1023-14-893 **Jing Long Hoelscher*** (jinglong@math.upenn.edu), Department of Mathematics, David Rittenhouse Laboratory, 209 South 33rd Street, Philadelphia, PA 19104-6395. *Galois Theory for the line over finite fields.*

This talk will consider Galois groups over the line defined over a finite field with ramification only at one finite prime, and possibly tame ramification at infinity. I will describe some restrictions on the groups that can occur, as a result of arithmetic and geometric reasons. For example, dihedral groups, symmetric groups and some semi-direct products cannot occur under certain conditions. I will also give an elementary description of cyclotomic function fields, which are used to derive some positive results. (Received September 22, 2006)