

Representation Theory, Geometry & Combinatorics Seminar

Organizer: M. Haiman and K. Reshetikhin

Wednesday, 4:00–6:00pm, 939 Evans

March 18 **Jim Bryan**, UBC

The orbifold vertex: counting curves on orbifolds by counting piles of colored boxes

The topological vertex is a formalism for computing the Donaldson-Thomas or Gromov-Witten invariants of a toric Calabi-Yau threefold in terms of a universal power series called the topological vertex. This series is the generating function for counting 3D partitions (a.k.a piles of boxes) and has been computed explicitly by Okounkov, Reshetikhin, and Vafa. We give an orbifold version of the topological vertex. Our formalism computes the Donaldson-Thomas invariants of a toric Calabi-Yau orbifold in terms of the orbifold vertex—a generating function for counting boxes colored by representations of a finite group.