962-11-657   **Mark F Evans*** (`maevans@vassar.edu`), P.O. Box 527, Vassar College, Poughkeepsie, NY 12604.
Specializing A_n Covers of Elliptic Curves with j-invariant 1728. Preliminary report.

This talk will deal with realizing groups as Galois groups over the rational numbers by specializing Galois covers of elliptic curves. In previous work, we used a variant of Hilbert's irreducibility theorem for elliptic curves of positive rank to realize the alternating group A_n as a Galois group over $\mathbb{Q}$ when $n \geq 5$ is not divisible by 3. In particular, we showed that each of these groups could be realized by specializing Galois covers of elliptic curves with j-invariant 0. In this talk, we will look at some recent progress in trying to realize A_n as a Galois group over $\mathbb{Q}$ by specializing Galois covers of elliptic curves with j-invariant 1728. Assuming the Birch Swinnerton-Dyer conjecure and using the root number formula of Birch-Stephens, we are able to give some sufficient conditions on n for A_n to be realizable as a Galois group by specializing such a cover. (Received September 19, 2000)