1128-14-226   **Kyungyong Lee**, **Matthew R Mills*** (`matthew.mills@huskers.unl.edu`) and **Alexandra Seceleanu**. *Vanishing ideals for points from cluster algebras.*

Cluster algebras are a class of axiomatically defined commutative rings equipped with a distinguished set of generators (cluster variables) grouped into overlapping subsets (clusters) of the same finite cardinality. *A priori*, we know that cluster variables are multivariate rational functions, but by the Laurent Phenomenon we know that they are actually Laurent polynomials with positive integer coefficients. Therefore by evaluating these Laurent polynomials at one, each cluster gives rise to a point with positive integer coordinates. We study the vanishing ideal of these points to give polynomial invariants for affine quivers and cluster algebras. (Received February 27, 2017)