1075-14-199 **Frank Sottile*** (sottile@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77843, and **Elisa Postinghel** and **Nelly Villamizar**. *Degenerations of Irrational Toric Varieties.*

A toric variety X_A is a subvariety of projective space P^n parameterized by a set A of $n+1$ monomials in Z^d. Kapranov, Sturmfels, and Zelevinsky showed that the set of all degenerations of X_A induced by the torus in P^n is parameterized by the toric variety of the secondary polytope of A, and in fact Hausdorff limits of torus translates are all toric degenerations.

A set of $n+1$ real numbers $A \subset R^d$ gives a map from the positive orthant $R^d_>$ to the n-simplex whose closure is an irrational toric variety. These likewise have torus translates by $R^n_>$ and the set of irrational toric degenerations is naturally identified with the secondary polytope of A. While these facts are immediate from the definitions, the main result of this talk, that all Hausdorff limits are toric degenerations, is not. The proof of this fact gives a new and completely elementary proof of the result of Kapranov, Sturmfels, and Zelevinsky. This is joint work with Elisa Postinghel and Nelly Villamizar of Oslo. (Received August 30, 2011)