

**Applicant**

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**Project Title**

Subclinical measures of vascular health metrics across hand, knee, and hip osteoarthritis

**Project Summary**

Osteoarthritis is the most common musculoskeletal disease where cardiovascular comorbidities are the most common cause of mortality in individuals with osteoarthritis. Dementia is also associated with osteoarthritis and cardiovascular diseases and may have overlapping shared mechanisms associated with vascular function. The vascular-related comorbidities in osteoarthritis may depend on the joint in which osteoarthritis occurs (e.g., hand, or lower-limb like knee and hip), which adds complexity to the associations between osteoarthritis and cardiovascular disease risk. We will use biomarker data, macro- and microvascular related metrics, and cognitive assessment to understand relationships between osteoarthritis types and cardiovascular disease and cognitive outcomes. We anticipate this work will provide the groundwork for future research investigating heterogeneous outcomes of vascular-related comorbidities across osteoarthritis types.

**Keywords**

Osteoarthritis, Vascular comorbidities, Cognitive outcomes, Risk factors, Biomarkers