1979a Points on Shimura varieties mod p (Corvallis)

(Automorphic forms, representations and L-functions (Proc. Sympos. Pure Math., Oregon State Univ., Corvallis, Ore., 1977), Part 2, pp. 165–184, Proc. Sympos. Pure Math., XXXIII, Amer. Math. Soc., Providence, R.I., 1979.)

My task at the conference was to explain a proof of Langlands sketched in letter to Rapoport. Since I didn't understand Langlands's proof, I instead found my own proof. My approach is quite different from that of Langlands. The idea of Langlands for describing the points mod p was to look at them as the reductions of points in characteristic zero. My idea was to work directly with the moduli problem in characteristic p, and apply the theorems of Honda and Tate. This idea has been adopted by several later authors (Zink 1981, 1983; Reimann and Zink 1991; Kottwitz 1992; Harris and Taylor 1999;...). When Langlands began to write up his proof for publication, he found errors, and published nothing.