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**Harris B Daniels\*** ([hdaniels@amherst.edu](mailto:hdaniels@amherst.edu)), Department of Mathematics and Statistics,  
Amherst College Box 2239 P.O. 5000, Amherst, MA 01002. *An Infinite Family of Serre Curves.*

Given an elliptic curve  $E/\mathbb{Q}$ , the torsion points of  $E$  give rise to a natural Galois representation  $\rho_E : \text{Gal}(\overline{\mathbb{Q}}/\mathbb{Q}) \rightarrow \text{GL}_2(\hat{\mathbb{Z}})$  associated to  $E$ . In 1972, Serre showed that  $[\text{GL}_2(\hat{\mathbb{Z}}) : \text{Im}\rho_E] \geq 2$  for all non-CM elliptic curves. The main goal of this talk is to exhibit an elliptic surface such that the Galois representations associated to almost all of the rational specializations have maximal image. Further, we find an explicit set  $S \subset \mathbb{Q}$ , such that if  $t \notin S$ , then the Galois representation associated to the specialization at  $t$  has maximal image, with a bounded number of exceptions. (Received January 20, 2015)