Sam Evens* (sevens@nd.edu). Intersections of Schubert cells and orbits of real semisimple Lie groups on the flag variety.

This talk is based on joint work with Jiang-Hua Lu. Let $G$ be a complex semisimple Lie group with real form $G_0$ and Borel subgroup $B$. We regard $B$ as the identity coset $eB$ in $G/B$, and assume that the $G_0$-orbit $G_0eB$ is open in $G/B$. In this talk, I will explain an algorithm for determining whether an arbitrary $G_0$-orbit on $G/B$ meets a Schubert cell $BwB$, for $w$ in the Weyl group. I will explain additional results about the geometry of the intersections of these orbits and their closures. (Received September 20, 2010)