

Speaker: Albrecht KLEMM (Bonn University, Germany)

Title: Arithmetic and Modularity of Calabi-Yau manifolds and String Theory Compactifications

Abstract: Using Mirror symmetry and Dwork's p-adic deformation of the Gauss Manin connections we construct the Hasse Weil Zeta function of $Z(X_p, s)$ for families of Calabi-Yau threefolds X and explore the consequences of its modularity in special fibres at algebraic extension of \mathbb{Q} on the physics of string compactifications on X . In particular on the structure of the Type IIB supersymmetric vacua, the attractor flow equations as well as on the masses and stability of BPS states.