Speaker : Sangtae Jeong

Title : Ergodic functions over the p-adic integers

Abstract : In this talk, we present an ergodicity criterion of a certain class of 1-Lipschitz functions on $\mathbb{Z}_p$ for arbitrary primes $p$, known as $\mathcal{B}$-functions. These functions are locally analytic functions of order 1 (and therefore contain polynomials). For arbitrary primes $p \geq 5$, this erodicity criterion leads to an efficient and practical method of constructing ergodic polynomials on $\mathbb{Z}_p$ that realize a given unicyclic permutation modulo $p$. In particular, for polynomials over $\mathbb{Z}_3$, we provide a complete ergodicity criterion in terms of its coefficients. This method can be applied to a $\mathbb{Z}_p$ for general primes $p$.