

ALGEBRA  
COLLOQUIUM

*Metabelian Galois Representations*

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**Abstract:** We are used to working with Galois representations associated to elliptic curves by considering the action of the absolute Galois group on torsion points. However there is a slightly more exotic way to view this construction once we realize that the Tate module of an elliptic curve is just the abelianization of the étale fundamental group of the punctured torus.

In this talk, we discuss how to construct a class of Galois representations by considering covers of elliptic curves which are branched over one point. We discuss how this is related to the question of surjectivity of certain Galois representation, and how to construct representations with image isomorphic to the holomorph of the quaternions. We will not assume extensive knowledge of étale cohomology. This is joint work with Rachel Davis.

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Mathematics and Science Center: W306

MATHEMATICS AND COMPUTER SCIENCE  
EMORY UNIVERSITY