Department of Mathematics
The Chinese University of Hong Kong

數學系
香港中文大學

Seminar

Coherent Springer Theory and Categorical Deligne-Langlands

by

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Abstract:
Kazhdan and Lusztig proved the Deligne-Langlands conjecture, a bijection between irreducible representations of principal block representations of a p-adic group with certain unipotent Langlands parameters (a q-commuting semisimple-nilpotent pair) in the Langlands dual group. We lift this bijection to a statement on the level of categories. Namely, we define a stack of unipotent Langlands parameters and a coherent sheaf on it, which we call the coherent Springer sheaf, which generates a subcategory of the derived category of coherent sheaves equivalent to modules for the affine Hecke algebra (or specializing at q, smooth principal block representations of a p-adic group). Our approach involves categorical traces, Hochschild homology, and Bezrukavnikov's Langlands dual realizations of the affine Hecke category. This is a joint work with David Ben-Zvi, David Helm and David Nadler.

Date : October 28, 2020 (Wednesday)
Time : 9:00 am – 10:00am (Hong Kong SAR)
Zoom link :
https://cuhk.zoom.us/j/97838822137?pwd=ZTVvSC9abmNjR3RCcS9FTzJNTVhXdz09
Meeting ID: 978 3882 2137
Passcode : sesame

All are Welcome