

JUNG-JO LEE, Queen's University, Kingston, Ontario  
*Twists of elliptic curves*

Let  $E$  be an elliptic curve defined over  $\mathbb{Q}$ . We construct cohomology classes from quadratic twists of  $E$  and apply the local-global duality theorem (a reformulation of the reciprocity law) to these cohomology classes. As a result, we get a bound for rank of  $E$ . The technique of using the reciprocity law was used by Kolyvagin to bound the size of Selmer group and study Tate-Shafarevich group. This work was discussed with V. Kolyvagin, R. Murty and J. Shalika.