GBIO0009 course

17 October 2018

Sandra Negro

PLAN

14h – 15h:

→ Theoretical power point presentation (provided):

I. Introduction

- Quick reminder on genetic terms

→ genotype, haplotype, homozygote, etc.

- Quick reminder on the principal of GWAS and linkage disequilibrium

II. Confounding factors

- Effects on LD

- Effects on GWAS

III. Existing approaches to resolve the confounder effects

→ Questions asked from the student(s)

15h – 16h30:

→ Reading article: « Novel measures of linkage disequilibrium that correct the bias due to population structure and relatedness » from Mangin et al. 2012 (provided) + How to evaluate a paper (see pdf provided: « Evaluation\_of\_paper.pdf »)

→ Discussion on the paper

BREAK (15min)

16h45 – 18h:

→ Practical session with ADMIXTURE v1.3 software using real life data (maize).

→ Discuss the Results

Practical session with Admixture software

(Manual Admixture v1.3 provided)

1) Downloading ADMIXTURE

ATTENTION: the operating system must be Linux or MacOS. The program does not run on Windows. If you have only Windows let us know.

Download the appropriate compress file:

http://www.genetics.ucla.edu/software/admixture/download.html

The executable file must be in your working directory.

2) Running ADMIXTURE

Open the file Protocol.r in the Scripts folder to run the script and admixture