

Curriculum Vitae

Pingzhao Hu, Ph.D.

A. Date Curriculum Vitae is Prepared: 05 September 2017

B. Biographical Information

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1. EMPLOYMENT

Current Appointments

2014 Feb – present Assistant Professor in Bioinformatics/Statistical Genetics
Department of Biochemistry & Medical Genetics
George & Fay Yee Centre for Healthcare Innovation
College of Medicine, University of Manitoba, Winnipeg, Canada

2015 Nov – present Adjunct Professor
Department of Electrical and Computer Engineering
Faculty of Engineering, University of Manitoba, Winnipeg, Canada

2014 Apr – present Scientist
Children's Hospital Research Institute of Manitoba, Canada

2013 Nov – present Assistant Professor (Status)
Division of Biostatistics, Dalla Lana School of Public Health
University of Toronto, Toronto, Canada

2016 Aug – present Associate Investigator
The Centre for Applied Genomics (TCAG)
The Hospital for Sick Children, Toronto, Canada

Previous Appointments

- 2006 Jan – 2014 Feb Manager
Statistical Analysis Facility of The Centre for Applied Genomics
The Hospital for Sick Children Research Institute, Toronto, Canada
Supervisors: Drs. Celia Greenwood, Joseph Beyene,
Andrew Paterson, Lisa Strug and Steve Scherer
- 2004 Jan – 2005 Dec Research Biostatistician
Program in Genetics and Genomic Biology
The Hospital for Sick Children Research Institute, Toronto, Canada
Supervisors: Drs. Celia Greenwood and Joseph Beyene
- 2003 Jan – 2003 Dec Research Biostatistician
The Lunenfeld-Tanenbaum Research Institute
Mount Sinai Hospital, Toronto, Canada
Supervisor: Dr. Shelley Bull
- 1997 Sep – 1998 Aug Research Assistant
The National Key Laboratory of LREIS
Chinese Academy of Sciences, Beijing, China
- 1990 Jul – 1994 Aug Geological Apprentice
The first geological team of Jiangxi Nonferrous Metal Geological
Exploration Bureau, Nanchang, China

2. EDUCATION

Degrees

- 2005 Sep – 2012 Apr PhD, Computer Science
Department of Computer Science and Engineering
York University, Toronto, ON, Canada
Supervisors: Dr. Hui Jiang, Dr. Andrew Emili (University of Toronto)
Dissertation: Machine Learning Approaches for Network-based
Prediction of Disease Outcomes and Protein Functions
- 2001 Sep – 2002 Dec Masters, Computer Science
Faculty of Computer Science
Dalhousie University, Halifax, NS, Canada
- 1999 Sep – 2001 Aug Masters, Quantitative Geography
Department of Geography
University of Saskatchewan, Saskatoon, SK, Canada
Completed eight core undergraduate courses in computer science

1994 Sep – 1997 Aug Masters, Mathematical Geology (Geostatistics)
College of Resource and Environmental Engineering,
University of Science and Technology Beijing, Beijing, China

Note: I was directly admitted into a training diploma program (see below) after three-year of junior high school (grade 8), therefore, bypassing senior high school and university undergraduate program.

Postgraduate, Research and Specialty Training

1998 Sep – 1999 Jul Postgraduate Diploma, Geostatistics
Centre de Geostatistique, Ecole des Mines de Paris, Paris, France

1986 Sep – 1990 Jun Diploma, Geology
Changsha Nonferrous Metal College, Changsha, Hunan, China
Admitted into the program after junior high school (grade 8)

Qualifications, Certifications and Licenses

2008 Jul Certificate, Informatics on High Throughput Sequencing Data
Canadian Bioinformatics Workshop (CBW), Toronto, ON, Canada

2004 Aug Certificate, Statistics Methods for Bioinformatics
American Statistics Association, USA

3. HONOURS AND CAREER AWARDS

2017 May **Poster of Distinction at Digestive Disease Week (DDW)**
American Gastroenterological Association (AGA), Digestive Disease
Week, Chicago, USA

2015 Sep **CIHR-IG New Principal Investigator Travel Award**
Canadian Institutes of Health Research – Institute of Genetics
(CIHR-IG), Montreal, Canada
Total Amount: \$1,500

2015 Jul **New Principal Investigator Award, Careers in Cancer Research
Development Program (CCRDP)**
Canadian Institutes of Health Research – Institute of Cancer
Research (CIHR-ICR) and Canadian Cancer Society Research
Institute (CCSRI), Montreal, Canada
Total Amount: \$1,500

2015 Mar **Visiting Scientific Researcher Travel Award**
Thematic Program on Statistical Inference, Learning and Models for
Big Data, The Fields Institute, University of Toronto

Total Amount: \$1,500

- 2014 Oct **Junior Investigator Grant Panel Travel Award**
Canadian Cancer Society Research Institute (CCSRI), Toronto,
Canada
Total Amount: \$1,000
- 2006 Jul **The BioC 2006 Developer-Contributor Award**
Bioconductor Foundation of North American
Fred Hutchinson Cancer Research Center, Seattle, USA
Total Amount: \$500 USD
- 2006 Jan **Scholarship for Statistical Genetics**
Advanced Study Institute of the Croucher Foundation
The University of Hong Kong, Hong Kong, China
Total Amount: \$5,000 HKD
- 1998 Sep **French Government Scholarship,**
Centre d'Etudes Superieures des Matieres Premieres, France,
Centre de Geostatistique, Ecole des Mines de Paris, Paris, France
Total Amount: \$55,000 FF (French Franc)

4. PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Professional Society

- 2016 Aug – present Member of American Society of Human Genetics
- 2016 Aug – present Member of Statistical Society of Canada
- 2015 Oct – present Member of International Society of Psychiatric Genetics
- 2006 Jan – present Member of International Society of Computational Biology

Editor Activities

- 2015 Sep – present Review Editor, Statistical Genetics and Methodology
Frontiers in Genetics journal

