MARIE JOSÉ BERTIN, University Paris 6, Institut de Mathématiques, 175 Rue du Chevaleret, 75013 Paris, France
Mahler's measure and L-series of K3 hypersurfaces

The Mahler measure of a multivariate polynomial has been introduced by Mahler in 1962 to measure the size of factors of polynomials.

Later in 1996, Deninger guessed a link between the Mahler measure of a certain polynomial defining an elliptic curve and the L-series of the curve.

I plan to show how these facts extend to K3-hypersurfaces. I give several examples of singular K3-hypersurfaces for which the Mahler measure is expressed in terms of the L-series of the variety plus eventually a term related to the faces of the Newton polyhedron.