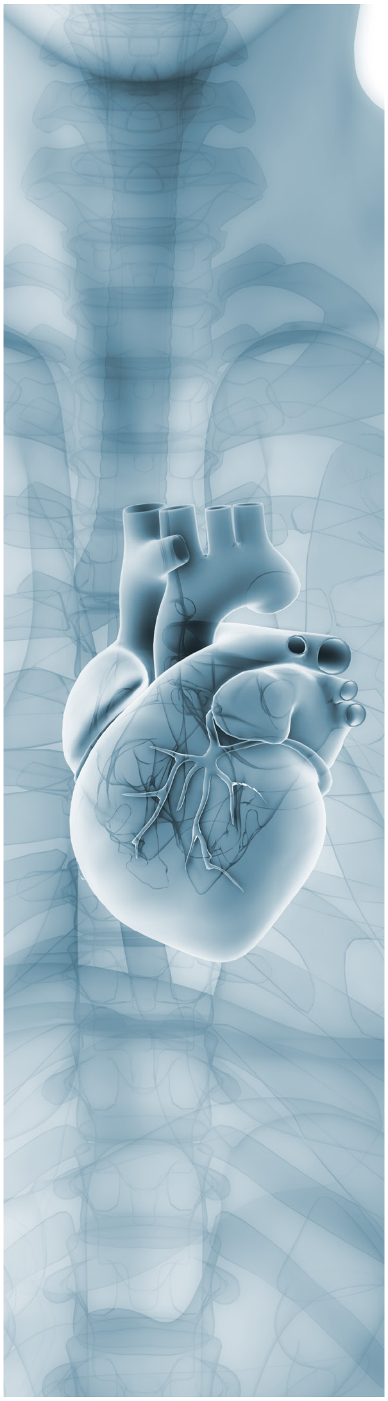
DIVISION OF MEDICAL SCIENCES

SEMINAR SERIES



Matrix metalloproteinases and heart disease-from bench to bedside

Dr. Richard Schulz

Department of Pharmacology, University of Alberta

Tuesday, March 12, 2019

12:00 p.m. to 1:00 p.m.

In many heart diseases, impaired contractile function of the heart is triggered by increased oxidative stress. This activates matrix metalloproteinases (MMPs), enzymes which cut other proteins within cardiac muscle. We discovered that MMPs have intracellular actions that cause contractile dysfunction in ischemic heart disease, such as heart attack, and in heart failure. Following even successful initial treatment, a heart attack can eventually lead to heart failure. By decreasing the severity of the initial damage during a heart attack, by inhibiting MMP-2, we hope to prevent heart failure. Intracellular MMP-2 is a unique therapeutic target compared to the extracellular MMPs. Drugs that inhibit intracellular MMP-2 activity should be effective in treating heart diseases with fewer side effects. Our research aim is to reveal the pathological and physiological roles of intracellular MMP-2. We are in the process of translating this knowledge into effective new therapies for heart diseases, particularly pathological heart remodeling following a heart attack.

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NOSM at Lakehead University – MSW 1011
NOSM at Laurentian University – MSE 119

Lunch will be provided.