BOSTON UNIVERSITY NUMBER THEORY SEMINAR

Homotopy Lie formula for the Dwork p-adic Frobenius operator

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Monday, April 1 at 4:15 pm
111 Cummington Mall, MCS B21
Tea and cookies in MCS 144 at 4:00 pm

Abstract: In this talk, we will give a modern deformation theoretic interpretation of Dwork's theory of the zeta function of a smooth projective complete intersection variety X of over a finite field. More specifically, we explicitly construct a Differential Gerstenhaber-Batalain-Vilkovisky algebra for X whose cohomology gives the p-adic Dwork cohomology of X. As a consequence, we will derive a formula for the Dwork p-adic Frobenius operator, which computes the zeta function, in terms of homotopy Lie morphisms (so called, L_∞ morphisms) and the Bell polynomial. The talk is based on a joint work with Dohyeong Kim and Junyeong Park.