## Department of Mathematics, BGU

## Algebraic Geometry and Number Theory

**On** Wednesday, May ,25 2016

At 15:10 - 16:30

In Math 101-

Oren Ben Bassat (Hafia)

will talk about

## **Multiple Lagrangian Intersections**

Abstract: Joyce and others have used shfited symplectic geometry to define Donaldson–Thomas Invariants. This kind of geometry naturally appears on derived moduli stacks of perfect complexes on Calabi-Yau varieties. One wonderful feature of shfited symplectic geometry (developed by Pantev, Toën, Vaquié and Vezzosi) is that fibre products (i.e. intersections) of Lagrangians automatically carry Lagrangian structures. Using a strange property of triple intersections from arXiv:1309.0596, this extra structure can be organized into a \$2\$-category. We discuss a partial linearization using Joyce's perverse sheaves. I will also talk about the relationship of this \$2\$-category with TQFTs, algebraic versions of the Fukaya categories and categories of Lagrangians. This is joint work with Lino Amorim and available at http://arxiv.org/abs/1601.01536<sup>1</sup>

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