

# Yi-Chen Vanessa Sung

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## **EDUCATION**

**McGill University**, Montreal, QC, Canada Jan 2012 – Dec 2018

Doctor of Philosophy, Biochemistry (Breast Cancer Molecular Oncology)

- Dissertation: Mechanisms of MET-dependent tumour initiation and progression
- Supervisor: Dr. Morag Park (Director, Goodman Cancer Research Centre (GCRC), McGill University)

**McGill University**, Montreal, QC, Canada Sept 2005 – Apr 2009

Bachelor of Arts and Science, Major in Cell and Molecular Biology

Minor in Social Studies of Medicine, Minor in World Religions

- Graduated with Great Distinction (CGPA 3.75)
- Invited to join Golden Key International Honour Society for academic performance in top 15% in class

## **RESEARCH AND WORK EXPERIENCE**

**Office of the Chief Science Advisor**, Ottawa, ON, Canada Sept – Nov 2018

*Intern*

- Worked on files related to Canada's Science Integrity Policy, Departmental Science Advisors, science diplomacy, early career researchers, and women in science

**University of British Columbia**, Vancouver, BC, Canada Nov 2009 – 2011

*Research Technician*, Pieter Cullis lab, Department of Biochemistry and Molecular Biology

- Conducted research on using lipid nanoparticles to deliver therapeutics against cancer, diabetes, and immune-related diseases

**Genetic Pathology Evaluation Centre**, Vancouver, BC, Canada Jun – Dec 2008

*Tissue Microarray Technician*

- Prepared clinical samples and built tumour tissue microarrays for histopathological analysis

**McGill University**, Montreal, QC, Canada Sept 2007 – Apr 2008

*Undergraduate Research Assistant*, François Fagotto lab, Department of Biology

- Conducted research to characterize key cellular mechanisms required for embryonic development

**University of British Columbia**, Vancouver, BC, Canada May – Aug 2007, 2008

*Summer Research Student*, Pieter Cullis lab, Department of Biochemistry and Molecular Biology

- Synthesized a novel lipid for lipid nanoparticle formation and conducted mouse immune response studies

## **LEADERSHIP AND VOLUNTEER EXPERIENCE**

**Science & Policy Exchange (SPE)**, Montreal, QC, Canada Jan 2015 – present

*Internal Directors (June 2017 – current)*

*Co-president (June 2017 – Aug 2018)*

*VP External Relations (Oct 2016 – June 2017)*

- SPE's mission is to promote the student voice in science policy, and to bring together experts from academia, industry, and government to engage students and the public on issues at the interface of science and policy
- Spearheaded and co-organized #Students4theReport campaign in support of the Fundamental Science Review, launched July 2017 <http://sp-exchange.ca/students4thereport/>

**Research Canada** June 2018 – present

*Trainee representative on Policy Engagement Committee*

- Bring the student perspective to the committee's consideration of policy issues relevant to the health research and innovation sector

