

**Speaker:** Qianhe Qin (Stanford)

**Title:** Naturality in Heegaard Floer theory.

**Abstract:** Juhász, Thurston, and Zemke showed that Heegaard Floer homology is natural over  $\mathbb{Z}/2$ . In this talk, we explain the sign issue for establishing naturality over  $\mathbb{Z}$ . We will review the notion of strong Heegaard invariants, and then discuss how to modify this to better suit the development of naturality over  $\mathbb{Z}$ .