1128-11-30 **Stephen Choi*** (`schoia@sfu.ca`), Simon Fraser University, Burnaby, B.C. V5A 6S1, Canada, and **Peter Cho-Ho Lam** (`chohol@sfu.ca`), Simon Fraser University, Burnaby, B.C. V5A 1S6, Canada. *Large Sieve Type Inequality for the Roots of Quadratic Congruence.*

In this talk, we discuss the proof of a large sieve type inequality for the roots of quadratic congruence: let D be a squarefree positive integer. For any complex numbers α_n, $0 < \alpha < \beta$ and $J > 1$, we have

$$\sum_{\alpha J < d \leq \beta J} \sum_{\nu^2 + D \equiv 0 \pmod{d}} \left| \sum_{n \leq N} \alpha_n e^{2\pi i \nu n/d} \right|^2 \ll (\log J)^2 (J+N) \sum_{n \leq N} |\alpha_n|^2.$$

The case of $D = 1$ was proved by Fouvry and Iwaniec and they used this inequality to show that the number of primes p, of the form $p = x^2 + y^2$ with integer x and prime y, is infinite. (This is a joint work with Peter Cho-Ho Lam) (Received January 26, 2017)