

Representation Theory, Geometry & Combinatorics Seminar

Organizer: M. Haiman and N. Reshetikhin

Wednesday, 4:00–6:00pm, 939 Evans

Oct. 14 **Chris Manon**, MSRI

Phylogenetic algebraic geometry and the Verlinde formula

Recent work of Sturmfels and Xu establishes an intriguing connection between the Hilbert functions of important varieties from phylogenetic algebraic geometry and a genus 0, $sl_2(\mathbb{C})$ case of the celebrated Verlinde formula from mathematical physics. We will discuss how this relationship can be constructed from the representation theory of affine Kac-Moody algebras and the associated theory of conformal blocks. We will also discuss connections with branching problems from the representation theory of semi-simple Lie algebras.