

Short Course:

GWAS, Meta-Analysis, Polygenic Risk Scores, Heritability, and Mendelian Randomisation

by Mustafa İsmail Özkaraca (PhD)

Contents

- Genome-wide Association Studies (GWAS) 2 Videos (40 minutes) - Lectures 2 and 3
- Meta Analysis 1 Video (25 mins) - Lecture 4
- Polygenic Risk Score (PRS) 1 Video (17 minutes) - Lecture 5
- Heritability 1 Video (22 minutes) - Lecture 6
- Mendelian Randomisation (MR) 1 Video (13 minutes) - Lecture 7

In total ~ **2 hours**



About myself:



PhD in **Mathematics** (*University of Glasgow*)

February, 2021



Postdoc in **Statistical Genomics** (*University of Edinburgh*)

August, 2023

The Institute of Genetics and Cancer

The Roslin Institute



Postdoc in **Statistical Cancer Genomics** (*University of Edinburgh*)

Present

The Institute of Genetics and Cancer

Whom should take it?

- Anyone looking to learn or brush up on the core logic of these concepts.

Required background knowledge:

- Basic Knowledge about Statistics and Mendelian Genetics (Desirable)



What's Next

1. What is GWAS? Why is it useful?
2. Historical Evolution of Quantitative Genetic Studies
3. The GWAS Catalog
4. Fundamental Concepts in GWAS