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THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE  
Geometric Functional Analysis and Probability Seminar

Room 261 ,Ziskind Building  
on Thursday, Feb 12, 2015at 11:05

Chaim Even ZoharHebrew University of Jerusalem

Invariants of Random Knots and Links

Abstract:

We study random knots and links in  $\mathbb{R}^3$  using the Petaluma model, which is based on the petal projections developed by Adams et al. (2012). In this model we obtain a formula for the distribution of the linking number of a random two-component link. We also obtain formulas for the expectations and the higher moments of the Casson invariant and the order-three knot invariant  $v_3$ . These are the first precise formulas given for the distributions of invariants in any model for random knots or links. All terms above will be defined and explained. Joint work with Joel Hass, Nati Linial, and Tahl Nowik.