

THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PURE MATHEMATICS

On p-q dualities

by

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<u>Abstract</u>

The representation theory of p-adic groups is an important part of the Langlands program; it has many important applications to automorphic forms and number theory. The discovery of quantum groups on the other hand was motivated by statistical mechanics and solvable lattice models. It turns out you can relate the representation theory of p-adic GL_r to that of quantum affine gl_n. The relation goes through the Iwahori (affine) Hecke algebra. I will explain this relation and talk about some problems that are motivated by the p-adic theory, but are easier to solve in the quantum setting. One of the problems relates Whittaker models for metaplectic GL_r over a p-adic field. I will also explain, time permitting, how one can relate other p-adic groups to the quantum world.

Date : 5 June 2025 (Thursday) Time : 3:00p.m.-4:00p.m. Venue : Room 4504 (Lift 25/26)

All are Welcome!