> 39,000 records (GAD database)

A) 17,355 records with information:
   i) Final status of association (Y/N)

B) 7,342 records with information:
   i) Final status of association (Y/N)
   ii) Genetic Ancestry of the individuals

7,072 gene-disease associations
(i.e. ADRB2 – Asthma, n = 59)

4,979 gene-disease continental associations
(i.e. AKT1 – Schizophrenia – Europe, n = 2)

Filtering of associations with < 4 studies
Exclusion of X chromosome associations
Assignation of the replicability index (0 – 100%)

238 Associations:
   i) 129 European, 99 East Asian and 4 African associations with ≥ 4 studies
   ii) Selection of 37 shared associations (≥ 4 studies in Europe and ≥ 4 studies in East Asia)
   iii) Assignation of Cramer’s ϕ to each association

FINAL GLOBAL SET
n = 890 Associations
(i.e. TNF – Arthritis – 10 studies – Replic 40%)

For each association:
   Average $F_{ST}$ per gene
   Average $F_{ST}$ per SNP
   Average $F_{ST}$ per tagSNPs

FINAL CONTINENTAL SET
n = 37 Associations
(i.e. ACE – Hypertension – ϕ = 0.0625)

For each association:
   Average $F_{ST}$ per gene
   Average $F_{ST}$ per SNP
   Average $F_{ST}$ per tagSNPs

For some analysis, conservative datasets filtering by:

i) Threshold on N of SNPs per gene (≥ 10 SNPs)
ii) Thresholds on N of studies per association
   (i.e. 8, 10, 12, 14, 16, 18 and 20)

i) Associations with replicability <50% in at least one Continent (Europe or East Asia):
   11 (out of 37) associations excluded