



Master project 2024-2025

Personal Information

Supervisor	Gerard Muntané
Email	gerard.muntane@upf.edu
Institution	IISPV
Website	
Group	Genetics and Environment in Psychiatry

Project

Computational genomics

Project Title:

Prediction of weight increase in Psychosis by Polygenic Scores

Keywords:

PRS, genetics, psychiatric genetics, GWAS

Summary:

The project aims to explore the relationship between genetic factors and weight gain in individuals with a first episode of psychosis. The student will employ polygenic scores, which are genetic risk scores based on multiple genetic markers, to predict the likelihood of weight increase in our dataset. The study seeks to enhance our understanding of the complex interplay between genetics and the risk of gaining weight in individuals with psychosis. The findings may contribute to the development of personalized interventions and strategies to mitigate weight-related issues in this vulnerable population.

References:

Muntané G, Vázquez-Bourgon J, Sada E, Martorell L, Papiol S, Bosch E, Navarro A, Crespo-Facorro B, Vilella E. Polygenic risk scores enhance prediction of body mass index increase in individuals with a first episode of psychosis. *Eur Psychiatry*. 2023 Feb 28;66(1):e28. doi: 10.1192/j.eurpsy.2023.9. PMID: 36852609; PMCID: PMC10044301. Franz M, Papiol S, Simon MS, Barton BB, Glockner C, Spellmann I, Riedel M, Heilbronner U, Zill P, Schulze TG, Musil R. Association of clinical parameters and polygenic risk scores for body mass index, schizophrenia, and diabetes with antipsychotic-induced weight gain. *J Psychiatr Res*. 2024 Jan;169:184-190. doi: 10.1016/j.jpsychires.2023.11.038. Epub 2023 Nov 25. PMID: 38042056.

Expected skills:

Genomics and genetic data analysis techniques, strong statistical skills for analyzing large datasets, competence in bioinformatics tools and resources for genetic data analysis, programming skills in R and python.

Possibility of funding:

Yes

Possible continuity with PhD:

To be discussed