

November 4: Vinoth Nandakumar (University of Utah), *Categorification via blocks of modular representations.*

Here we discuss a positive characteristic analogue of Bernstein-Frenkel-Khovanov's categorification of tensor products of the standard representation of \mathfrak{sl}_2 , where they use singular blocks of category \mathcal{O} for \mathfrak{sl}_m and translation functors. We use blocks of representations of \mathfrak{sl}_m in positive characteristic, with 0 Frobenius character, and singular Harish-Chandra character. We show that this is an \mathfrak{sl}_2 categorification, in the sense of Chuang and Rouquier. We expect that this should correspond to a geometric categorification constructed by Cautis, Kamnitzer and Licata, after applying equivalences due to Riche and Bezrukavnikov-Mirkovic-Rumynin. This is joint work with Gufang Zhao.