

Knot Categorification from Geometry, via String Theory

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Abstract: I will describe three paths to categorification of RTW invariants of knots, and the relations between them. The first approach is based on a category of B type branes on resolutions of slices in affine Grassmannians, the second on a category of A-branes in a Landau-Ginzburg theory. The third approach is based on counting solutions to five dimensional equations with gauge theory origin. All three approaches, and the relationship between them, are obtained starting from a (little) string theory in six dimensions. This is based on works with Andrei Okounkov, and with Dimitrii Galakhov.