Victor Yuan

PhD Candidate

Genome Sciences and Technology, UBC. Vancouver, Canada

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Application for STAT 540

Dear STAT 540 Coordinator(s),

I would like to apply to be for the open TA position for STAT540 this upcoming term (Fall 2019).

I am PhD student in Professor Wendy Robinson's lab, and have 3 years experience working on genomics projects. I am most experienced analyzing DNA methylation microarray data in a genome-wide association study setting, and have some experience using predictive modelling. I also have experience with RNA expression (microarray and sequencing), and genotyping data. I use R for my analysis and use the following tools for all my projects: `tidyverse`, `Rmarkdown`, `knitR`, `ggplot2`, and `git`. My formal background is in biology, but I am very keen in learning programming / statistics for genomics analysis. I have previously taken STAT540 (A+) so am familiar with the course structure.

Best,

Victor Yuan

Skills

Dry

- DNA methylation microarray, RNA expression (sequencing/microarray), Genotyping microarray analysis
- Supervised machine learning, Regression analysis, Data cleaning, Data visualization
- R, Bash
- `Tidyverse`, `Rmarkdown`, `ggplot2`, `Git`

Wet

- DNA extraction, Gel electrophoresis, PCR, primer design
- Genotyping, Sequencing, Microarray prep

Education

PhD, Genome Sciences and Technology

University of British Columbia — *2016 – Present*

Bachelor of Science (Honours), Cell and Molecular Biology

Concordia University — *2011 – 2016*

Research

Graduate Student — *University of British Columbia*

Robinson Lab — *2016–Present*

- Using genomics to investigate environmental and genetic influences on perinatal health
- Modelling ethnicity using machine learning applied to epigenomic data
- Conducted epigenome- and transcriptome- wide association studies using public and private repositories

Molecular Biodiversity Lab Assistant — *University of British Columbia*

Martone Lab — *2016–2017*

- Characterized the impact of weather changes on keystone species lost among the coast of northern BC
- Processed over 300 algal DNA specimens and applied BLAST for species identification

Undergraduate Honours Thesis — *Concordia University*

Whiteway Lab — *2014–2016*

- Developed a CRISPR gene-fusion-insertion protocol in the unicellular fungal species c. albicans

Teaching

Graduate Student Mentor

University of British Columbia *2018–Present*

- Mentored 2 undergraduate and 1 graduate students 3-4 month long genomic data anlaysis research projects

Stats Support Group Member

BC Children's Hospital Research Institute *2017–2018*

- Helped develop an on-site network of data analysts

R Programming Help Session Host

BC Children's Hospital Research Institute *2017–2018*

- Hosted a bimonthly 1-hour help session for onsite staff and trainees to address data analysis and programming needs

High School Tutor

University of British Columbia *2017–2018*

- Tutored grades 10-12 in Math, English, Chemisry, Biology and general science

Awards

2019 ($750 CAD) Top 3 Talk for PhD category, Healthy Starts Research Day

2018 ($500 USD) Y.W. (Charlie) Loke Award for Early Career Researchers, International Federations of Placenta Association

2018 ($750 CAD) Best Poster for Master's category, Healthy Starts Research Day

2018 ($50 CAD) Top 3 Talk for Masters category, Healthy Starts Research Day

2016 ($17500 CAD, DECLINED) NSERC Canada Graduate Scholarships-Master's Program, Concordia University

2016 ($17500 CAD, DECLINED) NSERC Canada Graduate Scholarships-Master's Program, University of Victoria

2016 ($6000 CAD, DECLINED) Concordia University Special Entrance Award, Concordia University

2015–2016 Dean's list (GPA > 3.75 / 4.25), Concordia University

2015 ($5625 CAD) Concordia Undergraduate Summer Research Award, Concordia University

2014–2015 Dean's list (GPA > 3.75 / 4.25), Concordia University

2013–2014 Dean's list (GPA > 3.75 / 4.25), Concordia University

Publications

1. Yuan, V, EM Price, GF Del Gobbo, S Mostafavi, B Cox, AM Binder, KB Michels, C Marsit, and WP Robinson (2019). Accurate ethnicity prediction from placental DNA methylation data. *bioRxiv*, 618470.
2. Treissman, J, V Yuan, J Baltayeva, HT Le, B Castellana, WP Robinson, and AG Beristain (2019). Low oxygen enhances trophoblast column growth by potentiating the extravillous lineage and promoting LOX activity. *bioRxiv*, 669796.
3. Konwar, C, G Del Gobbo, V Yuan, and WP Robinson (2019). Considerations when processing and interpreting genomics data of the placenta. *Placenta*.
4. Robinson, WP, MS Peñaherrera, C Konwar, V Yuan, and SL Wilson (2019). "Epigenetic Modifications in the Human Placenta". In: *Human Reproductive and Prenatal Genetics*. Elsevier, pp.293–311.
5. Acharya, G, M Bartolomei, AM Carter, L Chamley, CF Cotton, J Hasegawa, Y Hasegawa, S Hayakawa, M Kawaguchi, C Konwar, et al. (2019). IFPA meeting 2018 workshop report I: Reproduction and placentation among ocean-living species; placental imaging; epigenetics and extracellular vesicles in pregnancy. *Placenta*.
6. Robinson, W, G Del Gobbo, V Yuan, EM Price, C Konwar, M Penaherrera, V Martinez, W Lam, and A Beristain (2018). Assessing Genomic Variation in the Human Placenta: Potential and Limitations. In: *Placenta*. Vol. 69. Elsevier, pp.E2–E2.