1067-20-1820 **Michael R Bush*** (mbush@smith.edu), Dept. of Mathematics and Statistics, Smith College, Northampton, MA 01062. *Galois groups of p-class towers.*

The class tower of a number field consists of a certain sequence of field extensions. If the tower is finite it implies that the ring of integers of the base field can be embedded into a larger ring of integers in which unique factorization holds. That this is not always possible was established in the 1960s through the construction of examples of infinite p-class towers. In this talk I will describe a classification result for the p-groups of small order that are potentially Galois groups associated to finite towers where the base field is imaginary quadratic and p is an odd prime. Tools from computational group theory are employed. (Received September 21, 2010)