

**Speaker:** George Pappas

**Title:** Reductions of Shimura varieties modulo primes

**Abstract:** Constructing and understanding integral models of Shimura varieties and their reductions modulo prime numbers is important for many applications in number theory. The subject is also closely connected to representation theory and the Langlands program. I will describe some recent progress on this problem for primes of good reduction (by Kisin) and of mild (tame) bad reduction (by Kisin and myself). The first part of the talk will motivate the discussion by explaining the structure of the reduction modulo  $p$  of the classical modular curve  $X_0(p)$ , where  $p$  is a prime number.