

**GCOE Lectures
at the University of Tokyo**

GCOE レクチャーズ

- DATE May 29 (Tue), 2012, 16:30–18:00
June 5 (Tue), 2012, 16:30–18:00
- PLACE Room 126, Graduate School of Mathematical Sciences
- SPEAKER **Yves Benoist** (CNRS, Orsay)
- TITLE Random walk on reductive groups I, II
- ABSTRACT The asymptotic behavior of the sum of real numbers chosen independantly with same probability law is controled by many classical theorems: Law of Large Numbers, Central Limit Theorem, Law of Iterated Logarithm, Local Limit Theorem, Large deviation Principle, 0–1 Law,... In these introductory talks I will recall these classical results and explain their analogs for products of matrices chosen independantly with same probability law, when the action of the support of the law is semisimple. We will see that the dynamics of the corresponding action on the flag variety is a crucial tool for studying these non-commutative random walks.