Tyler Funnell

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Education

Since 2015 **PhD Candidate Computational Biology and Medicine (2021)**
Weill Cornell Medicine

2011–2014 **MSc Bioinformatics**
University of British Columbia

2004–2009 **BSc Computer Science**
University of Northern British Columbia
GPA 3.99

2007–2008 **Certificate Japanese Studies**
Osaka International University
Graduated top of class

Publications

Dorri, F., Salehi, S., Chern, K., **Funnell, T.**, Williams, M., Lai, D., Andronescu, M., *et al.* Efficient Bayesian inference of phylogenetic trees from large scale, low-depth genome-wide single-cell data. *bioRxiv* (2020).

Funnell, T., Zhang, A. W., Grewal, D., McKinney, S., Bashashati, A., Wang, Y. K. & Shah, S. P. Integrated structural variation and point mutation signatures in cancer genomes using correlated topic models. *PLoS computational biology* **15,** e1006799 (2019).

Zhang, A. W., McPherson, A., Milne, K., Kroeger, D. R., Hamilton, P. T., Miranda, A., **Funnell, T.**, *et al.* Interfaces of malignant and immunologic clonal dynamics in ovarian cancer. *Cell* **173,** 1755–1769 (2018).

Funnell, T., Tasaki, S., Oloumi, A., Araki, S., Kong, E., Yap, D., Nakayama, Y., *et al.* CLK-dependent exon recognition and conjoined gene formation revealed with a novel small molecule inhibitor. *Nature Communications* **8,** 7 (2017).

Ding, J., McConechy, M. K., Horlings, H. M., Ha, G., Chun Chan, F., **Funnell, T.**, Mullaly, S. C., *et al.* Systematic analysis of somatic mutations impacting gene expression in 12 tumour types. *Nature Communications* **6,** 8554 EP - (Oct. 2015).

Experience

Since 2018 **Graduate Research Assistant**
Shah Lab, MSKCC, New York, USA

- Developed the use of topic models for detecting mutation signatures in cancer genomes. The resulting Julia package has been used by several other projects in the Shah Lab.
- Implemented computational workflows, visualizations, and statistical analyses for single cell and bulk DNA sequencing data using Python and R. Presented results in manuscripts and at international conference talks.

2012–2018 **Graduate Research Assistant**
Shah Lab, BCCRC, Vancouver, Canada

- Lead the computational analysis of a research project, working closely with scientists at Takeda Pharmaceutical Company to study the effects of a small molecule RNA processing inhibitor.
- Transferred to Weill Cornell Medicine.

2012–2014 **Bioinformatics Graduate Program Student Mentor**
Vancouver, Canada

- Provided academic and other advice to incoming bioinformatics students.

2013 **INK Journal Reviewer**
Vancouver, Canada

- Reviewed and provided written feeback for non-academic articles.

2012–2013 **Bioinformatics/IOP Retreat Committee Member**
Vancouver, Canada

- Organized an expert panel discussion with local university faculty members.

2012 **Rotation Student**
Gaffney Lab, Wellcome Trust Sanger Institute, Hinxton, UK

- Investigated the relationships between promoter features in lymphoblastoid cells and their effect on gene expression.

2012 **Rotation Student**
Wasserman Lab, CMMT, Vancouver, Canada

- Analyzed mouse cerebellum transcriptome time-course data to identify transcription factors essential to cerebellum development.

2011 **Rotation Student**
Pavlidis Lab, CHiBi, Vancouver, Canada

- Worked on a method for measuring accuracy of metrics comparing gene lists obtained from studies performing differential gene expression analysis.

2009–2011 **Software Engineer**
Goldstream Publishing Inc., Prince George, Canada

- Designed and implemented a web application for organizing and searching geospatial data, which increased ad revenue.
- Designed and implemented a PostgreSQL database for a geospatial web application.
- Wrote the use-case document used to guide development of a new web application. Improved development workflow within the company by promoting best practices, *e.g.* git-based version control.

2007–2008 **English Tutor**
Osaka, Japan

- Assisted with teaching children of various ages, helping increase exposure to the English language and western culture.
- Taught private English lessons for adults, improving ability of the student to communicate effectively with English speakers.

Summer 2006 **Research Assistant**
UNBC Professors Desanka and Jernej Polajnar, Prince George, Canada

- Developed Java software components for a research project.
- Assisted in developing algorithms used in software simulations.

Awards

2017 **Faculty of Science Graduate Award**
$3,465.00

2016 **Faculty of Science Graduate Award**
$5,557.66

2015 **Faculty of Science Graduate Award**
$3,236.22

2014 **Mitacs Accelerate**
$15,000
Awarded to qualified research projects collaborating with industry.

2012 **College for Interdisciplinary Studies Graduate Award**
$415.61
Awarded based on academic merit.

2011 **CIHR/MSFHR Bioinformatics Training Program for Health Research**
$44,000
Awarded based on academic merit.

2011 **College for Interdisciplinary Studies Graduate Award**
$2,000
Awarded based on academic merit.

2007 **One World Scholarship — Irving K. Barber British Columbia Scholarship Society**
$3,000
Awarded based on academic merit, the students' educational objectives, institutional and/or community involvement, and readiness for participation in an overseas exchange program.

2007 **UNBC In-course Scholarship**
$1,200
Awarded based on academic excellence.

2006 **UNBC In-course Scholarship**
$1,200
Awarded based on academic excellence.

2005 **UNBC In-course Scholarship**
$1,200
Awarded based on academic excellence.