1157-13-382 **Christine Berkesch*** (cberkesc@umn.edu), Minneapolis, MN. *The geometry of toric syzygies.*

The homological algebra of minimal free resolutions, or syzygies, capture intricate geometric properties of a subvariety in projective space, as first shown in work of Hilbert more than a century ago. However, when the ambient space is a product of projective spaces or a more general smooth projective toric variety, this relationship fails. To remedy this, we consider another homological object, called a virtual resolution, which encodes several geometric invariants in close parallel to the more classical case of syzygies over projective space. (Received February 02, 2020)