Representation Theory Abstracts

1st talk 14:00-14:45 Jiandi Zou (Technion)

Break 14:45- 14:55

2nd talk 14:55 – 15:40 Boris Feigin (Hebrew University)
Coffee break 15:40-16:00
3rd talk 16:00 – 16:45   Galyna Dobrovolska (Ariel University)

Break 16:45-16:55
4th talk 16:55-17:40 Evgeny Feigin (Tel Aviv University)

============ Titles/abstracts: =================

1) Jiandi Zou (Technion)

Title: Classification of irreducible representations of a Kazhdan-Patterson covering group of GL(r)

Abstract: The local Langlands correspondence for a general linear group over a non-archimedean local field is known for a while, which gives a bijection between the set of equivalence classes of irreducible representations of GL(r) and the set of equivalence classes of r-dimensional Weil-Deligne representations. To establish such a bijection, we first need to do that for cuspidal representations, which is indeed the most crucial and difficult step. Then, the problem reduces to classifying all the irreducible representations of GL(r) via cuspidal ones, which is due to Bernstein-Zelevinsky and Zelevinsky. Their methods are also adapted and improved by others including Tadic, Lapid-Minguez, Minguez-Sécherre to classify irreducible representations of an inner form of GL(r). In this talk, I will focus on explaining some key points in the proof of Zelevinsky classification, then I will explain how to adapt it to classify all the irreducible representations of a certain covering group of GL(r), i.e. a Kazhdan-Patterson covering group. This is a joint work with Erez Lapid and Eyal Kaplan.

2) **Boris Feigin** (Hebrew University)

Title: Integrable systems and deformed vertex algebras

3) Galyna Dobrovolska (Ariel University)

Title: On the structure of the affine asymptotic Hecke algebras

Abstract: According to a conjecture of Lusztig, the asymptotic affine Hecke algebra should admit a description in terms of the Grothendieck group of sheaves on the square of a finite set equivariant under the action of the centralizer of a nilpotent element in the reductive group. A weaker form of this statement, allowing for possible central extensions of stabilizers of that action, has been proved by Bezrukavnikov and Ostrik. In this work we give a counterexample to the above conjecture of Lusztig, showing that nontrivial central extensions do arise, and thus the above weaker statement is optimal. This is joint work with Roman Bezrukavnikov and Stefan Dawydiak.

4) **Evgeny Feigin** (Tel Aviv University)

Title: Quiver Grassmannians, local models, and central degenerations of Affine Grassmannians.

We describe certain quiver Grassmannians for the cyclic quivers showing up in the theory of local models of Shimura varieties. The quiver Grassmannians in question have many nice geometric, topological, and combinatorial properties. In particular, they admit a realization in terms of affine Schubert varieties, thus providing a finitization of the Gaitsgory central degeneration of affine Grassmannians.
Joint work with Martina Lanini and Alexander Puetz.