SHIGENORI NAKATSUKA, University of Alberta

On the structure of W-algebras

The W-algebras are a basic class of vertex algebras that non-linearly generalize the affine Lie algebras and the Virasoro Lie algebra. They have appeared prominently in various areas of mathematics. In this talk, we discuss hidden relations among W-algebras, which can be understood from various points of view: Whittaker models of p-adic group representations, boundary conditions on N=4 super Yang-Mills theories, and the affine Yangians.