**GWAS, Quality Control and Family based analysis workshop February 2016 – Matthew McQueen**

**TUTORIAL 4 - Genome-wide Complex Trait Analysis (GCTA) and Polygenic Scores**

GCTA

**http://gump.qimr.edu.au/gcta/tutorial.html**

1) In the interest of time, we've already generated the genetic relationship matrix and have pruned for relationships greater than IBD of 0.025.

NOTE: The files are located in the *~/cbio2016/gcta* directory.

2) To estimate variance explained (heritability) we issue the following command

**gcta64 --grm bmi_rm025 --pheno bmi.phen --reml --out bmi_rm025**

3) View the output found in the bmi_rm025.hsq file

Polygenic Scores

Refer to the file(s) in the *~/cbio2016/giant* directory to view the prior association results from the large GWAS consortium on BMI.

Please visit the following link for more information on the source of this file:

https://www.broadinstitute.org/collaboration/giant/index.php/GIANT_consortium