

## Categorical Hikita duality

*Tuesday, 5 February 2019 15:30 (1 hour)*

Symplectic duality predicts various relationships (often somewhat mysterious) between the Higgs and Coulomb branches of certain  $3d \mathcal{N} = 4$  supersymmetric gauge theories. In particular, Hikita's conjecture relates the cohomology ring of the Higgs branch with the coordinate ring of the fixed scheme of the Coulomb branch, with respect to a torus action on the latter. I will discuss joint work with Roman Bezrukavnikov, which proposes a categorical analogue of this conjecture for abelian gauge theories. It relates constructible sheaves on the loop space of the Higgs branch with coherent sheaves on the fixed scheme of the Coulomb branch. I will give a combinatorial model for for categories and sketch a proof.

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**Session Classification:** Michael McBreen: Categorical Hikita duality