

**Applicant**

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**Project Title**

Identification of biomarkers of healthy aging

**Project Summary**

Different physical, cellular and molecular measures are expected to show different patterns in healthy vs. unhealthy individuals. For some measures, higher is better; for others, lower is better; and for some the closer to an ideal value, the better. Physical measures (phenotypes) that vary around an ideal value in human populations show what we call a 'Sweet Spot'. We have observed that for some phenotypes, exceptionally healthy 'Super-Seniors' have values closer to a sweet spot than those of less healthy people the same age. We will test for Sweet Spots in blood chemistry and metabolomics data (molecules measured in blood) in participants of the Canadian Longitudinal Study of Aging. Identification of phenotypes for which healthy people have measures closer to a Sweet Spot than those of unhealthy people, will be used to identify biomarkers of healthy aging. The insights provided may help to identify interventions to promote healthy aging.

**Keywords**

Aging, healthy aging, biomarker, 'Sweet Spot', Metabolomics