Abstract: The meromorphic 3D-index is a new and somewhat mysterious topological invariant of orientable 3-manifolds with toroidal boundary, defined as a state integral of Turaev–Viro type on ideal triangulations. The "states" in this integral are formal assignments of circle-valued dihedral angles to the edges of the tetrahedra. In this talk, we explain the predicted asymptotic behaviour of this invariant when the quantisation parameter q tends to 1. Conjecturally, our asymptotic limit contains “classical” information about certain flat PSL(2,C)-bundles on the manifold, including the hyperbolic volume and adjoint Reidemeister torsion whenever the manifold admits a complete hyperbolic structure of finite volume.

Contact Neil Hoffman for the seminar link.