Immanants and complexity theory
Ke Ye, Texas A&M

The immanants defined by Littlewood are families of polynomials that generalize determinants and permanents. Because of this, they provide natural testing grounds for algebraic complexity problems. In this primarily expository talk I will discuss their algebraic, geometric, and complexity-theoretic properties. I will also discuss the Pascal determinant, which has a formula and geometric properties that resemble those of the determinant, but is known to be at least as hard as the permanent to compute.