1154-14-1487   **Sarah Frei*** (`sf31@rice.edu`). *Moduli spaces of sheaves on surfaces.*

Moduli spaces of sheaves on surfaces provide rich and interesting examples of higher dimensional varieties, and yet many of their arithmetic properties when defined over an arbitrary field are still unknown. In this talk, I will discuss recent work, joint with Katrina Honigs, pertaining to those moduli spaces which arise in the study of hyperkaehler varieties: we show that over a finite field, two smooth projective moduli spaces of sheaves on a given K3 or abelian surface have the same number of points as soon as they have the same dimension. (Received September 15, 2019)