Some recent results on enumeration of tableaux and lattice path

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In this talk I will present some recent enumeration results on tableaux and lattice paths. In the first part we will show some recent results on the major and amajor polynomial of increasing and row-increasing tableaux. In 2014 O. Pechenik studied the cyclic sieving of increasing tableaux of shape $2 \times n$, and obtained a polynomial on the major index of these tableaux, which is a q-analogue of refined small Schröder numbers. We define row-increasing tableaux and study the major and amajor index of row-increasing tableaux of shape $(2 \times n)$. The resulting polynomials are both q-analogues of refined large Schröder numbers. In the second part, we will show bijectively that the number of Standard Young Tableaux of order n contained in a $(2, 1)$-hook is equal to the number of humps in n-Motzkin paths, which answers a question posed by A. Regev in 2010.