1138-14-180 **Rares Rasdeaconu*** (rares.rasdeaconu@vanderbilt.edu), 1326 Stevenson Center, Department of Mathematics, Vanderbilt University, Nashville, TN 37240. *Counting real rational curves on K3 surfaces.*

In real enumerative geometry, as the number of real solutions of a given counting problem may depend on the configuration of the conditions imposed, finding non-trivial bounds plays an important role. When counting curves on algebraic manifolds defined over the reals, the natural upper bound provided by the corresponding complex counting can be computed in many cases by the Gromov-Witten invariant. A non-trivial lower bound was discovered in symplectic setting by J.-Y. Welschinger, and it is a deformation invariant counting with signs of real rational curves. In this talk, an interpretation of the Welschinger's signs in algebraic setting is discussed, and invariants counting with signs real rational curves in complete, primitive linear systems on real K3 surfaces are proposed. These invariants satisfy an analog of the Yau-Zaslow formula. As a consequence, it follows that with respect to the degree of the polarization, at logarithmic scale, the number of the real rational curves counted grows as the corresponding number of complex rational curves (up to a constant factor). The talk is based on a joint work with V. Kharlamov. (Received February 09, 2018)