1009-11-3   **Alice Silverberg***, University of California Irvine, Department of Mathematics, 103 MSTB, Irvine, CA 92697-3875. *Applying number theory and algebraic geometry to cryptography.*

Number theory and algebraic geometry have numerous applications, including to public key cryptography. We show how number theory and algebraic geometry can be used to "compress" group elements and give a deeper understanding of discrete log based cryptosystems. (Received October 14, 2004)