

## Infinite Analysis Seminar, Kyoto, 2007

December 22, 2007 11:00-12:30, RIMS, Room 402

Professor Hitoshi Konno  
(Department of Mathematics, Hiroshima University)

**TITLE: Representations of the elliptic quantum group  $U_{q,p}(\hat{sl}_2)$**

**ABSTRACT:**

We introduce an h-Hopf algebroid structure into the elliptic algebra  $U_{q,p}(\hat{sl}_2)$  and formulate it as an elliptic quantum group. We then discuss dynamical representations of  $U_{q,p}(\hat{sl}_2)$ . In particular, we extend the Chari-Pressley classification theorem of the finite-dimensional irreducible representations of the quantum affine algebra  $U_q(\hat{sl}_2)$  to the elliptic case. As an application, we investigate a structure of the tensor product of two evaluation representations and derive an elliptic analogue of the Clebsch-Gordan coefficients. We show that they are expressed by using the terminating very-well-poised balanced elliptic hypergeometric series  $12V11$ .

12:30 — 14:00 Lunch

December 22, 2007 14:00-15:30, RIMS, Room 402

Professor Katsuhisa Mimachi  
(Department of Mathematics, Tokyo Institute of Technology)

**TITLE: The connection problem associated with a Selberg type integral and the q-Racah polynomials**

**ABSTRACT :**

The purpose of our talk is a report on our recent progress in the connection problem associated with a Selberg type integral, which satisfies an ordinary differential equation of order  $m+1$  with three regular singular points  $0, 1$  and  $\infty$ . The connection problem we mean here is to give linear relations between the fundamental sets of solutions around the singularities.