Conferences

- 2017 June Chair of the invited session "Statistical Methods for Omics Data", 2017 Annual Meeting of the Statistical Society of Canada, Winnipeg, Canada
- 2017 June Organizer of Case Study #2: Can gene expression data identify patients with inflammatory bowel disease?", 2017 Case Studies in Data Analysis Poster Competition held at 2017 Annual Meeting of the Statistical Society of Canada, Winnipeg, Canada

Peer Review Activities

GRANT REVIEWS

External Grant Reviewer

- 2017 Apr Canadian Institute of Health Research (CIHR) – Planning and Dissemination - III 2017 Winter Grants Competition (2 Proposals)
- 2017 Feb Canadian Institute of Health Research (CIHR) - Project Grant Program 2016 Fall Competition (9 Proposals)
- 2016 May Grand Challenges Canada and Canadian Institute of Health Research (CIHR) (1 Proposal)
- 2016 Apr Research Manitoba's 2016 Masters Studentship Review Committee (8 Proposals)
- 2016 Mar Ontario Graduate Scholarship 2016-17 Masters Studentship (10 Proposals)
- 2016 Mar Collaborative Research and Development Grant, Natural Sciences and Engineering Research Council (NSERC) (1 Proposal)
- 2016 Mar 2016-2017 CancerCare Manitoba Foundation Scientific Advisory Committee (Grant Reviewer, 4 Proposals)
- 2015 Apr Research Manitoba's 2015 Masters Studentship Review Committee (8 Proposals)
- 2013 Mar McLaughlin Centre 2013 Accelerator Grant Competition
University of Toronto
- 2011 Mar McLaughlin Centre 2011 Accelerator Grant Competition
University of Toronto

Internal Formal Grant Reviewer

2017 Sep	NSERC Discovery Grants Competition (1 Proposal)
2012 Aug	Genome Canada – CIHR 2012 Large-Scale Applied Research Project Competition in Genomics and Personalized Health
2011 Sep	Canada Institute of Health Research Operating Grant
2009 Sep	Canada Institute of Health Research Operating Grant
2009 Aug	Ontario Research Fund – Global Leadership Round in Genomics & Life Sciences (ORF – GL ²)

MANUSCRIPT REVIEWS

Reviewer

2016 Nov	Clinical Epigenetics
2016 Aug	BMC Medical Genomics
2016 Aug	BMG Genomics
2016 Jun	Frontiers in Genetics, section Statistical Genetics and Methodology
2016 Jun	BMC Bioinformatics
2016 Apr	BMC Genomics
2015 Dec	Plos One
2015 Dec	BMC Bioinformatics
2015 Nov	Scientific Reports
2015 Oct	BMC Bioinformatics
2015 Jun	Peer J
2015 May	Genetic Epidemiology
2014 Nov	Plos One
2014 Nov	Cancer Informatics
2014 Oct	The Protein Journal
Before February 2014	Plos One
	The Scientific World Journal
	Autism Research
	BMC System Biology
	Neurocomputing
	G3: Genes, Genome, Genetics
	Journal of Neurodevelopmental Disorders
	Developmental & Comparative Immunology
	BMC Bioinformatics
	Molecular Genetics and Genomics
	Bioinformatics
	Cancer Informatics
	Physiological Genomics

C. Research Funding

1. CURRENTLY HOLDING

2017 May – 2023 Apr	<p><u>Title:</u> Visual and automated disease analytics (VADA)</p> <p><u>Funding agency:</u> Natural Science and Engineering Research Council of Canada (NSERC), Collaborative Research and Training Experience (CREATE) Program</p> <p><u>Principal Investigators:</u> IRANI, Pourang; LIX, Lisa; KUSHNIRUK, Andre; BORYCKI, Elizabeth</p> <p><u>Co-Investigators:</u> ARINO, Julien; HU, Pingzhao; THOMO, Alex; TZANETAKIS, George; van DOMESELAAR, Gary; KOBAYASHI, Karen, LEBOE-MCGOWAN, Jason;</p> <p><u>Amount:</u> \$1,650,000 CAD</p>
2015 Apr – 2020 Mar	<p><u>Title:</u> Developing novel machine learning algorithms for network Biology</p> <p><u>Funding agency:</u> Natural Science and Engineering Research Council of Canada (NSERC), Individual Discovery Grants (With Early Career Supplement)</p> <p><u>Principal Investigator:</u> HU, Pingzhao</p> <p><u>Amount:</u> \$90,000 CAD</p>
2017 Apr – 2020 Mar	<p><u>Title:</u> Manitoba statistical and health sciences (MB-SAHS) collaborative centre</p> <p><u>Funding agency:</u> Canadian Statistical Sciences Institute</p> <p><u>Principal Investigator:</u> LIX, Lisa</p> <p><u>Co-Investigators:</u> HU, Pingzhao; ACAR, Elif; TORABI, Mahmoud; JOZANI, Mohammad</p> <p><u>Amount:</u> \$10,000 CAD</p>
2017 Oct – 2019 Sep	<p><u>Title:</u> Genome-wide diet-gene interaction analysis for risk of psychiatric comorbidity in inflammatory bowel disease</p> <p><u>Funding agency:</u> The Western Canadian Universities, Collaborative Project Seed Funding</p> <p><u>Principal Investigators:</u> HU, Pingzhao</p> <p><u>Co-Investigators:</u> BERNSTEIN, Charles; LI, Longhai, KONG, Linglong, FRENKEL, Svetlana</p> <p><u>Amount:</u> \$20,000 CAD</p>
2017 May – 2019 Apr	<p><u>Title:</u> Developing novel machine learning algorithms for network Biology</p> <p><u>Funding agency:</u> Graduate Enhancement of Tri-council Stipends (GETs) Program, University of Manitoba</p> <p><u>Principal Investigator:</u> HU, Pingzhao</p> <p><u>Amount:</u> \$17,500 CAD</p>
2017 May – 2019 Apr	<p><u>Title:</u> Exploring association between host genetics and microbiome</p>

in pediatric Crohn's disease.

Funding agency: Children's Hospital Research Institute of Manitoba, Operating Grant.

Principal Investigator: **HU, Pingzhao**.

