Speaker: Sven Möller (Universität Hamburg)

Title: Chiral Quantisations of Quiver Varieties

Abstract:

Together with Tomoyuki Arakawa and Toshiro Kuwabara we initiate a programme to study chiral quantisations of Nakajima quiver varieties. In particular, we construct certain sheaves of vertex algebras over these varieties. The corresponding vertex algebras of global sections are suspected to play an important role in the context of 3- and 4-dimensional superconformal field theories in physics. Mathematically, they are probably quasi-lisse, and their characters are likely quasi-modular forms.

As an example, we discuss the case of the the N-point Hilbert scheme of the plane (corresponding to the Jordan quiver), describing the N=4 super Yang-Mills theory with gauge group SU(N).