1159-05-88 **Lei Xue*** (lxue@uw.edu). *A Proof of Grünbaum's Lower Bound Conjecture for general polytopes.*
In 1967, Grünbaum conjectured that any d-dimensional polytope with $d+s \leq 2d$ vertices has at least

$$\phi_k(d+s,d) = \binom{d+1}{k+1} + \binom{d}{k+1} - \binom{d+1-s}{k+1}$$

k-faces. In the talk we will discuss the proof of this conjecture and also characterize the cases in which equality holds. (Received July 31, 2020)