Co-Investigator: El-Matary, Wael; BERNSTEIN, Charles

Amount: \$40,000 CAD.

2017 Feb – 2019 Feb

Title: Prediction of novelty and mode of action of natural antibacterial compounds by machine learning

Funding agency: University of Manitoba, University Collaborative Research Program (UCRP)

Principal Investigator: SILVIA, Cardona

Co-Investigators: **HU, Pingzhao**; DAVIS, Rebecca

Amount: \$24,200 CAD

2015 Sep – 2018 Aug

Title: Improving breast cancer survival and drug response prediction based on mutated gene network

Funding agency: Canadian Breast Cancer Foundation – Prairies/NWT Region, Research Grant

Principal Investigator: **HU, Pingzhao**

Amount: \$217,050 CAD

2017 Feb – 2018 Feb

Title: Genomics-based computational drug repositioning for inflammatory bowel disease

Funding agency: University of Manitoba, University Research Grants Program (URGP)

Principal Investigator: **HU, Pingzhao**

Amount: \$7,500 CAD

2016 Sep – 2017 Dec

Title: Identification of copy number variation biomarkers in patients with inflammatory bowel disease

Funding agency: Mitacs, Accelerate Program

Principal Investigator: **HU, Pingzhao**

Co-principal Investigator: BERNSTEIN, Charles

Amount: \$60,000 CAD

2. PREVIOUSLY HOLDING

2015 Sep – 2017 Aug

Title: Identification of risk genes that modulate the severity of inflammatory bowel disease through copy number variation analysis.

Funding agency: Health Sciences Centre Foundation (HSCF), General Operating Grants

Principal Investigator: **HU, Pingzhao**

Co-principal Investigator: Dr. BERNSTEIN, Charles

Co-Investigator: Dr. SPRIGGS, Beth

- Amount: \$70,000 CAD
- 2016 Sep – 2017 Aug Title: Epigenetic mechanisms and association with septo-optic dysplasia: a pilot project
Funding agency: Children’s Hospital Research Institute of Manitoba, DEVOTION – Catalyst Grant
Principal Investigator: RODD, Celia
Co-principal Investigator: WICKLOW, Brandy
Co-Investigators: MHANNI; Aziz; **HU, Pingzhao**
Amount: \$20,000 CAD
- 2014 Aug – 2017 July Title: Bioinformatics Approaches for Integrative Analysis of Omics Data for Translational and Personalized Medicine
Funding agency: Manitoba Research Health Council (MHRC), Establishment Grant
Principal Investigator: **HU, Pingzhao**
Amount: \$99,699 CAD
- 2016 Jun – 2017 Mar Title: Identifying disease genes and modeling their regulatory mechanism corresponding to inflammatory bowel disease
Funding agency: Nara Institute of Science and Technology (Japan), Global Collaboration Project FY2016.
Principal Investigator (Japan): Md. Altaf-UI-Amin
Co-Investigator (Japan): SATO, Tetsuo.
Co-Principal Investigator (Canada): **HU, Pingzhao**
Amount: \$ 1,110,000 Yen (14,000 CAD)
- 2014 Feb – 2017 Feb Funding agency: University of Manitoba Office of the Vice-President (Research and International) and the Faculty of Medicine, Research Start-up Fund
Principal Investigator: **HU, Pingzhao**
Amount: \$150,000 CAD
- 2016 Apr – 2016 Aug Title: Partek: A genomic data analytics software
Funding agency: Department of Biochemistry and Medical Genetics, University of Manitoba
Principal Investigator: **HU, Pingzhao**
Co-Investigators: BEAVIS, Ronald; PEMBERTON, Trevor
Amount: \$20,000 CAD
- 2014 Jul – 2016 Jun Title: Deciphering DNA methylome in metastatic prostate cancer.
Funding agency: Prostate Cancer Canada, Movember Discovery Grants
Principal Investigator: BAPAT, Bharati
Co-Investigators: JOSHUA, Anthony; FLESHNER, Neil; **HU, Pingzhao**; BADER, Gary
Amount: \$185,900 CAD

- 2015 May – 2016 Apr Title: Epigenetic profiling in severe sepsis – (EPSIS).
Funding agency: McLaughlin Centre, University of Toronto, Accelerator grant in genomic medicine
Principal Investigator: DOS SANTOS, Claudia
Co-Investigators: TSANG, Jennifer; BINNIE, Alexandra; LIAW, Patricia; **HU, Pingzhao**; CASTELO-BRANCO, Pedro
Amount: \$50,000 CAD
- 2015 Apr – 2016 Mar Title: Patient-specific pathway activations inferred from genomic data predict breast cancer survival
Funding agency: Manitoba Medical Service Foundation (MMSF), Operating Grants
Principal Investigator: **HU, Pingzhao**
Amount: \$18,000 CAD
- 2011 Jun – 2016 May Title: Neurocognitive-Phenome, Genome, Epigenome and Nutriome in Childhood Leukemia Survivors: N-PhenoGENICS
Funding agency: Canada Institute of Health Research (CIHR), Team Grant: Childhood Cancer – Late Effects of Treatment
Principal Investigator: ITO, Shinya
Co-principal Investigators: GUGER, Sharon; HITZLER, Johann H; O'CONNOR, Deborah L; SCHACHAR, Russell J; SPIEGLER, Brenda; WEKSBERG, Rosanna
Co-Investigators: CARLETON, Bruce C
Collaborator: **HU, Pingzhao**
Amount: \$1,633,381 CAD
- 2015 Mar – 2016 Feb Title: Immunogenetic markers of extreme clinical phenotypes of post-transplant lymphoproliferative disorder: a pilot project
Funding agency: Enduring Hearts Inc., USA, Operating Grants
Principal Investigator: ALLEN, Upton
Co-Investigators: DIPCHAND, Anne; GRUNEBAUM, Eyal; BEYENE, Joseph; PREIKSAITIS, Jutta; LEVINGS Megan; **HU, Pingzhao**; NG, Vicky
Amount: \$35,000 USD (\$43,729 CAD)
- 2015 Feb – 2016 Feb Title: Machine learning techniques for identifying pathway biomarkers
Funding agency: Faculty of Science of University of Manitoba, Interdisciplinary/New Directions Research Collaboration Initiation Grants
Principal Investigator: Wang, Yang
Co-Principal Investigator: **HU, Pingzhao**
Amount: \$8,000 CAD
- 2015 Jan – 2015 Dec Title: A gene-pair based enrichment testing approach for identifying pathway biomarkers in cancer studies

