

A day in the life of a platelet scientist

featuring Steven Jiang

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Editing: Nancy Yang, MSc Student, Côté Lab*

This piece is part of the "Day in the Life of a Scientist" series, where Rhonda Thygesen uses photography and writing to give a unique lens into the daily lives of CBR researchers.



About the subject

Steven Jiang is a 2nd year Masters of Science student at the University of British Columbia (UBC) in the department of biochemistry and molecular biology and the Centre for Blood Research (CBR), under the supervision of Dr. Hugh Kim.

Steven's research focuses on the effect of platelets on rheumatoid arthritis, an inflammatory disease that causes joint pain in more than one percent of Canadians.

The commute

Steven's morning starts with a ride on the #49 bus along with many other UBC students. During the commute he listens to music and reads the news while trying to pay attention as to not miss his stop.



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Steven's lab setup

Steven's lab is located at UBC's Life Sciences Institute (LSI). Steven arrives at his work station which looks pretty typical for a biochemistry trainee. There is a neatly organized rack of pipettes, a vortex machine, rows of freshly prepared solutions, and a detailed lab notebook waiting for him. The Kim Lab's research focuses on how platelet function is impacted by their signaling mechanisms. Playing along with their platelet-theme, the Kim Lab uses small stuffed platelet toys to demarcate their space from the other lab spaces around them.

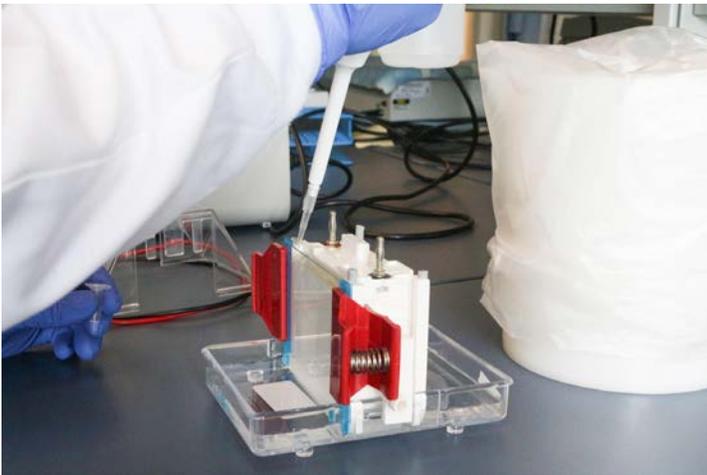
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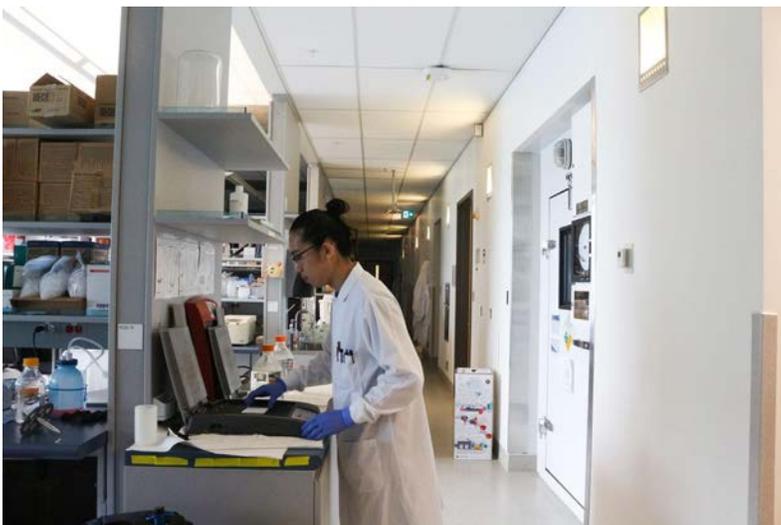
Getting ready to work

Everyone in the Kim Lab is responsible for wearing appropriate personal protective equipment (PPE). This typically includes a white lab coat, long pants, close toed shoes, and gloves. Preparing yourself with the proper PPE is always the first step after walking into the lab, as we can see Steven doing here.



Western blot analysis

On this day, Steven is doing a western blot in order to analyze proteins in a cell. First the cells are grown in a flask and lysed to extract the proteins to make a cell lysate (as pictured). The proteins are then loaded into a gel which is like a thin piece of jello. The gel is connected to an electric field source (called the voltmeter) that separates the proteins by size so they can be easily visualized.



Protein targeting

Once the proteins have separated, Steven transfers them from the gel to a special piece of paper because chemical analysis is difficult to do directly on a gel and a solid support is required.

