

Meeting: 1002, Pittsburgh, Pennsylvania, SS 14A, Special Session on Modularity of Galois Representations and Serre's Conjecture

1002-11-46 **Robert J Pollack*** (rpollack@math.bu.edu), Department of Math and Statistics, Boston University, 111 Cummington St., Boston, MA 02215. *An introduction to Serre's conjecture.*

A fundamental construction in number theory (by Deligne) is the attachment of a residual Galois representation to a classical modular form. Serre's conjecture asks about the reverse direction; that is, given a residual Galois representation, when does it arise from a modular form? This profound conjecture asserts that as long as the representation is odd then it is in fact modular. Moreover, Serre's conjecture predicts the weight and level of the corresponding modular form precisely in terms of the given representation (making it a testable conjecture!)

In this talk, we will give an overview of this conjecture intended for non-experts. However, we will assume that the audience has a basic familiarity with modular forms and Galois representations. (Received July 20, 2004)