Funding agency: University of Manitoba, University Research Grants Program (URGP)

Principal Investigator: **HU, Pingzhao**

Amount: \$7,500 CAD

2014 May – 2015 May

Title: Early detection of lung cancer using next generation sequencing technology

Funding agency: McLaughlin Centre, University of Toronto, Accelerator grant in genomic medicine

Principal Investigator: LIU, Geoffrey

Co-principal Investigators: XU, Wei

Co-Investigators: HUNG, Rayjean; **HU, Pingzhao**

Amount: \$50,000 CAD

D. Publications

* Equally contributed

SRA=Senior Responsible Author

PA=Principal Author

CPA=Co-Principal Author

C=Co-author/Collaborator

1. PEER-REVIEWED PUBLICATIONS (TRAINEES, CO-FIRST AUTHOR*)

Journal Articles

1. PC Havugimana*, **P Hu***, A Emili (2017). Protein complexes: big data, machine learning and integrative proteomics: lessons learned over a decade of systematic analysis of protein interaction networks. *Expert Review of Proteomics*, <https://doi.org/10.1080/14789450.2017.1374179>. [CPA]
2. **MM Islam**, **Y Tian**, **Y Chen**, Y Wang, **P Hu**. A deep learning regression model for phenotype prediction based on GAW20 genome-wide DNA methylation data. Genetic Analysis Workshop (GAW) 20. San Diego, CA, USA, March 2017. *BMC Proceedings*, In Press. [SRA]
3. C Yang, L Kari, GL Sturdevant, L Song, M Patton, CE Couch, JM Ilgenfritz, TR Southern, WM Whitmire, M Briones, C Bonner, C Grant, **P Hu**, G McClarty, and HD Caldwell. (2017). Chlamydia trachomatis ChxR is a transcriptional regulator of virulence factors that function in vivo host pathogen interactions. *Pathogens and Disease*. doi: 10.1093/femspd/ftx035. [C]
4. X Ye, **K Zhao**, C Wu, **P Hu**, H Fu (2017). Associations between genetic variants in immunoregulatory genes and risk of non-hodgkin lymphoma in a Chinese population. *Oncotarget*, 8:10450-10457. [C]
5. H Amatullah, Y Shan, BL Beauchamp, PL Gali, S Gupta, T Maron-Gutierrez, ER Speck, AE Fox-Robichaud, JL Tsang, SH Mei, TW Mak, PR Rocco, JW Semple, H Zhang, **P Hu**, JC

- Marshall, DJ Stewart, ME Harper, PC Liaw, WC Liles, CC dos Santos (2017). DJ-1/PARK7 impairs bacterial clearance in sepsis. *American Journal of Respiratory and Critical Care Medicine*, 195:889-905. [C]
6. MJ Patton, S McCorrister, C Grant, G Westmacott, R Fariss, **P Hu**, **K Zhao**, M Blake, B Whitmire, C Yang, HD Caldwell, G McClarty (2016). The Chlamydial Protease-like Activity Factor (CPAF) and T3S Proteins Cooperate in the Inhibition of p65 Nuclear Translocation. *mBio*, 7:e01427-16. [C]
 7. **CJ Walsh**, J Batt, **P Hu**, CC Dos Santos (2016). Discovering microRNA-regulatory modules in multi-dimensional cancer genomic data: a survey of computational methods. *Cancer Informatics*, Suppl2: 25-42. [SRA]
 8. **CJ Walsh**, J Batt, MS Herridge, S Mathur, GD Bader, **P Hu**, CCD Santos (2016). Transcriptomic analysis reveals dysregulation of skeletal muscle regeneration in survivors of critical illness with persistent muscle atrophy. *Scientific Reports*, 6:29334. [C]
 9. **C Chi**, **R Ajwad**, **Q Kuang**, **P Hu** (2016). A graph-based algorithm for detecting recurrent copy number variants in cancer studies. *Cancer Informatics*, Suppl2: 43-50 [SRA].
 10. FS Siddiqi, S Majumder, K Thai, M Abdalla, **P Hu**, SL Advani, KE White, BB Bowskill, G Guarna, CC dos Santos, KA Connelly, A Advani (2016). The histone methyltransferase EZH2 protects against podocyte oxidative stress and renal injury in diabetes. *Journal of the American Society of Nephrology*, 27:2021-2034. [C]
 11. U Allen, **P Hu**, SL Pereira, J Robinson, T Paton, J Beyene, N Khodai-Booran, A Dipchand, D Hebert, V Ng, T Nalpathamkalam, S Read (2016). The genetic diversity of Epstein-Barr virus in the setting of transplantation relative to non-transplant settings: a feasibility study. *Pediatric Transplantation*, 20:124-129. [C]
 12. XQ Liu, J Fazio, **P Hu**, AD Paterson (2016). Identity-by-descent mapping for diastolic blood pressure in unrelated Mexican Americans. *BMC Proceedings* 10(Supp 7): 263-267. [C]
 13. **PF Simon**, S McCorrister, **P Hu**, P Chong, A Silaghi, G Westmacott, KM Coombs, D Kobasa (2015). Strains of highly pathogenic H5N1 and novel H7N9 influenza induces a more profound proteomic host response compared to those of seasonal and pandemic H1N1 influenza A viruses. *Journal of Proteome Research*, 14:4511-4523. [C]
 14. KL Wright, JR Adams, J Liu, AJ Loch, RG Wong, C Jo, LA Beck, DR Santhanam, L Weiss, X Mei, TF Lane, S Koralov, SJ Done, JR. Woodgett, E Zacksenhaus, **P Hu**, SE Egan (2015). Ras signaling is a key determinant of metastatic dissemination and poor survival of luminal breast cancer patients. *Cancer Research*, 75:4960-4972. [C]
 15. **CJ Walsh**, **P Hu**, J Batt, CC Dos Santos (2015). Microarray meta-analysis and cross-platform normalization: integrative genomics for robust biomarker discovery. *Microarrays*, 4:389-406. [SRA]
 16. R Johnson*, **P Hu***, C Fan, C Anders (2015). Gene expression analysis of “young adult type” breast cancer: a retrospective analysis. *Oncotarget* 6:13688-13702. [CPA]

