SUBHAM ROY, Université de Montréal
Areal Mahler measure of multivariable polynomials

The (logarithmic) Mahler measure of a non-zero rational polynomial P in n variables is defined as the mean of $\log |P|$ (with respect to the normalized arclength measure) restricted to the standard n-torus ($\mathbb{T}^n = \{(x_1, \ldots, x_n) \in (\mathbb{C}^*)^n : |x_i| = 1, \forall \, 1 \leq i \leq n\}$). It has been related to special values of L-functions. Pritsker (2008) defined a natural counterpart of the Mahler measure, which is obtained by replacing the normalized arclength measure on the standard n-torus by the normalized area measure on the product of n open unit disks. It inherits many nice properties, such as the multiplicative ones. In this talk, we will investigate some similarities and differences between the two. We will also discuss some evaluations of the areal Mahler measure of multivariable polynomials, which also yields special values of L-functions. This is a joint work with Prof. Matilde Lalìn. If time permits we will also define and explore the Zeta Areal Mahler measure.