

**Speaker:** Thomas Haines

**Title:** Endoscopic transfer of the Bernstein center

**Abstract:** Langlands' theory of endoscopy plays an important role in automorphic forms and Shimura varieties. The "fundamental lemma" and its cousin "endoscopic transfer" were recently proved in works of Ngo, Waldspurger, and Hales. These results concern identities between orbital integrals of a function  $f$  on a  $p$ -adic group  $G$  and those of a second function  $f_H$  on an endoscopic group  $H$ . This talk will explain a conjectural construction of matching functions in the (stable) Bernstein centers of  $G$  and  $H$  (and twisted variants). I will explain some theorems that are unconditional, and also indicate the applications of these ideas to the study of Shimura varieties.