- Win4Science Committee** Jan 2018 – Aug 2018  
*PhD Representative*
- WIN4Science is an initiative to support and increase the presence of women in the Life Sciences
  - Organized a large-scale consultation of PhDs students, post-doctoral fellows, and faculty members about the challenges women face while pursuing careers in the Life Sciences, as well as in STEM fields more broadly
- Research Information Outreach Team (RIOT), Montreal, QC, Canada** Jan 2017 – Aug 2018  
*Community Talks team (Jan – Aug 2018)*  
*Video Production team leader (Jan – Dec 2017)*
- In affiliation with the Canadian Cancer Society, RIOT is a group of graduate students and post-doctoral fellows who work to communicate cancer research to the public through blogs, videos, and community speaking events
- Communitas, Montreal, QC, Canada** Jan 2012 – Aug 2018  
*Board of Directors (May 2017 – Aug 2018)*  
*Steering Committee Member (Jan 2012 – Mar 2017)*  
*Volunteer Coordinator (Jan 2012 – Mar 2016)*
- Communitas is a non-profit organization that works within the principles of Restorative Justice to reduce recidivism through the accompaniment and reintegration of previously incarcerated individuals
  - Awarded the 2015 Peter Huish Award of Merit for outstanding individual whose contributions reflect the values on which Communitas is based (nominated by community)
- McGill Individual Development Plan (IDP), Montreal, QC, Canada** May 2017 – Dec 2017  
*Advisory Board member*
- Serve as student representative to advise McGill Career Planning Services in the development in implementation of IDP, a new career planning tool for graduate students
- FRQ student delegation to Journées internationales de la culture scientifique (JICS)** May 2017  
*Delegate*
- Member of a sub working group of the Inter-sectoral student committee tasked with attending JICS and writing a report with recommendations, to be submitted to FRQ and Chief Scientist of Quebec Rémi Quirion, on student initiatives that could be taken to combat “alternative facts”
- Goodman Centre Student Society (GCSS), Montreal, QC, Canada** Jan 2014 – Dec 2017  
*Co-chair (Jan 2016 – Jan 2017)*  
*VP Fundraising (2014 – 2015)*
- GCSS represents the interests of trainees at the GCRC and organizes scientific, professional, and social activities
  - During the 2015 federal election, spearheaded GCRC Votes 2015, an initiative aimed at ensuring all eligible GCRC members are registered to vote and have access to balanced information regarding key elections issues
  - Team captain of the Goodman Cancer Research Centre for the 2015 Terry Fox Run – partnered with a local business to help the centre raise nearly \$14,000

## **TEACHING AND MENTORING EXPERIENCE**

### **Guest lecturer**

Skillsets Survival Skills for Scientists workshop, McGill University (Mar 9, 2018)

- Moderated panel titled “Discover your career options”

CCOM314 Communicating Science, McGill University (Feb 12, 2018)

- Gave presentation on science policy - the importance of communicating science to the public and policymakers

Meaningful Science, Skillsets, McGill University (Nov 8, 2017)

- Led student discussion about science advocacy, and the role of science and evidence in policy

### **Mentor to undergraduate student**

Goodman Cancer Research Centre, McGill University

- Provide research guidance and training to undergraduate project students in Park lab
  - 2<sup>nd</sup> year undergraduate Biochemistry project student (Jan – Apr 2018)
  - 4<sup>th</sup> year undergraduate Anatomy and Cell Biology project student (Sept 2013 – Apr 2014)

## **AWARDS AND RECOGNITIONS**

<b>Principal's Prize for Public Outreach Through Media</b> McGill University	March 2018
<b>Rosalind Goodman Commemorative Scholarship</b> Goodman Cancer Research Centre, McGill University	Sept 2017 – Aug 2018
<b>Marilyn Wener Excellence Award</b> Défi Corporatif Canderel	May 2017
<b>FRQS Doctoral Training Award</b> Fonds de recherche du Québec – Santé	Sept 2015 – Aug 2017
<b>La Vie En Rose Fellowship Award</b> Roses of Hope Foundation	Dec 2014 – Nov 2015
<b>Mensa Canada Scholarship Award</b> Mensa Canada	Jan 2014
<b>Samuel S. Lerner Memorial Award</b> Faculty of Medicine, McGill University	Sept 2013
<b>McGill Faculty of Medicine Studentship</b> Faculty of Medicine, McGill University	Sept 2013 – Aug 2014
<b>McGill Integrated Cancer Research Training Program M.Sc. Studentship</b> Goodman Cancer Research Centre, McGill University	Jan 2012 – Dec 2012

## **PEER-REVIEWED PUBLICATIONS**

**Vanessa Y.C. Sung**, Jennifer F. Knight, Radia Johnson, Sadiq Saleh, Anie Monast, Paul Savage, Dongmei Zuo and Morag Park. MET and FGFR1 signalling cooperate to promote tumorigenesis through maintenance of mesenchymal pathways and are potential therapeutic co-targets in a subset of triple negative breast cancer. *Manuscript in preparation*.

