

PROJECT DESCRIPTION – Master’s Thesis at the Center for
Quantitative genetics and Genomic (<https://qgg.au.dk/>)

Project title	Genomic partitioning within structured datasets
Main subject area	Animal genetics
Supervisor and Position	Professor Doug Speed
E-mail	doug@qgg.au.dk
Co-Supervisor(s), Position(s)	Senior Researcher Goutam Sahana
E-mail	goutam.sahana@qgg.au.dk
Project start	To be decided in agreement with the supervisor.
Physical location of project and students work	Aarhus University, 8000C, Aarhus
<i>Project description</i>	
Project goal and background	Genomic partitioning has been used to understand how much different types of variants or genomic regions contribute to human complex traits. Genomic partitioning is designed for use in unrelated, homogeneous datasets, common within human genetics. This project will investigate whether it can be applied to animal datasets that typically contain high levels of relatedness and structure.
Specific research topic(s)	This project will use both simulated and real data to determine when it is valid to use genomic partitioning in related and/or structured datasets. It will consider both methods that use individual-level and summary statistics, and whether more accurate results can be obtained via use of a mixed model.
Methods	Learn how to analyze genetic data. Methods include quality control, single-SNP analysis and heritability analyses.
Additional information	30-45-60 ECTS thesis as appropriate. The MSc student is invited to co-author a scientific publication.