

**Speaker:** Shou-Wu Zhang

**Title:** Faltings heights and Zariski density of CM abelian varieties

**Abstract:** The moduli of CM abelian varieties are the simplest objects in the category of Shimura varieties, and they have been intensively studied for their relationship to Hilbert's 12th problem and the BSD conjecture. In this talk, I will discuss some recent progress on two different kinds of problems:

- 1) Colmez' conjecture on Faltings' heights of CM abelian varieties in terms of Artin L-functions, and
- 2) Andr-Oort's conjecture on Zariski density of CM points on Shimura varieties.