David Ben-Zvi: Geometric Langlands correspondence and topological field theory

Kapustin and Witten introduced a powerful perspective on the geometric Langlands correspondence as an aspect of electric-magnetic duality in four dimensional gauge theory. While the familiar (de Rham) correspondence is best seen as a statement in conformal field theory, much of the structure can be seen in the simpler (Betti) setting of topological field theory using Lurie's proof of the Cobordism Hypothesis. In these lectures I will explain this perspective and illustrate its applications to representation theory following joint work with Nadler as well as Brochier, Gunningham, Jordan and Preygel.