



CLSA Approved Project

Applicant

Dr. Dylan Kobsar, McMaster University

E-mail Address

kobsard@mcmaster.ca

Project Title

Hierarchical clustering of shared risk factors for osteoarthritis and cardiovascular disease

Project Summary

In the aging population, arthritis has emerged as the most disabling and second-most expensive health conditions facing our society. Osteoarthritis (OA) is the most common form of arthritis and is not only associated with increased joint pain and a reduced quality of life, but inflammation and an elevated risk for developing cardiovascular disease (CVD). This relationship between OA and CVD brings into focus the critical question of how these diseases are connected and the need to identify overlapping mechanisms underlying progression for either disease. Our overall objective is to use machine learning algorithms to identifying multivariate relationships between shared risk factors for OA and CVD disease and, subsequently, support our ongoing need for strategies to manage the onset and/or progression of these serious diseases.

Keywords

Osteoarthritis, Cardiovascular disease, Risk factors, Machine learning, Clustering