Topology Seminar

Nicolo Sibilla

of University of British Columbia will be speaking on

The topological Fukaya category and mirror symmetry for toric Calabi-Yau threefolds

on March 2 at 4:30 in
MIT Room 2-131

The Fukaya category of open symplectic manifolds is expected to have good local-to-global properties. Based on this idea several people have developed sheaf-theoretic models for the Fukaya category of punctured Riemann surfaces: the name topological Fukaya category appearing in the title refers to the (equivalent) constructions due to Dyckerhoff-Kapranov, Nadler and Sibilla-Treumann-Zaslow. The theory involved in setting up the topological Fukaya category has surprising connections with many different areas of geometry and topology, such as for instance the co-representability of the Waldhausen S-construction. In this talk I will focus on defining the topological Fukaya category and explain applications to Homological Mirror Symmetry for toric Calabi-Yau threefolds. This is work in progress joint with James Pascaleff.