

Armidale Genetics Summer Course:

Investigating the genetic architecture of complex traits and prediction of phenotype from genome-wide SNPs.

Doug Speed and **David Balding**,

University College London and University of Melbourne

plus UNE presenters **Cedric Gondro**, **Vinzent Boerner**, and **Sang Hong Lee**

organised by **Julius van der Werf**

Monday Feb 1 to Friday Feb 5, 2016

University of New England, Armidale, NSW

Participants should be familiar with R, at least through an online tutorial. They should bring a good-spec laptop with R pre-installed. Ideally they should also be familiar with PLINK and IMPUTE2, but refreshers and other help will be given for R, PLINK and IMPUTE2. GCTA and LDAK will be introduced with little prior knowledge assumed.

Monday

Module 1 9:00	Cedric	Computer room	Introduction to R
Module 2 11:00	Doug	Lecture room	Introduction to PLINK and QC
Module 3 13:30	David	Lecture room	Basic Association Analysis
Module 4 15:30	Doug	Computer room	PLINK and QC Practical

Tuesday

Module 5 9:00	David	Lecture room	Advanced Association Analysis:
Module 6 11:00	Doug	Computer room	Association Analysis practical
Module 7 13:30	Doug	Lecture room	Traditional Heritability Analysis Lecture/Practical
Module 8 15:30	David	Lecture room	What is relatedness?

Wednesday

Module 9 9:00	David	Lecture room	SNP-Based Heritability Analysis
Module 10 11:00	Doug	Computer room	SNP-Based Heritability Analysis Practical
Module 11 13:30	David	Lecture room	Introduction to prediction
Module 12 15:30	NA	Lecture room	Presentations from Participants

Thursday

Module 13 9:00	Vinzent	Lecture room	Introduction to BESSiE! Software for BLUP and Bayesian analysis of mixed models
Module 14 11:00	Doug	Lecture room	Extensions of SNP-based Heritability Analysis
Module 15 13:30	Doug	Computer room	Extensions of SNP-based Heritability Analysis Practical
Module 16 15:30	NA	Lecture room	Presentations from participants.

Friday

Module 17 9:00	Hong	Lecture room	Introduction to MTG (MTGREML and MTGBLUP)
Module 18 11:00	Doug	Computer room	Imputation Practical
Module 19 13:30	NA	Lecture room	Presentations from participants.
Module 20 15:30	All	Lecture room	Short final Q&A session.