

**Applicant**

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**Project Title**

Identifying genes associated with retinopathy in the Canadian Longitudinal Study on Aging (CLSA)

**Project Summary**

Studying retinal vascular abnormalities is advantageous for assessing small vessel health of individuals for multiple reasons: (1) retinal vasculature is an observable part of small vessel health through the eye fundus; (2) retinal vascular health is affected by risk factors for cardiovascular diseases; and (3) retinal vascular abnormalities predict cardiovascular and cerebrovascular events. The overarching aim of this research project is to elucidate the genes determining the retinal vasculature, which can be used as inputs to understand the causal roles of glycaemia, blood pressure, blood lipids, and bodyweight on small vessel health, and cardiovascular and cerebrovascular diseases overall. Such investigations will provide insights into the biological mechanisms linking cardiometabolic risk factors, small vessel health and cardiovascular and cerebrovascular diseases, and thus, will help develop targeted preventive and therapeutic interventions on newly identified causal mechanisms.

**Keywords**

Genetics, Microvascular health, Retinopathy, ocular fundus