SCGP Weekly Talk: David Ben-Zvi

Tuesday, April 30**⋅**1:15 – 2:15pm

Location:103

Title: Arithmetic Electric-Magnetic Duality

Abstract: The Langlands program is a grand organizing vision for a large slice of number theory and representation theory. A shockingly accurate metaphor for the Langlands program has emerged as electric-magnetic duality in four-dimensional gauge theory, but where the role of spacetime is played by objects from arithmetic. I will discuss this general picture and begin to describe recent work with Yiannis Sakellaridis and Akshay Venkatesh, in which we apply ideas from QFT (the Gaiotto-Witten electric-magnetic duality for boundary theories) to a fundamental problem in number theory, predicting the relation between L-functions of Galois representations and integrals of automorphic forms.