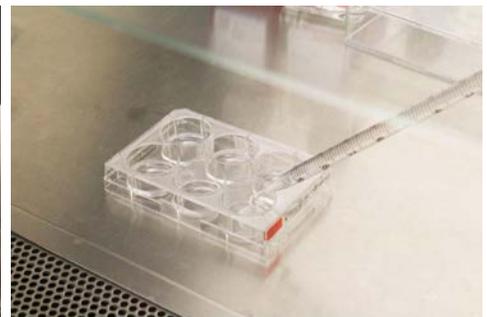
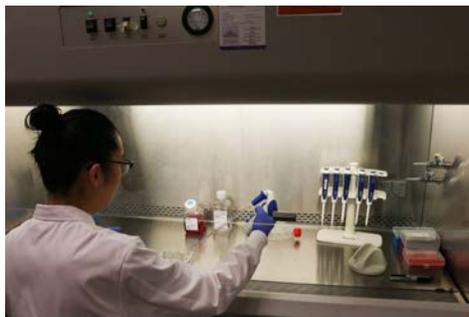
The coffee break

After finishing his marking of target proteins, it's time for a coffee break! It's no secret that graduate students run off of caffeine and a bit of water. Everyone tends to have their spot-of-choice when it comes to bean juice. Steven prefers the Starbucks near the LSI where he orders a tall Americano.



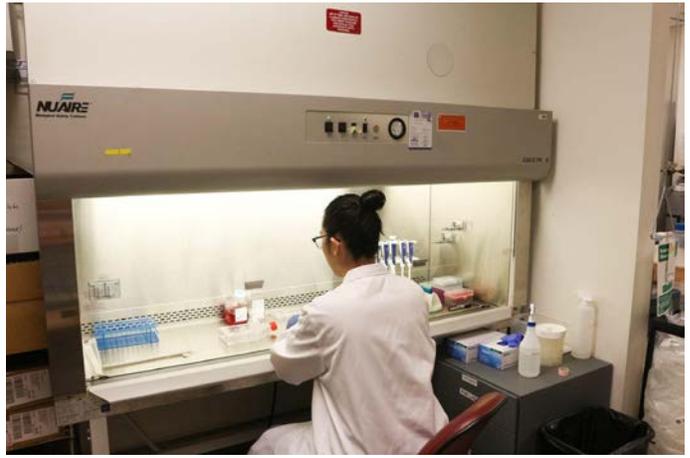
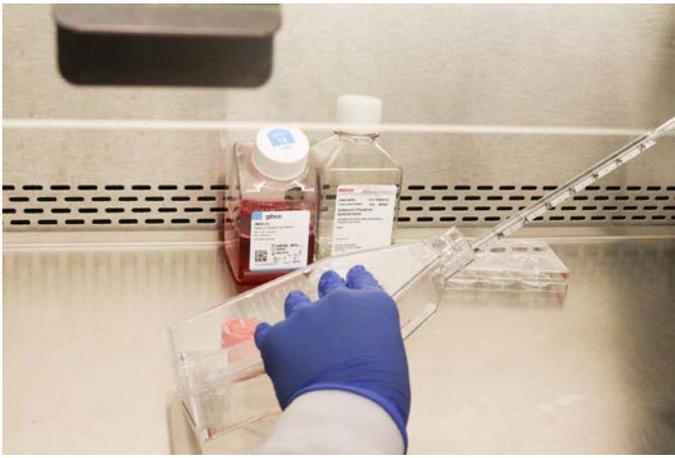
Meetings in the LSI

The LSI opened on campus in 2005 and is unique for its open lab facility which enhances the collaborative aspect of science that the LSI values. The main floor also highlights this concept with multiple open work areas. Steven likes to frequent these spaces for working on data analysis, perfecting his methods, and attending meetings.



Afternoon cell work

Steven works on cell culturing in the afternoons. Firstly, cell culturing must be done in a sterile environment (i.e. no bacteria is allowed). Diluted ethanol is great for decontaminating surfaces, as Steven is shown using. He works in a biosafety cabinet that provides an essential sterile environment that protects the user from biological hazards. Cells grow in the red liquid that Steven is holding, which contains all the nutrients needed for cells to grow and divide. He then transfers them into a 6-well plate to grow (far right image).



Cell work continued

Cells are also grown in flasks as shown in the top left photo. Flasks are used because they can hold more cells than a 6-well plate. Steven grows a stock of cells in a flask and performs individual experiments in a 6-well plate. Steven places the cells in an incubator (shown above) to ensure the best growth conditions of 37 °C and 5% CO₂. Steven uses the incubator with Finding Nemo's character Crush on it.



Scientists have hobbies too

It's nice to have hobbies that allow us to get fresh air, move our bodies, and connect with friends after work. Steven likes tennis because it is a great way to exercise and meet new people. He picked up the sport as a result of a shoulder injury last year which left him "desperately needing" some exercise. Because of tennis, he was able to reconnect with friends from high school and meet other graduate students, making it his favorite leisure activity after a day in the lab.