

## Optimal Ellipsoids (joint with Yuk Leung and Wenbo Li)

Suppose  $A$  is a positive definite matrix. We determine the ellipsoid of smallest volume, with axes parallel to the coordinate axes, which contains the ellipsoid  $x^T A x = 1$ . This is equivalent to the problem of maximizing  $\det(D)$  over all positive diagonal matrices  $D$  for which  $A \geq D$ . The talk is based on work done in collaboration with YJ Leung and Wenbo Li.