi Wakamiko (Hokkaido University)  
On the freeness of multi-Coxeter arrangements of type  $B_\ell$  and  $F_4$
- 11:30-12:30 Jing-Song Huang (Hong-Kong University of Science and Technology)  
Dirac operators and Lie algebra cohomology

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Secretary: Ms. M. Sasamori

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