Phillip Andrew Richmond

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Born: March 21, 1991, Houston, TX, U.S.A.
Nationality: Dual Citizenship, American & Canadian
Languages: English (Native), Spanish (Novice), Polish (Learning)

Current position

PhD Graduate Student, Centre for Molecular Medicine and Therapeutics, BC Children's Hospital Research Institute, University of British Columbia

Areas of specialization

Bioinformatics • Genomics • Rare Genetic Diseases • Molecular Biology • Gene Regulation

Appointments held

2015-Present *PhD Graduate Student*, Medical Genetics Lab of Dr Wyeth Wasserman, Centre for Molecular Medicine and Therapeutics, BC Children's Hospital Research Institute, University of British Columbia

2012/6-2015/7 *Professional Research Assistant*, Genomics Lab of Dr Robin Dowell, BioFrontier's Institute, University of Colorado–Boulder

2010/5-2012/5 *Undergraduate Research Assistant*, Genomics Lab of Dr Robin Dowell, University of Colorado–Boulder

2009/3-2009/8 *Undergraduate Research Assistant*, Behavioral Genetics Lab of Dr Chris Downing, University of Colorado–Boulder

Affiliations & Memberships

2017/8-Present Member, Global Organisation for Bioinformatics Learning, Education & Training (GOBLET)

2017/6-Present Member, European Society for Human Genetics (ESHG)

2017/5-Present BC Children's Hospital Research Institute Trainee Council Member

2017/1-Present Student Representative, NSERC CREATE Program Committee, University of British Columbia

2016/9-Present Committee Member, Education, Outreach and Training (EOT) Compute Canada, WestGrid
2016/8-Present Member, American Society for Human Genetics (ASHG)
2016/5-Present Development Team, Vancouver Bioinformatics User Group (VanBUG)
2014-2015 Member, American Society for Brewing Chemists (ASBC)
2011-2013 Member, American Society for Cellular Biology (ASCB)

Education

2015-Present PhD in-progress in Bioinformatics, University of British Columbia
2008-2012 B.A. in Molecular, Cellular, & Developmental Biology, University of Colorado–Boulder

Grants, honors & awards

2017 BC Children's Hospital Research Institute Graduate Studentship
2016 Resources for Research Groups, Compute Canada
2015/2016 NSERC CREATE Trainee Scholarship, NSERC
2012 *Summa Cum Laude* in Molecular, Cellular, & Developmental Biology

Publications & talks

Journal articles

2018a **Phillip A Richmond**, Jana Makar, Analise Hoffman, Wyeth Wasserman. (2018), "Introduction to Genomic Analysis Workshop: A catalyst for engaging life-science researchers in high throughput analysis", *PLoS Computational Biology (under review)*

2018b Oriol Fornes, David Arenillas, **Phillip Richmond**, Wyeth Wasserman. (2018), "MANTA2, update of the Mongo database for the analysis of transcription factor binding site alterations", *Scientific Data (under review)*

2018c Timothy H. Webster, Madeline Couse, Bruno M. Grande, Eric Karlins, Tanya Phung, **Phillip Richmond**, Whitney Whitford, Melissa A. Wilson Sayres. (2018), "XYalign: Inferring sex chromosome content and correcting for technical biases in next-generation sequencing data", *Bioinformatics (under review)*

2017a Gilson Sanchez, **Phillip Richmond**, Eric Bunker, Joseph Azofeifa, Aaron Garnett, Qinghong Zhang, Robin Dowell, and Xuedong Liu. (2017), "Dose-dependent Inhibition of Histone Deacetylases Reprograms Gene Expression Through Global Remodeling of the Enhancer Landscape", *Nucleic Acids Research* (online at https://doi.org/10.1093/nar/gkx1225)

2017b Amber L Scott, **Phillip A Richmond**, Robin D Dowell, Anna M Selmecki. (2017), "The influence of polyploidy on the evolution of yeast grown in a sub-optimal carbon source", *Molecular Biology and Evolution* 34(10) 2690–2703

2016a Bennett B, Larson C, **Richmond PA**, Odell AT, Saba LM, Tabakoff B, Dowell R, Radcliffe RA. (2016), "Quantitative trait locus mapping of acute functional tolerance in the LXS recombinant inbred strains", *Alcoholism: Clinical and Experimental Research* 39(4): 611-620.

2016b Kamens HM, Corley RP, **Richmond PA**, Darlington TM, Dowell R, Hopfer CJ, Stallings MC, Hewitt JK, Brown SA, Ehringer MA. (2016), "Evidence for Association Between Low Frequency Variants in CHRNA6/ CHRNB3 and Antisocial Drug Dependence", *Behavior Genetics* 46(5): 693-704.

2016c Bennett B, Larson C, **Richmond PA**, Odell AT, Saba LM, Tabakoff B, Dowell R, Radcliffe RA.

(2016), "Quantitative trait locus mapping of acute functional tolerance in the LXS recombinant inbred strains", *Alcoholism: Clinical and Experimental Research* 39(4): 611-620.

