Discrete Mathematics Seminar

October 15, 2015, 10:30 a.m., Ross N638

SPEAKER: EJ Janse van Rensburg, *York University*

TITLE: Forces and Pressures in Models of Partially Directed Paths

ABSTRACT: The partially directed path is a classical model in lattice path combinatorics. In this talk I will review briefly the model and explain why it is a good model for quantifying polymer entropy. If the path is confined to a space between vertical walls in a half-lattice, then it loses entropy. This loss of entropy induces an entropic force on the walls. I will show how to determine the generating and partition function of the model using the kernel method, and then compute entropic forces and pressures. In some cases the asymptotic behaviour of the entropic forces will be shown. This work was done in collaboration with Thomas Prellberg. See *http://arxiv.org/abs/1509.07165*.