1120-14-187   **Ursula Whitcher*** (`whitchua@uwec.edu`). *Arithmetic mirror symmetry and K3 surfaces.*

Mirror symmetry predicts surprising geometric correspondences between distinct families of algebraic varieties. In some cases, these correspondences have arithmetic consequences. For example, we can use mirror symmetry to explore the structure of the zeta function, which encapsulates information about the number of points on a variety over a finite field. We use Berglund-Huebsch-Krawitz mirror symmetry to make and test predictions about the zeta functions of certain K3 surfaces described by quartic polynomials. This talk describes joint work with Charles Doran, Tyler Kelly, Adriana Salerno, Steven Sperber, and John Voight. (Received February 21, 2016)