

## Education

<b>PhD Candidate, Department of Surgery (Transplantation), University of Cambridge</b>	Cambridge, UK
<i>Thesis:</i> Tissue-specific, regional lymphocyte differences in human lymphoid tissues	
<i>Supervisors:</i> Dr. Gavin Pettigrew, Professor Jo Spencer (King's College London)	2016 – present
<ul style="list-style-type: none"> <li>Processed samples from deceased organ donor tissues, prepared samples for acquisition with Helios mass cytometer (CyTOF) and 10X 5' VDJ with CITE-Seq antibodies, developed a novel biological internal control for normalising batch effects.</li> <li>Designed an unsupervised, machine-learning analysis pipeline for comparing differential abundances between different human lymphoid tissues.</li> </ul>	
<b>BSc in Honours Microbiology and Immunology, University of British Columbia (UBC)</b>	Vancouver, Canada
<i>GPA:</i> 4.30/4.33 (graduated with distinction, Science Scholar Dean's Honour List)	
<i>Thesis:</i> Immunological implications of multi-step ALS model	<i>Supervisor:</i> Dr. Neil Cashman
<ul style="list-style-type: none"> <li>Mathematically modelled ALS disease progression by modifying a multi-step disease model, hypothesized a critical step in disease progression variation was sustained immune activation. Validated aspects of the model using in vitro experiments like testing aging effects on microglia activation by misfolded SOD1.</li> <li>Developed mathematical biology modelling, microscopy, and tissue culture skills.</li> </ul>	2012 - 2016

## Research Experience

<b>Undergraduate Researcher, Dr. Neil Cashman, Centre for Brain Health, UBC</b>	Vancouver, Canada
Created a universal fluorescent reporter of SOD1 protein misfolding	2014 - 2016
<ul style="list-style-type: none"> <li>Designed the SOD1-GFP fusion protein linkage and cloned it into an expression vector to generate stable cell lines expressing the fusion protein. This reporter system for misfolded SOD1 was tested by co-culturing misfolded SOD1 supernatant with stable cell lines expressing the fusion protein by monitoring GFP aggregation.</li> <li>Developed microscopy, molecular biology and tissue culture techniques.</li> <li>Funded by UBC Faculty of Medicine Summer Student Research Award</li> </ul>	
<b>Undergraduate Researcher, Dr. Jorg Fritz, Department of Medicine, McGill University</b>	Montreal, Canada
Studied effects of retinoic acid, iNOS, TNF $\alpha$ on IgA class-switching recombination <i>in vitro</i>	2014
<ul style="list-style-type: none"> <li>Developed my mouse husbandry skills as well as standard analytical techniques like Western blots, ELISAs to further understand B cell class switching recombination</li> <li>Funded by McGill Faculty of Medicine Undergraduate Student Research Award</li> </ul>	
<b>Undergraduate Researcher, Dr. Megan Levings, BC Children's Hospital Research Institute</b>	Vancouver, Canada
Constructed, tested <i>in vitro</i> a flagellin-specific chimeric antigen receptor (CAR) for Tregs	2012 – 2014
<ul style="list-style-type: none"> <li>Determined the variable heavy &amp; light chain sequences in flagellin-specific hybridomas and cloned them into a lentiviral vector to make a flagellin-specific CAR. CAR surface expression, flagellin specificity, cell activation/proliferation were confirmed using flow-cytometry based assays after lentiviral transfection in human Tregs and conventional T cells. From this work, Dr. Levings has received a grant to continue the in vivo research and commercialize this technology.</li> <li>Funded by Ivan Beck Summer Studentship (top applicant of Canadian Association of Gastroenterology scholarship), Mini Med High School Summer Studentship</li> </ul>	

## Selected Scholarships and Awards

<b>National Sciences and Engineering Research Council of Canada, Postgraduate Scholarship</b>	2019
<i>Ranked 2 out of 214 applicants in cellular &amp; molecular biology national selection pool</i>	
<b>Canadian Centennial Scholarship Fund, Victor Dahdaleh Foundation Scholarship</b>	2019
<b>Conference Travel Grants x 4, for national and international immunology conferences</b>	2016 - 2019
<b>University of Cambridge, Gates Cambridge Scholarship (top 0.5% applicants)</b>	2016
<b>University of British Columbia, Premier Undergraduate Scholarship (top 20 senior students)</b>	2016
<b>University of British Columbia, Provost's Major Entrance Scholarship</b>	2012

## Publications

Spencer J, Siu JHY, Montorsi L. Human intestinal lymphoid tissue in time and space. (Invited commentary) <i>Mucosal Immunology</i> . 12(2):296-298 (2019)
Parasasa C, Zhang N, Zhao Y, Tull TJ, Chong MHA, Siu JHY, Guesdon W, Chavele KM, Sanderson JD, Langmead L, Kok K, Spencer J, Vossenkamper A. Reduced CD27-IgD- B cells in blood and raised CD27-IgD- B cells in gut-associated lymphoid tissue in inflammatory bowel disease. <i>Frontiers in Immunology</i> . 5;10:361 (2019)