Thompson, C., Lai, A.Z., Chenard, V., Gravel, S.-P., Golenar, T., Monast, A., **Sung, VYC.**, Bridon, G., Johnson, R., Zuo, D., Zahr, S., Gigoux, M., Avizonis, D., St-Pierre, J., Park, M. Inhibition of GLUT1-mediated glycolysis promotes lactate oxidation and OXPHOS dependency in drug resistant MET-amplified gastric cancer. *Manuscript in preparation*.

Knight JF, **Sung VYC**, Kuzmin E, Couzens A, De Verteuil DA, Johnson RM, Gruosso T, Saleh SM, Zuo D, Guiot MC, Davis RR, Zhao H, Gregg JP, Gingras AC, Park M. (2018) Kibra (WWC1) is a metastasis suppressor gene affected by chromosome 5q loss in human triple negative breast cancers. *Cell Reports* 22(12): 3191-3205.

Justin B. Lee, Kaixin Zhang, Yuen Yi C. Tam, Ying K. Tam, Nathan M. Belliveau, **Vanessa Y.C. Sung**, Paulo J.C. Lin, Eric LeBlanc, Marco A. Ciufolini, Paul S. Rennie and Pieter R. Cullis. (2011) Lipid nanoparticle siRNA systems for silencing the androgen receptor in human prostate cancer in vivo. *International Journal of Cancer* 131(5): E781-790.

Cheng-Han Lee, Dmitry Turbin, **Vanessa Sung**, Inigo Espinosa, Kelli Montgomery, Matt van de Rijn and C Blake Gilks. (2009) A panel of antibodies to determine site of origin and malignancy in smooth muscle tumors. *Modern Pathology* 22(12): 1519-1531.

## **SELECT SCIENTIFIC PRESENTATIONS**

**Vanessa Y.C. Sung**, Jennifer F. Knight, Paul Savage, Radia Johnson, Anie Monast and Morag Park. Met and FGFR1 cooperate to promote tumour-initiating cells in a subset of triple negative breast cancer. Terry Fox Research Institute (TFRI) 7th Annual Scientific Meeting, Vancouver, Canada. May 12, 2016. (Oral presentation)

**Vanessa Y.C. Sung**, Jennifer F. Knight, Anie Monast and Morag Park. Met and FGFR1 cooperate to regulate tumour-initiating cells in a model of claudin-low breast cancer. EMBL Symposium: Frontiers in Stems Cells and Cancer, Heidelberg, Germany. Mar 29, 2015.

**Vanessa Y.C. Sung**, Jennifer F. Knight and Morag Park. A role for receptor tyrosine kinase crosstalk in a model of triple negative breast cancer. American Association for Cancer Research (AACR) Advances in Breast Cancer Research, San Diego, USA. Oct 5, 2013.

**Vanessa Y.C. Sung**, Jennifer F. Knight and Morag Park. Mechanisms of Met-dependent tumourigenesis in models of triple negative breast cancer. American Association for Cancer Research (AACR) 2013 Annual Meeting, Washington D.C., USA. Apr 7, 2013.

## **OTHER PUBLICATIONS**

McGuirk S.\* and **Sung V.\*** (2018) Science & Policy Exchange Pre-Budget Consultation 2019. *House of Commons, Government of Canada*. <https://www.ourcommons.ca/Content/Committee/421/FINA/Brief/BR10007494/br-external/ScienceAndPolicyExchange-e.pdf>

Bradley-Gill M.R. and **Sung V.** (2018) Finding our voice in advocacy. *SisterSTEM*. <https://sisterstem.org/2018/08/21/finding-our-voice-in-advocacy/?fbclid=IwAR2FenFB9d0DWJxxwoMGhEyMKKAzQqlw4sb361CvrvO66nEA5AdtPe22lwo>

