

---

**SUBHAM ROY**, Université de Montréal

*Generalized Mahler measure of Laurent polynomials*

The (logarithmic) Mahler measure of a non-zero rational polynomial  $P$  in  $n$  variables is defined as the mean of  $\log |P|$  restricted to the standard  $n$ -torus ( $\mathbb{T}^n = \{(x_1, \dots, x_n) \in (\mathbb{C}^*)^n : |x_i| = 1, \forall 1 \leq i \leq n\}$ ). The Mahler measure has been related to special values of L-functions, and this has been explained in terms of regulators. In 2018, Lalín and Mittal considered the generalized Mahler measure (where the mean of  $\log |P|$  is restricted to arbitrary  $n$ -torus) to obtain relations between certain polynomials mentioned in Boyd's paper. In this talk, we shall investigate the definition of the generalized Mahler measure for all Laurent polynomials in two variables when they do not vanish on the integration torus. We will then discuss few results we obtained involving the relation between the standard Mahler measure and the generalized Mahler measure of such polynomials.