Zhao Y\*, Uduman M\*, **Siu JHY\*** (co-primary), Tull TJ\*, Sanderson JD, Wu YB, Zhou JQ, Petrov N, (...) Heck S, Kleinstein S, Bemark M, Spencer J. Spatiotemporal segregation of human marginal zone and memory B cell populations in lymphoid tissues. *Nature Communications*. 9(1):3857 (2018)

**Siu JHY**, Surendrakumar V, Richards JA, Pettigrew GJ. T cell allorecognition pathways in transplant rejection. (Review) *Frontiers in Immunology*. 5;9:2548 (2018)

Harper IG, Gjorgjimajkoska O, **Siu JHY**, Parmar J, Hosgood SA, Nicholson ML, Motallebzadeh R, Pettigrew GJ. Prolongation of allograft survival by passenger donor regulatory T cells. *American Journal of Transplantation*. 9:2548 (2018)

## Selected Conference Abstracts

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**Siu JHY**, Parasasa C, Zhang N, Zhao Y, Tull TJ, Ellis R, Petrov N, Pettigrew GJ, Spencer J. Investigating homeostatic tissue-specific differences in humans using CyTOF and Cydar. *Poster at British Society for Immunology Congress 2019. Awarded BSI travel grant. December 2019*

**Siu JHY**, Parasasa C, Zhang N, Zhao Y, Tull TJ, Ellis R, Petrov N, Pettigrew GJ, Spencer J. Investigating non-conventional memory B cells in human lymphoid tissues. *Oral Presentation at the Keystone Symposium: B cell and T cell Interactions. February 2019*

**Siu JHY**, Zhao Y, Tull TJ, Ellis R, Petrov N, Spencer J. A closer look at tissue-specific B cell regulation. *Poster at European Congress of Immunology 2018. Awarded ECI EFIS travel grant. September 2018*

**Siu JHY**, Zhao Y, Tull TJ, Ellis R, Petrov N, Spencer J. B cell heterogeneity across space and time. *Short listed for poster prize at British Society for Immunology Congress 2017. Awarded BSI travel grant. December 2017.*

**Siu JHY**, Zhao Y, Tull TJ, Ellis R, Petrov N, Spencer J. B cell heterogeneity across space and time. *Oral presentation at EMBO B cells in health & disease workshop. Awarded EMBO travel grant. Sept. 2017*

## Teaching, mentoring, outreach experience

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**National Student Network** Canada  
*National Young Leader* 2015 - present

- Mentored 10+ high school students and undergraduates to provide career advice, panelist on national career panels, and contributor to online blog about pursuing an advanced research degree.

**University of Cambridge, Department of Surgery** Cambridge, UK  
*Project supervisor for two students completing their research-based course dissertation* 2016 - 2018

- Supervised a final year undergraduate and a medical doctor (MD(Res)) on their research project by guiding their project design, teaching technical experimental skills, and providing dissertation feedback.

**University of Cambridge, Girls in STEM** Cambridge, UK  
*Coordinator* 2016 - 2018

- Planned demonstrations and coordinated volunteers for school-aged female workshops with 100 participants
- Received £600 from Gates Cambridge Council Scholar Support Fund

## Academic Service

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**University of Cambridge, Cambridge Immunology Network** Cambridge, UK  
*PhD Representative* 2017 - present

- Organized the Early Careers journal club, Research Day with 100+ delegates, invited international speakers

**University of Cambridge, Clinical School Athena SWAN Steering Group** Cambridge, UK  
*Graduate Student Representative (first person in the role)* 2017 - 2020

- Represented graduate students on a committee to improve equality and diversity practices
- Created objectives for the role based on previous feedback to include graduate students in workplace policies
- Established a graduate student representative network across Clinical School to evaluate student experiences

**University of Cambridge, Gates Cambridge Scholars' Council** Cambridge, UK  
*Alumni Officer, Communication Officer, Technology Officer (elected positions)* 2016 - 2019

- Developed a virtual networking scheme between current scholars and alumni with over 40 pairings in pilot
- Designed, deployed, analyzed the annual scholars' feedback survey for the Gates Cambridge Trustee Board
- Led a pilot social media campaign to demonstrate importance of having a strong social media presence for the scholarship's diversity recruitment initiatives, resulted in new public relations officer role being created

**UBC, Undergraduate Research Opportunities (student club with 500+ members)** Vancouver, Canada  
*Co-President and Science Officer* 2014 - 2016

- Established a new undergraduate conference travel grant by acquiring industry sponsorship (\$3000)
- Expanded mentorship program into 7 new faculties, increased participation from 40 to 250+ undergraduates
- **Club awards won:** Helen McCrae for outstanding university student service (2016), Best Science club (2015)

## Additional Skills and Interests

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**Programming Languages, Software:** R, Python, MATLAB, Wolfram Mathematica, Adobe Creative Suite

**Languages:** English (Native), Cantonese (Fluent Spoken), French (Advanced), Mandarin (Intermediate)

**Sports:** Real Tennis (Cambridge Varsity First Team), Swimming (Canadian Junior National Team)

**Music:** Violin (Associate Diploma in Performance, Royal Conservatory of Music—RCM), Piano (Grade 9, RCM)