# Program of the Conference

## Exploration of New Structures and Natural Constructions in Mathematical Physics

Graduate School of Mathematics (Room 509), Nagoya University

March 5–8, 2007

— On the occasion of Professor Akihiro Tsuchiya's retirement —

### Speakers and Titles

Vladimir Bazhanov(Australian National University)
    Star-Triangle Relation, Faddeev–Volkov Model and Discrete
    Conformal Symmetry

Boris Feigin (Landau Institute & Moscow Independent University)
    Fermionic Formulas for the Characters or Representations in the
    $(1, n)$ Logarithmic Theory

Edward Frenkel (Berkeley)
    Gaudin Models with Irregular Singularities

Nicolai Reshetikhin (Berkeley)
    Random Surfaces and the Limit Shape Phenomenon

Paul Wiegmann (Chicago)
    Mathematical Aspects of Laplacian Growth: Evolution of Con-
    formal Maps and Singularities of Growing Patterns

Tomoyuki Arakawa (Nara Women's University)
    On Affine W-Algebras

Tohru Eguchi (Tokyo)
    Liouville Field, Modular Forms and Elliptic Genera

Masaki Kashiwara (Research Institute of Mathematical Sciences)
    Microlocalization of Rational Cherednik Algebras
    (joint work with R. Rouquier)

Gen Kuroki (Tohoku)
    Quantum Groups and Quantization of Isomonodromic Systems

Tetsuji Miwa (Kyoto)
    Fermionic Basis in the XXZ Spin Chain

Shigeru Mukai (Research Institute of Mathematical Sciences)
    Hilbert's 14th Problem for the Kronecker Quiver

Hiraku Nakajima (Kyoto)
    K-theoretic Donaldson invariants via instanton counting
    (joint work with L. Göttsche, K. Yoshioka)

Kyoji Saito (Research Institute of Mathematical Sciences)
    Towards Categorical Construction of Primitive Forms

Takeshi Suzuki (Research Institute of Mathematical Sciences)
    Cherednik Algebras in Conformal Field Theory

Kanehisa Takasaki (Kyoto)
    Fay-Type Identities and Dispersionless Limit of Integrable
    Hierarchies(joint work with Takashi Takebe)
Akihiro Tsuchiya (Nagoya)
    Tensor Category Associated with Vertex Operator Algebra with
    $C_2$ Finiteness Condition

**Time Table** (1 hour for each)

| March | 10:00– | 11:15– | 14:00– | 15:15– | 16:30– | |
|---|---|---|---|---|---|---|
| 5th | - | - | Arakawa | Suzuki | Kuroki | |
| 6th | Takasaki | Wiegmann | Bazhanov | Eguchi | Saito | |
| 7th | Nakajima | Reshetikhin | Feigin | Miwa | Tsuchiya | Banquet |
| 8th | Frenkel | Mukai | Kashiwara | | | |

# Satelite Workshop on Integrable Systems

2007 March 12–13, organized by Koji Hasegawa and Hiraku Nakajima
Department of Mathematics, Kyoto University, 6th Bld., Room 609

## Speakers and Titles

Vladimir Bazhanov (Australian National University)
    "Analytic Theory of the Eight-Vertex Model"
Evgeny Feigin (Lebedev Institute and Moscow Independent University)
    "Character Formulas for Kac–Moody Cosets"
Evgeny Muhkin (Indiana University)
    "On the Shapiro Conjecture"
Edward Frenkel (UC Berkeley)
    "Ramifications of the Geometric Langlands Program"
    "Instantons Beyond Topological Theory"