17. D Merico, N Sharfe, **P Hu**, J Herbrick, C Roifman (2015). RelB deficiency causes combined immunodeficiency. *LymphoSign Journal* 2:147-155. [C]
18. N Kanwar, **P Hu**, P Bedard, M Clemons, D McCready, SJ Done (2015) Identification of genomic signatures in circulating tumor cells from breast cancer. *International Journal of Cancer* 137:332-344. [C]
19. M Uddin, B Thiruvahindrapuram, S Walker, Z Wang, **P Hu**, S Lamoureux, J Wei, JR MacDonald, G Pellecchia, C Lu, AC Lionel, MJ Gazzellone, JR McLaughlin, C Brown, IL Andrulis, JR Knight, J Herbrick, RF Wintle, P Ray, DJ Stavropoulos, CR Marshall, SW Scherer (2015). A high-resolution copy number variation resource for clinical and population genetics. *Genetics in Medicine* 17:747-752. [C]
20. KWK Lee, R Richmond, **P Hu**, L French, J Shin, C Bourdon, E Reischl, M Waldenberger, S Zeilinger, T Gaunt, W McArdle, S Ring, G Woodward, L Bouchard, D Gaudet, G Davey-Smith, C Relton, T Paus, Z Pausova (2015). Prenatal exposure to maternal cigarette smoking and DNA methylation: epigenome-wide association in a discovery sample of adolescents and replication in an independent cohort at birth through 17 years of age. *Environmental Health Perspectives* 123:193-199. [C]
21. H Jiang, Z Pan, **P Hu** (2015). Discriminative learning of generative models: large margin multinomial mixture models for document classification. *Pattern Analysis and Applications* 18:535-551. [C]
22. J Li, S Rohailla, N Gelber, J Rutka, N Sabah, RA Gladstone, C Wei, **P Hu**, RK Kharbada, AN Redington (2014). MicroRNA - 144 is a circulating effector of remote ischemic preconditioning. *Basic Res Cardiol.* 109:423-436. [C]
23. M Uddin, K Tammimies, G Pellecchia, B Alipanahi, **P Hu**, Z Wang, D Pinto, L Lau, T Nalpathamkalam, CR. Marshall, BJ Blencowe, BJ Frey, D Merico, R Yuen, SW Scherer (2014). Brain-expressed exons under purifying selection are enriched for *de novo* mutations in autism spectrum disorder. *Nature Genetics* 46: 742-747. [C]
24. **P Hu**, AD Paterson (2014). Dynamic pathway analysis of genes associated with blood pressure using whole genome sequence data. *BMC Proceedings* 8(Suppl 1): S106. Special issue of Genetic Analysis Workshop (GAW18), Stevenson, WA, USA, October 2012. [PA]
25. W Xu, S Cohen-Woods, Q Chen, A Noor, J Knight, G Hosang, SV Parikh, V de Luca, F Tozzi, P Muglia, J Forte, A McQuillin, **P Hu**, HMD Gurling, JL Kennedy, P McGuffin, A Farmer, J Strauss, JB Vincent (2014). Genome-wide association study of bipolar disorder in Canadian and UK populations corroborates disease loci including SYNE1 and CSMD1. *BMC Medical Genetics* 15:2. [C]
26. MMG Seno*, FG Gwady*, **P Hu**, SW Scherer (2013). Neuregulin 1-alpha regulates phosphorylation, acetylation and alternative splicing in lymphoblastoid cells. *Genome.* 56:619-625. [C]
27. **P Hu**, AM Muise, **X Xiang**, JH Brumell, MS Silverberg, W Xu (2013). Association between a multi-locus genetic risk score and inflammatory bowel disease. *Bioinformatics and Biology Insights* 7:143-152. [PA]

