1035-11-448 **Samuel Maurycy Kadziela*** (kadziela@math.uci.edu), Department of Mathematics, 103 MSTB, University of California, Irvine, Irvine, CA 92697-3875. *A new approach to the discrete log problem on an elliptic curve.*

Let $E/\mathbb{Q}_p$ be an elliptic curve with good reduction, and suppose that a pair of points P, Q on E satisfies the discrete log equation $wP = Q$ for some integer w. The goal of this talk is to describe a method for translating the equation $wP = Q$ on E to a pair of equations of the form $x^w = y$ in the multiplicative group $\mathbb{Q}_p^*$. The idea is to realize E as a factor of the Jacobian of a genus two hyperelliptic curve with bad reduction, and then to compute the p-adic uniformization of this Jacobian, which is a rigid analytic torus $(\mathbb{Q}_p^*)^2/\Lambda$. If the triple (E, P, Q) was obtained as a lift of a corresponding triple over $\mathbb{F}_p$, (for example, by computing the canonical lift), then this approach can help in solving the Elliptic Curve Discrete Log Problem. (Received September 07, 2007)