



JAE HYUN BYUN, Class of 2030

Education: BSc (Biology and Physiology), MSc (Medical Sciences) McMaster University

Supervisor(s): To be determined

Dpt: Cardiometabolic Diseases and Internal Medicine

Work location: McGill University Health Centre Research Institute - Cardiovascular Health across the Lifespan (CHAL) Program

Project: To be determined

Selected Award(s): CIHR Canada Graduate Scholarship – Master’s (CGS-M), Ontario Graduate Scholarship (OGS), Medical Sciences Bursary Award

Research Description:

The major focus of my scientific research thus far, has been to explore the mechanisms that underlie the progression of a wide range of cardiometabolic diseases (e.g., atherosclerosis, diabetes, NAFLD) by elucidating the role of a serine protease known as PCSK9 and its ability to antagonize the LDL receptor. Throughout my PhD, I will be investigating other circulating factors and mechanisms which influence the progression of atherosclerosis by assessing vascular function (arterial hemodynamics and stiffness) and novel blood markers (biomarkers, microRNAs) using fundamental techniques conducted within basic science research.

Why did you decide to pursue both MDCM and PhD degrees? What are your career aspirations?

I decided to pursue both degrees due to my significant interest in seeing how bedside inquiry and research can translate into bedside care for our patients today. Additionally, I believe that the integration of academic research within our medical education can be a great disciplinary asset in helping us make better-informed decisions in the clinical care for our patients as future healthcare professionals and physician-scientists.

Why did you choose to study at McGill University?

As the top medical school in the nation, I chose to study at McGill due to its world-renowned academic research in cardiometabolic diseases. Having worked closely with several Montreal-resident scientists and investigators for approximately 6-7 years including Dr. Nabil G. Seidah, who first discovered PCSK9 (NARC-1) in relation to LDL cholesterol regulation, and Dr. Michel Chretien, known for his discovery of POMC and ACTH regulation, joining the McGill MD-PhD community was the perfect opportunity for me to reinforce and increase my exposure to the ongoing breadth of academic research within the cardiovascular field.

What advice do you have for incoming MDCM-PhD students?

As a first-year MD-PhD student, my general advice is to be honest with yourself and take the time to understand where your passions and curiosities may lie. We are a very supportive academic community, so don't be afraid to ask us questions along the way!

What do you like to do in your spare time?

Outside of medicine and in my spare time, I enjoy participating in competitive chess, practicing martial arts (Wing Chun, Krav Maga, Shaolin Kungfu, MMA), and composing/producing music on my acoustic guitar!