1145-60-933   **Marcus Michelen*** (`marcusmi@sas.upenn.edu`). *Central Limit Theorems from the Roots of Probability Generating Functions.*

Given a sequence of random variables X_n taking values in $\{0, 1, \ldots, n\}$, what information can be deduced about the distribution of X_n based on the roots of their generating functions? We show that if the roots uniformly avoid a neighborhood of 1 in the complex plane, then there is a central limit theorem provided the variance of X_n isn't subpolynomial in n. An application to combinatorial problems such as counting subgraphs with small maximum degree will be discussed. Time permitting, further limit theorems and examples will be briefly described. This is based on joint work with Julian Sahasrabudhe. (Received September 17, 2018)