

Speaker: Ted Chinburg

Title: Inverse problems for deformation rings

Abstract: In this talk I will begin by explaining what a deformation of a group representation is. Various applications of deformation theory in number theory hinge on identifying universal deformations, and on showing that the associated deformation rings have nice properties. Toward the end of the talk I will report on some work with B. de Smit and F. Bleher on the inverse problem for deformation rings. This is to identify which rings can arise as the universal deformation ring of some group representation. The main new result is a solution to a problem of M. Flach in all residue characteristics.