

**Applicant**

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**Project Title**

Gene Mapping and Genetic Correlation across Complex Traits

**Project Summary**

Previously we have used the GWAS approach to map genes for a range of complex diseases. We have shown that the genes (loci) overlap between a wide variety of complex traits. We will extract information on the full range of traits measured by CLSA and combine this with GWAS data we have in hand for a wide range of complex traits (including various cancers, eye disease, and psychiatric traits). We will use the combined data to map novel loci for each trait as well as to estimate the overlap between traits. Our work will provide insights into the relationship between a wide range of complex traits. In the future this may help us improve our understanding of the molecular basis of disease. We will extract information on a wide range of traits and diseases and use CLSA genetic data, together with our own data, to test if there is a significant genetic overlap between traits. We will conduct analysis attempting to identify the specific genes underpinning each trait.

**Keywords**

Complex traits, Comorbidity, Risk factors, Cancer, Eye disease