

Mathematics Department Colloquium

Organizer: Maciej Zworski

Thursdays, 4:10–5:00pm, Evans 60

February 16 **Martin Olsson**, University of Texas, Austin

The Hilbert scheme for stacks

In the last few years there has been a large number of new applications, ideas, and results about stacks. For example, stacks have found interesting new uses in the study of moduli spaces, twisted stable maps, the Brauer group, the minimal model program, log geometry and crystalline cohomology, and Hodge theory. In this talk I will give a non-technical introduction to stacks and indicate the flavor of some of these new developments. I will in particular focus on two different stack-theoretic analogues of the classical Hilbert scheme of a variety, and explain how these generalized Hilbert schemes connect with the new applications. The talk is intended for a general audience and I will not assume any background in the subject.