

# The NORThern Workshop on Representation Theory of Lie Groups and Lie Algebras

*Dates:* March 6-9, 2007

*Venue:* Room 8-309, Faculty of Science Building #8, Hokkaido University

*Organizers:* Akihito Wachi (Hokkaido Institute of Technology)

Hiroshi Yamashita (Hokkaido University)

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## ***Tuesday, March 6***

13:45 - 14:45

Akihito Wachi (Hokkaido Institute of Technology)

The strong Lefschetz property of the cohomology rings of the flag varieties

15:00 - 16:00

Kyo Nishiyama (Kyoto University)

Degenerate principal series and the geometry of null fiber (joint work with Peter Trapa)

16:30 - 17:30

Hiroshi Oda (Takushoku University)

Eigenvalues of contracted invariants

## ***Wednesday, March 7***

9:15 - 10:15

Hiro-aki Narita (Osaka City University)

Generalized Whittaker functions on  $Sp(1, q)$  for quaternionic discrete series and their applications to automorphic forms

10:45 - 11:45

Jing-Song Huang (Hong Kong University of Science and Technology)

Dirac cohomology, Lie algebra cohomology and branching rules

13:45 - 14:45

Leticia Barchini (Oklahoma State University)

Semi-invariant systems of differential operators on manifolds

15:00 - 16:00

Kyo Nishiyama (Kyoto University)

Asymptotic cone of semisimple orbits for symmetric pair

16:30 - 17:30

Soo Teck Lee (National University of Singapore)

A proof of the Littlewood-Richardson rule

## ***Thursday, March 8***

9:15 - 10:15

Kazunari Sugiyama (University of Tsukuba)

Decomposition formula for b-functions and its application

10:45 - 11:45

Peter Trapa (University of Utah)

TBA

13:45 - 14:45

Leticia Barchini (Oklahoma State University)

Semi-invariant systems of differential equations and prehomogeneous vector spaces of Heisenberg type

15:00 - 16:00

Hisayosi Matumoto (University of Tokyo)

On irreducibility of the space of continuous Whittaker vectors I

16:30 - 17:30

Toshio Oshima (University of Tokyo)

Root subsystems of a root system

18:30 - Banquet

## ***Friday, March 9***

9:15 - 10:15

Hideaki Morita (Oyama National College of Technology)

A combinatorial property of Garsia-Haiman modules and Green polynomials with two variables

10:45 - 11:45

Takeshi Hirai (Kyoto University)

Characters of projective (= spin) factor representations of the infinite symmetric group

13:00 - 14:00

Peter Trapa (University of Utah)

TBA

14:15 - 15:15

Hisayosi Matumoto (University of Tokyo)

On irreducibility of the space of continuous Whittaker vectors II

15:30 - 16:30

Hiroyuki Ochiai (Nagoya University)

TBA

**Homepage:** <http://coe.math.sci.hokudai.ac.jp/sympo/070306/>