Geometry, Physics, and Representation Theory
Northeastern University

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Thursday, September 17, 1:45-4 pm (two talks), Lake Hall 509

Bridgeland stability conditions as related to the Ran space, and to 2-Segal spaces (1.45-2.45pm)

Abstract. This talk is speculative in nature. I will try to begin by giving an idea of what wall-crossing is the context of Bridgeland stability, and what Hall algebras are; then I'd like to ask two more questions: Can the Ran space of the real line give us a new place to encode wall-crossing formulas, and is there a Reineke inversion formula for Hall categories (as opposed to Hall algebras)? (As far as I know, this last notion was first asked by Dyckerhoff and Kapranov.)

Lagrangian cobordisms and Fukaya categories (3-4pm)

Abstract. There is growing interest in trying to understand a notion of mirror symmetry for not just algebraic geometry over the complex numbers, but over more general rings, even ring spectra. As it turns out, there is a surprising way in which cobordism theory for Lagrangians seems to create a concrete bridge between Fukaya categories (which requires hard analysis) and stable homotopy theory (which requires no analytical tools a priori).