1106-60-1004 **Greta Panova*** (panova@math.upenn.edu), University of Pennsylvania, Mathematics Department, Philadelphia, PA 19104. *Asymptotics of symmetric functions: applications to some integrable models.*

We develop methods to study the asymptotics of symmetric functions of representation theoretic origins. Using these results, we study the behavior of certain models from statistical mechanics as the underlying mesh size goes to 0. In this talk we will focus on lozenge tilings of various domains (including domains with free boundaries), but the methods have also been applied to the 6-vertex model with domain wall boundary conditions (alternating sign matrices) and the O(1) dense loop model. Results include the recovery of GUE-eigenvalue distribution for the lozenge positions near the boundary and the existence of limit shapes of the height functions (plane partitions) for free boundary domains.

This talk is based on two papers, the main one is joint work with Vadim Gorin. (Received September 09, 2014)