28. JD Mills, T Nalpathamkalam, HIL Jacobs, C Janitz, D Merico, **P Hu**, M Janitz (2013). RNA-Seq analysis of parietal cortex in Alzheimer's disease reveals alternatively spliced isoforms related to lipid metabolism. *Neuroscience Letters* 536:90-95. [C]
29. P Moffatt, M Ben-Amor, FH Glorieux, P Roschger, K Klaushofer, JA Schwartzentruber, AD Paterson, **P Hu**, C Marshall, FORGE Canada Consortium, S Fahiminiya, J Majewski, CL Beaulieu, KM Boycott, F Rauch (2013). Metaphyseal dysplasia with maxillary hypoplasia and brachydactyly is caused by a duplication in RUNX2. *American Journal of Human Genetics* 92:252-258. [C]
30. **P Hu***, **X Wang***, JJ Haitsma, S Furmli, H Masoom, M Liu, AS Slutsky, J Beyene, CM Greenwood, CC dos Santos (2012). Microarray meta-analysis identifies acute lung injury biomarkers in donor lungs that predict development of primary graft failure in recipients. *Plos One* 7:e45506. [CPA]
31. **P Hu**. Machine learning approaches for network-based prediction of disease outcomes and protein functions (Doctoral Dissertation, Collected by ACM Digital Library, ISBN: 978-0-494-90125-0). York University, Canada ©2012. [SRA]
32. **P Hu**, S Bull, H Jiang (2012). Gene network modular-based classification of microarray samples. *BMC Bioinformatics* 13 (Suppl 10): S17. [SRA]
33. CC dos Santos, S Murthy, **P Hu**, Y Shan, JJ Haitsma¹, SHJ Mei, DJ Stewart, WC Liles (2012). Network analysis of transcriptional responses induced by mesenchymal stem cells treatment of experimental sepsis. *American Journal of Pathology* 181:1681-1692. [C]
34. W Wang, W Hu, F Hou, **P Hu**, Z Wei (2012). SNVerGUI: A desktop tool for variant analysis of next-generation sequencing data. *Journal of Medical Genetics* 12:753-755. [C]
35. PC Havugimana^{*}, GT Hart^{*}, T Nepusz^{*}, H Yang^{*}, AL Turinsky, Z Li, PI Wang[,], DR Boutz, V Fong[,], S Phanse, M Babu, SA Craig, **P Hu**, C Wan, J Vlasblom, V Dar, A Bezginov, GW Clark, GC Wu, SJ Wodak, ERM Tillier, A Paccanaro, EM Marcotte, A Emili (2012). A census of human soluble protein complexes. *Cell* 150:1068-1081. [C]
36. R Ribeiro, C Monteiro, V Catalán, **P Hu**, V Cunha, A Rodriguez, J Gómez-Ambrosi, A Fraga, P Príncipe, C Lobato, F Lobo, A Morais, V Silva, J Sanches-Magalhães, J Oliveira, F Pina, C Lopes, R Medeiros, G Frühbeck (2012). Obesity and prostate cancer: gene expression signature of human periprostatic adipose tissue. *BMC Medicine* 10:108. [C]
The findings were reported on The Toronto Star (<http://www.healthzone.ca/health/newsfeatures/article/1262462--fat-feeds-aggressive-prostate-tumours-study-finds>)
37. D Picard, S Millar, CE Hawkins, E Bouffet, HA Rogers, TSY Chan, SK Kim, YS Ra, J Fangusaro, A Korshunov, H Toledano, H Nakamura, JT Hayden, J Chan, L Lafay-Cousin, **P Hu**, X Fan, KM Muraszko, SL Pomeroy, CC Lau, HK Ng, C Jones, TV Meter, SC Clifford, C Eberhart, A Gajjar, SM Pfister, RG Grundy, A Huang (2012). Markers of survival and metastatic potential in childhood CNS primitive neuro-ectodermal brain tumors: an integrative genomic analysis. *Lancet Oncology* 13:838-848. [C]
38. L Smeding, HL Poi, **P Hu**, Y Shan, JJ Haitsma, E Horvath, S Furmli, H Masoom, JW Kuiper, AS Slutsky, TG Parker, FB Plötz, CC dos Santos (2012). Salutary effect of Resveratrol on sepsis-induced myocardial depression. *Critical Care Medicine* 40:1896-1907. [C]

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Conference Proceedings (full papers)

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Book Chapters

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Submitted Publications

88. **Frenkel S**, Bernstein CN, Sargent M, **Kuang Q**, Jiang W, Wei J, Thiruvahindrapuram B, Spriggs B, Scherer SW, **Hu P**. Genome-wide analysis identifies rare copy number variations associated with inflammatory bowel disease. Submitted to *European Journal of Human Genetics*, 2017.
89. **MM Islam**, **R Ajwad**, **C Chi**, Y Wang, **P Hu**. OmicsNet: An integrative deep learning framework for molecular classification of breast cancer. Submitted to *Artificial Intelligence in Medicine*, 2017.
90. **Y Chen**, C Monteiro, A Matos, **J You**, A Fraga, V Catalán, A Rodríguez, J Gómez-Ambrosi, G Frühbeck, R Ribeiro*, **P Hu*** (2017). Epigenome-wide DNA Methylation Profiling of Periprostatic Adipose Tissue Reveals Important Roles of Obesity in Men with Prostate Cancer. Submitted to *Oncotarget*.
91. **C Chi**, LC Murphy, **P Hu** (2017). Recurrent copy number variation analysis identifies risk genes in young women with breast cancer. Submitted to *Oncotarget*.
92. JLY Tsang, A Binnie, **P Hu**, P Castelo-Branco, CC. dos Santos. DNA Methylation and Sepsis. Submitted to *Critical Care*.
93. PL Gali, H Amatullah, Y Shan, SHJ. Mei, K Szaszi, P Fernandez-Segoviano, JA Lorente, A Esteban, W Conrad Liles, P Marsden, **P Hu**, DJ Stewart, CC dos Santos. MicroRNA 193b-5p plays a critical role in the regulation of sepsis-induced vascular leak and acute lung injury. Submitted to *elife*.

Manuscripts under Preparation

94. R Eguchi , MB Karim, **P Hu**, T Sato, N Ono, S Kanaya, MA Amin (2017). An integrative network-based approach to identify novel disease genes and pathways: A case study in the context of inflammatory bowel disease.
95. K Vagianos, KA Sexton, MT Bernstein, **P Hu**, **K Zhao**, CN Bernstein, LE Targownik (2017). Dietary lactose consumption is associated with both increased symptoms and intestinal inflammation in adults with inflammatory bowel disease.
96. **R Ajwad**, M Domaratzki, **P Hu** (2017). Identification of significantly mutated subnetworks in the breast cancer genome.
97. KM Coombs, **J Bondoc**, **XL Zhang**, **P Hu** (2016). Aptamer profiling of influenza virus-infected cells highlights dysregulated receptor signaling.

98. **K Zhao**, CMT Greenwood, **P Hu** (2017). A gene-pair based statistical method for testing gene set enrichment in microarray studies.
99. **Linfan Zhang**, **P Hu** (2017). Somatic copy number alternation burden predicts survival prognosis in breast cancer.
100. **KQ Zhao**, M Graham, A Andonov, **P Hu**, J Rempel (2015). Genetic association analysis of hepatitis C virus patients between the indigenous and Caucasian populations.

