

Lie Groups and Representation Theory Seminar at the University of Tokyo

リー群論・表現論セミナー

- DATE May 19 (Tue), 2015, 17:00–18:30
- PLACE Room 122, Graduate School of Mathematical Sciences
- SPEAKER **Anton Evseev** (University of Birmingham)
- TITLE RoCK blocks, wreath products and KLR algebras
- ABSTRACT The so-called RoCK (or Rouquier) blocks play an important role in representation theory of symmetric groups over a finite field of characteristic p , as well as of Hecke algebras at roots of unity. Turner has conjectured that a certain idempotent truncation of a RoCK block is Morita equivalent to the principal block B_0 of the wreath product $S_p \wr S_d$ of symmetric groups, where d is the "weight" of the block. The talk will outline a proof of this conjecture, which generalizes a result of Chuang–Kessar proved for $d < p$. The proof uses an isomorphism between a Hecke algebra at a root of unity and a cyclotomic Khovanov–Lauda–Rouquier algebra, the resulting grading on the Hecke algebra and the ideas behind a construction of R-matrices for modules over KLR algebras due to Kang–Kashiwara–Kim.