

Birch and Swinnerton-Dyer conjecture and Selmer Groups.  
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BSD conjecture is one of the seven million dollar problem in Clay Math. list. It predicts that analytic and algebraic rank of an elliptic curve are same. In the first talk, we will talk about elliptic curves and L-function associated with it. In the second talk, we will introduce the notion of Selmer group and say how rank of Selmer group is related to algebraic rank of elliptic curves. Finally, if time permits, we will talk about Bloch-Kato conjecture which generalizes BSD conjecture.

Pre-requisites :  
Familiarity with some number theory and algebra will be assumed.