1096-20-1502 **David C Meyer*** (david-c-meyer@uiowa.edu), 422 Brown St. Apt. 4, Iowa City, IA 52245.
Universal deformation rings and fusion.

Let Γ be a finite group, and V be an absolutely irreducible $\mathbb{F}_p\Gamma$-module. By Mazur, V has a universal deformation ring $R(\Gamma, V)$. This ring is characterized by the property that the isomorphism class of every lift of V over a complete local commutative Noetherian ring R with residue field $\mathbb{F}_p$ arises from a unique local ring homomorphism $\alpha : R(\Gamma, V) \to R$. The structure of $R(\Gamma, V)$ is closely related to the cohomology groups $\mathrm{H}^i(\Gamma, \mathrm{Hom}_{\mathbb{F}_p}(V, V))$ for $i = 1, 2$. In this talk, we consider the case when Γ is an extension of a group G with order relatively prime to p, by an elementary abelian p-group N. We discuss $\mathrm{H}^i(\Gamma, \mathrm{Hom}_{\mathbb{F}_p}(V, V))$ for $i = 1, 2$ and the extent to which $R(\Gamma, V)$ can see the fusion of N in Γ. (Received September 16, 2013)