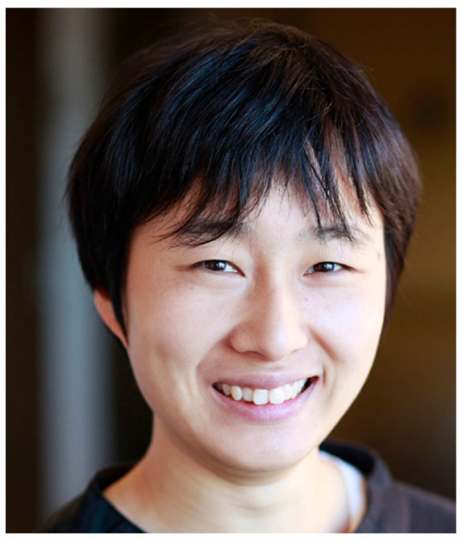
DukeNUS Medical School

Signature Seminar Series

Increasing Diversity in Genetic Studies

ABOUT THE LECTURE

Diversity in genetic studies is increasingly embraced. I will discuss two aspects in terms of enhancing diversity: analysis of uncommon genetic variants and methods for samples from diverse ancestry. For the analysis of uncommon variants, I will discuss our recent MagicalRsq (PMID: 36198314) and TOP-LD (PMID: 35504290) publications. The former presents a new machine learning based metric that better estimates imputation quality, improving quality filtering after genotype imputation. The latter provides linkage disequilibrium (LD) information for samples from four continental ancestry groups using TOPMed deep whole genome sequencing data, substantially enhancing the coverage of uncommon variants, and also including structural variants and variants on chromosome X absent in state-of-art LD resources. In the second aspect of increasing diversity in study samples, I will discuss our recent GAUDI work, a fused lasso penalized regression method that allows the construction of polygenic risk scores in admixed populations.



Speaker: **Prof Li Yun**
Department of Biostatistics and Genetics
Gillings School of Global Public Health
University of North Carolina

Host: **Dr Enrico Petretto**
Associate Professor & Director
Centre for Computational Biology
Duke-NUS Medical School

Date: **Tuesday, 28 November 2023**

Time: **3.00 PM - 4.00 PM**
(Light refreshment will be served at 2.30 PM)

Venue: **Duke-NUS Medical School**
Amphitheatre, Level 2

Contact Person: **Ms Kathleen Chan (kathleen.chan@duke-nus.edu.sg)**
Duke-NUS Research Affairs Department

ABOUT THE SPEAKER

Dr Li is a statistical geneticist with extensive experiences with method development and application on genotype imputation (developer of MaCH and MaCH-admix), genetic studies of recently admixed population, design and analysis of sequencing-based studies, analyses of multi-omics data including mRNA expression, DNA methylation, chromatin 3D organization and imaging genetics. She is also the Director for the Data Science Core of Intellectual and Developmental Disabilities Research Center (IDDRC).

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