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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)