Abstracts and Posters

1. A Binnie, **CJ Walsh**, **P Hu**, D Dwivedi, A Fox-Robichaud, P Liaw, JLY Tsang, Y Shan, J Batt, G Carrasqueira, P Castelo-Branco, CC dos Santos. Epigenetics of sepsis: early sepsis is characterized by alterations in the DNA methylation patterns of many sepsis-associated genes. Critical Care Canada Forum. Toronto, ON, Canada, October 2017.
2. **S Frenke**, **W Jiang**, **Y Tian**, M Sargent, Q Kuang, JR Walker, J Wei, B Thiruvahindrapuram, E Spriggs, SW Scherer, W Xu, CN Bernstein, **P Hu**. Genome-wide scan to identify genetic risk loci for depression and anxiety in patients with inflammatory bowel disease. The Western Canadian Universities Big Data Health Conference (WCUC). Banff Centre, Alberta, Canada, September 28-29, 2017.
3. **J You**, **MM Islam**, **C Chi**, **Y Tian**, J Siddiqua. Molecular Classification of Inflammatory Bowel Disease Using GWAS-based Risk Gene Expression Profiles. The 45th Annual Meeting of the Statistical Society of Canada (SSC). Winnipeg, Manitoba, Canada, June 2017. (I am the supervisor of the team for Student Case Study Poster Competition held in SSC).
4. CA Robinson, A Orr, D Gaston, J Yorke, M Nightingale, **P Hu**, C Macgillivray, L Geldenhuys, S Dyack, T Hewlett, M West, K Bedard. Putative association of a germline mutation in HYOU1 with nephrosclerosis and end-stage renal disease. The 41th Annual Scientific Conference of the Canadian College of Medical Geneticists. Montreal, QC, Canada, May 2017.
5. **MM Islam**, **R Ajwad**, **C Chi**, M Domaratzki, Y Wang, **P Hu**. Somatic copy number alteration-based prediction of molecular subtypes of breast cancer using deep learning model. 30TH Canadian Conference on Artificial Intelligence. Edmonton, Alberta, Canada, May 16-19, 2017.
6. **S Frenkel**, M Sargent, Q Kuang, J Wei, B Thiruvahindrapuram, B Spriggs, SW Scherer, CN Bernstein, **P Hu**. Genome-wide analysis identifies rare copy number variations associated with inflammatory bowel disease. Digest Disease Week (DDW). Chicago, IL, USA, May 6-9, 2017. Gastroenterology, 152:Supp.1 S984, 2017.

The abstract won the “Poster of Distinction” award at American Gastroenterological Association’s (AGA) Digestive Disease Week (May 6-9), Chicago. This poster was rated in the top 10% of all AGA abstracts selected for poster presentation at DDW.

7. **W Jiang**, W Xu, CN Bernstein, **P Hu** (2017). Identifying Genetic Risk Factors Associated with Psychiatric Status in Patients with Inflammatory Bowel Disease. Annual DLSPH Biostatistics Research Day at the University of Toronto. Toronto, Ontario, Canada, May 5, 2017.
8. **Y Cheng**, C Monteiro, A Matos, A Fraga, V Catalán, A Rodríguez, J Gómez-Ambrosi, G Frühbeck, R Ribeiro*, **P Hu*** (2017). Epigenome-wide DNA Methylation Profiling of

Periprostatic Adipose Tissue Reveals Important Roles of Obesity in Men with Prostate Cancer. 6th Annual Canadian Human and Statistical Genetics Meeting. Quebec City, Quebec, Canada, April 22-25, 2017.

9. **C Chi, N Hizon, P Hu** (2017). Pan-cancer analysis of somatic mutations in young and old cancer patients. 6th Annual Canadian Human and Statistical Genetics Meeting. Quebec City, Quebec, Canada, April 22-25, 2017.
10. **Y Tian, MM Islam**, Y Wang, **P Hu** (2017). A deep learning regression model for phenotype prediction based on GAW20 genome-wide DNA methylation data. Genetic Analysis Workshop (GAW) 20. San Diego, CA, USA, March 2017.
11. **C Chi, R Ajwad**, Q Kuang, LC Murphy, **P Hu**. Recurrent somatic copy number variation analysis identifies risk genes that modulate the survival of young women with breast cancer. The American Society of Human Genetics (ASHG) Annual Meeting. Vancouver, BC, Canada, October 2016.
The abstract won 2016 ASHG/Charles J. Epstein Trainee Award for Excellence in Human Genetics Research – Semifinalist. The Semifinalist award is for outstanding trainee research in 2016. American Society of Human Genetics (ASHG) granted 60 awards to 490 applicants based on abstracts scored by the Scientific Program Committee of 2016 Annual Meeting of ASHG.
12. H Liu, ME Turlakis, R Gandhi, **P Hu**, AD Paterson, J Rommens. SDS ribosome and impaired protein synthesis in Shwachman-Diamond syndrome. The American Society of Human Genetics (ASHG) Annual Meeting. Vancouver, BC, Canada, October 2016.
13. **Huyen Le**, Yang Wang, **P Hu** (2016). Gene set –based deep neural network learning for disease classification. GLBIO/CCBC Great Lakes Bioinformatics and Canadian Computational Biology Conference. Toronto, ON, Canada, May 16-19, 2016
14. **C Chi**, Q Kuang, L Murphy, **P Hu** (2016). A graph-based algorithm for identifying recurrent copy number variations with application to young women's breast cancer. 18th Annual CancerCare Manitoba Research Day. Winnipeg, MB, Canada, May 9, 2016.
15. G Hicks, A Chudley, J Davie, MD Bigio, B Elias, A Fainsod, **P Hu**, T Pemberton, M Rastegar. Fetal alcohol spectrum disorder: genetic and epigenetic tools for risk assessment. The Alberta Epigenetics Network Annual Summit. Banff, AB, Canada, March 21-23, 2016.
16. **C Chi**, Q Kuang, L Murphy, **P Hu** (2016). A graph-based algorithm for identifying recurrent copy number variations with application to young women's breast cancer. 5th Annual Canadian Human and Statistical Genetics Meeting. Halifax, NS, Canada, April 16-19, 2016.
17. **K Zhao**, CMT Greenwood, **P Hu** (2016). A gene-pair based statistical method for testing gene set enrichment in microarray studies. 5th Annual Canadian Human and Statistical Genetics Meeting. Halifax, NS, Canada, April 16-19, 2016.
18. K Vagianos, KA Sexton, MT Bernstein, **P Hu**, **K Zhao**, CN Bernstein, LE Targownik (2016). Dietary lactose consumption is associated with both increased symptoms and intestinal inflammation in IBD. Digestive Disease Week (DDW). San Diego, CA, USA, May 21-24, 2016. Gastroenterology, 150:Supp.1 S41-42, 2016.