2016d Timothy J Read, **Phillip A Richmond**, Robin D Dowell. (2016), "A trans-acting variant within the transcription factor RIM101 interacts with genetic background to determine its regulatory capacity", *PLoS Genetics* 12(1): e1005746

2016e Robin Dowell, Aaron Odell, **Phillip Richmond**, Daniel Malmer, Eitan Halper-Stromberg, Beth Bennett, Colin Larson, Sonia Leach, Richard A Radcliffe. (2016), "Genome Characterization of the Selected Long and Short Sleep Mouse Lines", *Mammalian Genome*: 27(11): 574-586.

2015a Emily K Pugach, **Phillip A Richmond** Joseph G Azofeifa, Robin D Dowell, Leslie A Leinwand. (2015), "Prolonged Cre expression driven by the alpha-myosin heavy chain promoter can be cardiotoxic", *Journal of Molecular and Cellular Cardiology* 86: 54-61.

2015b Anna M. Selmecki, Yosef E. Maruvka, **Phillip A. Richmond**, Marie Guillet, Noam Shoresh, Amber L. Sorenson, Subhajyoti De, Roy Kishony, Franziska Michor, Robin Dowell *&* David Pellman. (2015), "Polyploidy can drive rapid adaptation in yeast", *Nature* (519): 349-352.

Conference Publications

2016a RA Radcliffe, RD Dowell, A Odell, **P Richmond**, B Bennett, C Larson, K Kechris, P Rudra, WJ Shi. (2016) "Ethanol-specific effects on the genetic regulation of gene expression: potential relationship to acute ethanol sensitivity", *Alcoholism-clinical and experimental research*

2016b Daniel Malmer, **Phillip A Richmond**, Aaron Odell, Robin D Dowell. (2016), "Inferring Ancestry In Mouse Genomes Using A Hidden Markov Model", *The 5th ACM Conference*

2013 MA Ehringer, HM Kamens, RP Corley, M Simonson, A Poole, **P Richmond**, JA Stitzel, R Dowell, K Krauter, MB Mcqueen, MC Stallings, C Hopfer, T Crowley, JK Hewitt. (2013), "Behavioral Disinhibition: Sequencing Chrn Genes In A Selected Sample To Identify Novel Variants", *Alcoholism: Clinical & Experimental Research*

Poster Presentations

2017a BC Children's Hospital Research Day (June 22nd 2017), "Clinical Grade CNV Calling For Rare Genetic Disorders"

2017b Bioinformatics, Integrative Oncology, Genome Sciences *&* Technology Research Day (March 7, 2017), "Clinical Grade CNV Calling", *2nd Place*

2014 Rocky Mountain Brewing Symposium (October 2014) "Leveraging Next Generation Sequencing in Brewing QC"

2011 American Society for Cellular Biology Conference (December 2011), "The Genotypic Impact of Polyploidy on Directed Evolution"

Talks

2018 "Noncoding Variants in Genetic Disease" (2018), VanBUG Student Presenter, Canada.

2017a "Clinical Genomics: The Next Generation of Medicine for Rare Genetic Disorders" (2017), Vancouver Summer Program in Medicine, Canada.

2017b "Clinical Grade CNV Calling from WGS Data" (2017), BC Children's Hospital Research Institute TGIF Seminar, Canada.

2016 "The Next Generation of the Fight Against Rare Genetic Disorders" (2016), BC Children's Hospital Foundation, Canada.

2014 "Leveraging Next Generation Sequencing in Brewing Quality Control" (2014), American Society for Brewing Chemists Annual Conference, Chicago, USA.

2013 "Impact of Ploidy on Directed Evolution" (2013), MCDB Departmental talk, University of Colorado–Boulder, USA.

Teaching

High School

2017-2018 Genome BC's GeneSkool, Volunteer High School Teaching Program.

Online Curriculum

2014 Introduction to Python for Biologists,
URL: http://dowell.colorado.edu/education-python.html
2016 Bioinformatics Introductory Analysis Course.
URL: http://phillip-a-richmond.github.io/Bioinformatics-Introductory-Analysis-Course/

Hybrid Online/In-person Curriculum

2016 Introduction to Next Generation Sequencing Analysis, November 24, 2016.
Attendees: 60
Sponsors: University of British Columbia, Compute Canada, WestGrid, Advanced Research Computing.
Slide Deck: Google Slides
Recording: YouTube
2017 Introduction to Genomic Analysis Workshop Series, June 7-15, 2017.
Attendees: 91
Sponsors: University of British Columbia, BC Children's Hospital, Evidence2Innovation, Compute Canada, WestGrid, Advanced Research Computing.
URL: https://phillip-a-richmond.github.io/Introduction-to-Genomic-Analysis/
2017 Introduction to Linux: Command Line Basics, September 23, 2017.
Attendees: 30
Sponsors: University of British Columbia, Compute Canada, WestGrid, Advanced Research Computing.
slide deck: Google Slides
recording: YouTube
URL: https://phillip-a-richmond.github.io/ComputeCanada_EOT/

Guest Lectures

2017 "Medical Genetics 421: NGS Bioinformatics" (2017). Guest Lecture for Medical Genetics 421: Genetics and Cell Biology of Cancer, University of British Columbia, Vancouver, Canada.