1162-16-61 **Jason Gaddis**, **Padmini Veerapen** and **Xingting Wang*** (xingting.wang@howard.edu).
Reflection groups and rigidity of quadratic Poisson algebras.

In this talk, we discuss the invariant theory of quadratic Poisson algebras. Let G be a finite group of the graded Poisson automorphisms of a quadratic Poisson algebra A. When the Poisson bracket of A is skew-symmetric, a Poisson version of the Shephard-Todd-Chevalley theorem is proved stating that the fixed Poisson subring A^G is skew-symmetric if and only if G is generated by reflections. For many other well-known families of quadratic Poisson algebras, we show that G contains limited or even no reflections. This kind of Poisson rigidity result ensures that the corresponding fixed Poisson subring A^G is not isomorphic to A as Poisson algebras unless G is trivial. This is a joint work with Jason Gaddis and Padmini Veerapen. (Received August 22, 2020)