



Introduction to the statistical analysis of genome-wide association studies

1 to 5 July 2024

**Room B1-B2, Floor “Piano Rialzato”, Dipartimento di Scienze della vita e Biotecnologie,
Polo Chimico Biomedico, Università di Ferrara, Via Luigi Borsari, 46, 44121, Ferrara, Italy
(use entrance from Via Fossato di Mortara, 27, 44121 Ferrara, Italy)**

All times in the programme are CET (Ferrara, Italy)

	Day 1 – Monday 01.07.2024	Day 2 –Tuesday 02.07.2024	Day 3 – Wednesday 03.07.2024	Day 4 – Thursday 04.07.2024	Day 5 – Friday 05.07.2024
8:45-9:00	Welcome & introductions				
Teaching 9.00- 10.00	LECTURE 1 <i>Dr Ayşe Demirkan</i> Introduction to Unix and R Prof	LECTURE 4 <i>Prof Reedik Mägi</i> Quality Control (QC) for GWAS	LECTURE 6 <i>Prof Inga</i> Prokopenko Association analysis	LECTURE 8 <i>Prof Inga</i> Prokopenko Imputation of GWAS	LECTURE 11 <i>Dr Ayşe Demirkan</i> Fine-mapping and functional follow-up of GWAS
Tea/Coffee Break 10.00-10.15					
Teaching 10.15- 11.15	COMPUTER WORKSHOP 1 <i>Dr Ayşe Demirkan</i> Introduction to Unix and R	COMPUTER WORKSHOP 3 <i>Dr Vasiliki Lagou, Dr Ayşe Demirkan</i> QC for GWAS	COMPUTER WORKSHOP 4.B <i>Dr Vasiliki Lagou, Prof Inga</i> Prokopenko Association analysis	COMPUTER WORKSHOP 6 <i>Prof Reedik Mägi</i> Imputation of GWAS	INVITED LECTURE ‡ <i>Prof Marcel den Hoed</i> Functional GWAS follow-up using zebrafish
Bio-break 11.15-11.30					
Teaching 11.30- 12.30	LECTURE 2 <i>Reedik Mägi</i> Introduction to GWAS	COMPUTER WORKSHOP 3 <i>Dr Vasiliki Lagou, Dr Ayşe Demirkan</i> QC for GWAS	LECTURE 7 <i>Prof Andrew P. Morris</i> Population structure	LECTURE 9 <i>Prof Andrew P. Morris</i> Meta-analysis of GWAS	COMPUTER WORKSHOP 9 <i>Dr Ayşe Demirkan</i> Fine-mapping and functional follow-up of GWAS
LUNCH 12.30-13.30					
			Group photo/screenshot		Course certificates & feedback forms
Teaching 13.30- 14.30	COMPUTER WORKSHOP 2 <i>Prof Reedik Mägi</i> Introduction to GWAS	LECTURE 5 <i>Prof Krista Fischer</i> Statistical models for genetic association analysis	COMPUTER WORKSHOP 5 <i>Prof Andrew P. Morris</i> Population structure	COMPUTER WORKSHOP 7 <i>Prof Inga</i> Prokopenko Meta-analysis of GWAS	LECTURE 12a <i>Prof Krista Fischer</i> Genetic risk scores, Mendelian Randomization
Bio-break 14.30-14.45					
Teaching 14.45- 15.45	LECTURE 3a <i>Prof Krista Fischer</i> Introduction to statistics for geneticists (part I)	COMPUTER WORKSHOP 4.A <i>Dr Vasiliki Lagou, Dr Ayşe Demirkan</i> Association analysis	COMPUTER WORKSHOP 5 <i>Prof Andrew P. Morris</i> Population structure	LECTURE 10 <i>Prof Andrew P. Morris</i> Analysis of rare variants	LECTURE 12b <i>Prof Krista Fischer</i> Genetic risk scores, Mendelian Randomization
Tea/Coffee Break 15.45-16.00					
Teaching 16.00- 17.00	LECTURE 3b <i>Prof Krista Fischer</i> Introduction to statistics for geneticists (part II)	LECTURE 5 <i>Prof Krista Fischer</i> Statistical models for genetic association analysis	INVITED LECTURE ‡ <i>Prof Nabila Bouatia- Naji</i> Genetics of SCAD: from rare to common variants	COMPUTER WORKSHOP 8 <i>Prof Andrew P. Morris</i> Analysis of rare variants	COMPUTER WORKSHOP 10 <i>Prof Krista Fischer</i> Genetic risk scores, Mendelian Randomization
17.00- 18.00					Q&A SESSION & COURSE CLOSURE

‡Seminar room