Non-commutative Hilbert schemes and Hall algebras

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Non-commutative Hilbert schemes are smooth moduli spaces of framed quiver representations. For example, for a quiver with one vertex and no arrows they can be identified with Grassmannians and for a quiver of type A_n they can be identified with flag varieties. The non-commutative Hilbert schemes possess cellular decompositions, giving rise to non-canonical bases of cohomology groups. In this talk I will discuss another basis of cohomology groups, consisting of products of Chern classes of universal vector bundles over nc-Hilbert schemes. This basis is obtained by interpreting cohomology of nc-Hilbert schemes as a module over the cohomological Hall algebra of the quiver.

Thursday, April 20, 2023 01:00pm - 03:00pm
Heinzel Seminar Room (I21.EG.101), Office Building West, ISTA

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