Matteo D'Antonio, PhD

Professional Academic Title: Assistant Project Scientist

Talk Title: Fine mapping spatiotemporal mechanisms of genetic variants underlying cardiac traits and disease

Talk Summary:

Genome-wide association studies (GWAS) have identified thousands of variants associated with cardiac traits and diseases. However, we do not understand the underlying molecular mechanisms and have not delineated the causal genes for the vast majority of these associations. To address these issues, we detected expression quantitative trait loci (eQTL) on 966 cardiac samples from two developmental stages, multiple tissues and cell types, and colocalized them with GWAS signals for five cardiac traits and diseases. Using this approach, were able to identify the causal variants for 210 cardiac GWAS signals and determined that ~25% of these function in a spatiotemporal manner.

Brief biography:

Matteo D'Antonio is an assistant project scientist in Kelly Frazer's lab at UCSD, where is main focus is identifying the molecular mechanisms underlying the associations between genetic variation and disease. He got his Bachelor's degree in biomedical engineering at Politecnico di Milano in Italy and his Master's in Bioinformatics at the Technical University of Denmark. After that, he obtained his PhD at the European Institute of Oncology, where he studied the evolution of protein interaction networks and cancer genes. He joined UCSD in 2013 where he transitioned from cancer genomics to human genetics.

1-2 journal articles that are representative of your research (if any):

o   https://www.sciencedirect.com/science/article/pii/S2213671119303613

o   https://www.biorxiv.org/content/10.1101/2021.04.30.442191v1.full