QGG FOCUS TALK

hosted by MBG Foulum

Tuesday 28 August 2018 at 10:00

N. J. Fjord room (K21) at AU Foulum

Prof. Jian Yang

Institute for Molecular Bioscience, University of Queensland

Deciphering the genetic architecture of human complex traits

Most traits in humans are complex because they are influenced by many genetic factors as well as environmental factors. Deciphering the genetic architecture of complex traits is of crucial importance for human health and evolutionary biology. In this talk, I will show the use of single nucleotide polymorphism (SNP) data from genome-wide association studies (GWAS) to model the genetic architecture of complex traits and common diseases. I will then demonstrate an analytical approach that integrates data from GWAS and large-scale genetic studies of molecular phenotypes (e.g. gene expression and DNA methylation) to predict putative causal genes and likely mechanisms underpinning complex trait variation. I will also talk about methods and analyses to detect signatures of natural selection that have shaped genetic variation for complex traits within and between populations.

Short bio

Jian Yang is a Professor of Statistical Genomics at the Institute for Molecular Bioscience, The University of Queensland (UQ). He received his PhD in 2008 from Zhejiang University, China, before undertaking postdoctoral research at the QIMR Berghofer Medical Research Institute in Brisbane. He joined UQ in 2012. His primary research interests are in developing novel statistical methods to better understand the genetic architecture of complex traits and diseases, to identify putative target genes, and to improve the accuracy of genomic risk prediction using high-throughput genetic and genomic data. He was awarded the Australian Academy of Science Ruth Stephens Gani Medal for distinguished research in human genetics (2015) and the Prime Minister's Prizes for Science - Frank Fenner Prize for Life Scientist of the Year (2017), in recognition of his contribution to solving the 'missing heritability' paradox. He has published a career total of >130 papers, mostly in high-ranking journals such as Nature, Nature Genetics, Nature Communications and American Journal of Human Genetics. All his publications have received >27,000 citations.

If you would be interested to talk to Prof. Jian Yang after his presentation please contact Anna Schönherz (anna.schonherz@mbg.au.dk).