Bertrand J Guillou* (bertg@illinois.edu). The motivic fundamental group of the punctured projective line.

We will discuss, following a suggestion of S. Bloch, the construction of certain motives associated to the projective line minus the points 0, 1, and infinity. In the end, this will reduce to the question of producing a cellular approximation of a certain dg-module over a dga, and we will see that the construction of this cell module is controlled by Massey products in the motivic cohomology of the ground field. The vanishing of these Massey products would give higher Steinberg relations in motivic cohomology and algebraic K-theory. (Received August 27, 2009)