## **QING ZHANG**, University of Calgary, *local converse theorems for unitary groups*

Let F be a p-adic field and E/F be a fixed quadratic extension. Let  $U_n(F)$  be the quasi-split unitary group of size n with  $n \ge 2$  associated with E/F. The local converse theorem asserts that, an irreducible (supercuspidal) generic representation  $\pi$  of  $U_n$  is uniquely determined by various local gamma factors  $\gamma(s, \pi \times \tau, \psi)$  of  $\pi$  twisted by irreducible generic representations  $\tau$  of  $GL_k(E), 1 \le k \le [\frac{n}{2}]$ , where  $\psi$  is a fixed nontrivial additive character of F. In this talk, I will give a sketch of a recent proof of this theorem when n is odd.