

**Speaker:** Alison Tatsuoka (Princeton U)

**Title:** Splitting spheres and barbells

**Abstract:** We'll show that there exist infinitely many splitting spheres for two unknotted, unlinked  $S^2$ 's in  $S^4$ . Along the way, we'll introduce barbell diffeomorphisms, which were constructed by Budney-Gabai in 2019 and are the main tool of the proof. Time permitting, we'll mention upcoming work joint with Seungwon Kim and Gheehyun Nahm about more applications of barbell diffeomorphisms towards knotting in  $S^4$ .