1086-05-1624 **Janine LoBue*** (jlobue@ucsd.edu). *Permuted Basement Fillings, k-ary Trees, and Watermelons.* Preliminary report.

In this talk, I will enumerate combinatorial objects known as *permuted basement fillings* which generate the polynomials $\widehat{E}_{\gamma}^{\sigma}$ known to decompose the Schur functions. These permuted basement fillings, or PBFs, are fillings of certain diagrams with integer entries, generalizing the tableaux which generate the Schur functions. These objects were originally introduced by Mason, who has found that many of the nice algebraic properties of the Schur functions are maintained by the $\widehat{E}_{\gamma}^{\sigma}$s. Not much work has been done, however, on enumerating the permuted basement fillings of a given shape. Unfortunately, there is no analogue of the hook formula for counting the number of PBFs of a given general shape. I will show that we are able to count PBFs of certain basic shapes, including rectangles. We will find that these objects, which have come to be a topic of study primarily because of their algebraic significance, also have connections to familiar combinatorial objects including k-ary trees, lattice paths, and watermelons. Additionally, we will begin to look at certain patterns and statistics in PBFs to find q-analogues of these enumerative results. (Received September 23, 2012)