GREGORY KNAPP, University of Calgary
Polynomial Root Separation and Mahler Measure

In 1964, Mahler proved a valuable lower bound on the separation of a polynomial—the minimal distance between distinct roots of that polynomial—in terms of the Mahler measure of that same polynomial. Many authors, including Bugeaud, Dujella, Fang, Koiran, Pejkovic, Rump, and Salvy have improved, generalized, or investigated the sharpness of this lower bound. However, little attention has been paid to upper bounds on separation in terms of Mahler measure. In this talk, we examine some data on the distribution of separation against Mahler measure, we make a conjecture about an upper bound on separation in terms of Mahler measure, and we describe our partial results which prove that conjecture in certain cases.