**Sung V.** (2018) Let your stars shine. *Science Magazine*. <http://science.sciencemag.org/content/361/6400/422>

Bradley-Gill M.R., **Sung V.**, Ferwati S., Fromont L., George N., Tiv M. (2018) Breaking gender barriers in STEMM – Whose responsibility is it? [http://sp-exchange.ca/images/reports/SPE\\_cafe\\_report\\_gender.pdf](http://sp-exchange.ca/images/reports/SPE_cafe_report_gender.pdf)

McGuirk S.\* and **Sung V.\*** (2017) The Case for Taking Student Advice in Science Policy. *Hill Times*. <https://www.hilltimes.com/2017/11/29/case-taking-student-advice-science-policy/127088>

McGuirk S.\* and **Sung V.\*** (2017) Science & Policy Exchange Pre-Budget Consultation 2018. *House of Commons, Government of Canada*. <http://www.ourcommons.ca/Content/HOC/Committee/421/FINA/Brief/BR9073407/br-external/ScienceAndPolicyExchange-e.pdf>

McGuirk S.\*, **Sung V.\***, Bradley-Gill M.R., Garnett S., Gruosso T. (2017) #Students4theReport: An open letter on the student perspective of the Fundamental Science Review. <http://sp-exchange.ca/students4thereport/>

Bhutani, N.\*, **Sung V.\*** (2017) Investing in young researchers to strengthen Canada's future. *Canadian Science Policy Centre*. <http://www.sciencepolicy.ca/news/investing-young-researchers-strengthen-canadas-future>

Science & Policy Exchange. (2016). Student perspective of STEM education in Canada: Strategies and solutions from an expert-led working group. <http://sp-exchange.ca/news/STEM-White-Paper/>

\*authors contributed equally

## **SELECT INTERVIEWS AND PRESENTATIONS**

(2018) *Montreal March for Science*. [https://www.youtube.com/watch?v=xPS4B\\_Olezo](https://www.youtube.com/watch?v=xPS4B_Olezo)

(2017) *Superwomen in Science* podcast. <https://superwomeninscience.wordpress.com/2017/11/16/episode-8-science-policy-with-vanessa-sung/>

(2017) *Canadian Science Policy Conference 2017*. <https://www.youtube.com/watch?v=qzwnTdy2kHw&index=17&list=PLH11uvaw1HH1tM2OhdF2IB9VC5qXd9HjH>

Shen A. (2017) Science minister discusses progress on Naylor report, lays out priorities. *University Affairs*. <https://www.universityaffairs.ca/news/news-article/science-minister-discusses-progress-naylor-report-lays-priorities/>

Cusi VS. (2017) Universities Canada finds ally in public to support Naylor agenda. *Research Money*. <https://researchmoneyinc.com/articles/universities-canada-finds-ally-in-public-to-support-naylor-agenda/>

## **SELECT SCIENCE POLICY PANELS**

**National Science Policy Network.** Annual Science Policy Symposium. Presenter. New York, USA. Nov 10, 2018.

**Science & Policy Exchange public forum.** From pain relief to crisis: What is the place of opioids in 2018? Organizer. Montreal, Canada. Aug 29, 2018.

**Science & Policy Exchange public forum.** Higher Learning: Lessons learned from medical cannabis in Canada. Organizer. Montreal, Canada. June 18, 2018.

**Research Canada Annual General Meeting.** Morning panel presentation: What's next in health research advocacy? Panelist. Ottawa, Canada. June 13, 2018.

**Win4Science forum.** The gender gap – what is the cause? Organizer/facilitator. Montreal, Canada. May 24, 2018.

**Science & Policy Exchange conference.** Students as stakeholders in science diplomacy: Outlook for today and tomorrow. Organizer. Montreal, Canada. May 17, 2018.

**Canadian Science Policy Conference.** Engaging the public where they live: perspectives from media personalities and strategists for better science communication. Organizer. Ottawa, Canada. Nov 3, 2017.

**Science & Policy Exchange public forum.** Gene Editing: Rewriting your DNA. Organizer. Montreal, Canada. June 6, 2017.