19. **CJ Walsh**, J Batt, MS Herridge, GD Bader, **P Hu**, CCD Santos (2016). Integrated analysis of microRNA and mRNA expression in survivors of critical illness with sustained muscle weakness reveals microRNA targets involved in regeneration and repair associated with quadriceps strength. American Thoracic Society Annual Conference. San Francisco, USA. May 13-18, 2016.
20. **C Chi**, **K Zhao**, RH Johnson, CK Anders, SE Egan, **P Hu** (2015). Identification of gene- and pathway-based breast cancer signatures. Canadian Cancer Research Conference. Montreal, Canada, November 7-10, 2015.
21. **C Chi**, **K Zhao**, RH Johnson, CK Anders, SE Egan, **P Hu** (2015). Identification of gene- and pathway-based breast cancer signatures. CIHR-IG New Investigator Meeting 14. Montreal, Canada, Oct.30- Nov. 01, 2015.
22. **K Zhao**, C Wu, H Fu, **P Hu**, X Ye (2015). Identify genetic and non-genetic factors associated with non-Hodgkin lymphoma in a sample from Shanghai, China. The 11th Annual Canadian Chronic Lymphocytic Leukemia (CLL) Meeting, Winnipeg, MB, Canada, October 1-2, 2015.
23. **K Zhao**, C Wu, H Fu, **P Hu**, X Ye (2015). Genetic variations in immunoregulation genes associated with non-hodgkin lymphoma in a Chinese population. Child Health Research Day, Winnipeg, MB, Canada, September 30, 2015.
24. PL Gali, H Amatullah, DY Zhou, Y Shan, Y Amoozadeh, K Szaszi, **P Hu**, C Dos Santos. (2015) MiRNA193b-5p Inhibition Attenuates LPS-induced Acute Lung Injury Through Decreased Occludin Degradation. The FASEB Journal 29 (1 Supplement), 863.16
25. L Zhou, H Amatullah, P Gali, D Zhou, Y Shan, **P Hu**, C Dos Santos. (2015) Role of miR-27a Mediated Regulation of VAV3 in Sepsis-induced ARDS. The FASEB Journal 29 (1 Supplement), 863.3.
26. N Kanwar, **P Hu**, P Bedard, M Clemons, D McCreedy, SJ Done. Identification of genomic signatures in circulating tumor cells from breast cancer. United States & Canada Academy of Pathology (USCAP) American Association for Cancer Research Annual Meeting. Boston, MA, USA, March 21 - 27, 2015.
27. **X Zhang**, R Beavis, **P Hu**. From differential gene analysis to gene set enrichment analysis and visualization – A bioinformatics pipeline. 10th Annual Child Health Research Day, Winnipeg, Canada, October 2014.
28. **P Hu**, Z Wang, XQ Liu. A Graph based algorithm to identify recurrent runs of homozygosity variants in a Mexican American sample. Genetic Analysis Workshop 19. Vienna, Austria, August 2014.
29. XQ Liu, **P Hu**, AD Paterson. Combined IBD mapping and sequencing analyses for filtering variants associated with blood pressure levels using an unrelated Mexican American sample. Genetic Analysis Workshop 19. Vienna, Austria, August 2014.
30. H Liu, **P Hu**, AD Paterson, J Rommens. Loss of the ribosome-associated factor Sbds in murine models of Shwachman-Diamond syndrome leads to aberrant polysome profiles. The American Society of Human Genetics (ASHG) Annual Meeting. San Diego, CA, USA, October 2014.

31. KWK Lee, R Richmond, L French, J Shin, **P Hu**, E Reischl, M Waldenberger, S Zeilinger, T Gaunt, W McArdle, S Ring, G Woodward, L Bouchard, D Gaudet, G Davey-Smith, C Relton, T Paus, Z Pausova. Prenatal exposure to maternal cigarette smoking is associated with lasting modulations of DNA methylation in the exposed offspring. The American Society of Human Genetics (ASHG) Annual Meeting. San Diego, CA, USA, October 2014.
32. **P Simon**, M de La Vega, **P Hu**, S McCorrister, P Chong, G Westmacott, K Coombs, D Kobasa. Proteomic responses to H1N1, H5N1 and H7N9 influenza virus infections in A549 cells. 16th International Conference of Virology. Montreal, Quebec, Canada, July 2014.
33. L French, D Caramaschi, E Dickie, G Leonard, M Perron, GB Pike, L Richer, S Veillette, **P Hu**, E Reischl, M Waldenberger, S Zeilinger, T Gaunt, W McArdle, S Ring, G Woodward, JC Evans, G Davey-Smith, C Relton, Z Pausova, T Paus. Methylation Status of Growth-factor Genes Predicts Handedness Associated Cortical Asymmetry. The 20th Annual Meeting of the Organization for Human Brain Mapping. Hamburg, Germany, June 2014.
34. **P Simon**, M de La Vega, **P Hu**, S McCorrister, P Chong, G Westmacott, K Coombs, D Kobasa. Proteomic responses to H1N1, H5N1 and H7N9 influenza virus infections in A549 cells. Prairie Infectious Immunology Network, Hecla, Manitoba, May 2014.
35. U Allen, **P Hu**, S Pereira, J Robinson, T Paton, J Beyene, N Khodai-Booran, A Dipchand, D Hebert, V Ng, T Nalpathamkalam, S Read. Exploring genetic diversity of Epstein-Barr Virus in the setting of transplantation relative to non-transplant settings: proof – of – principle. the Association of Medical Microbiology and Infectious Disease (AMMI) Canada and the Canadian Association for Clinical Microbiology and Infectious Diseases (CACMID) Annual Conference. Victoria, BC, Canada, April 2014.
36. DY Zhou, H Amatullah, Y Shan, P Gali, **P Hu**, C Dos Santos. Informed target discovery for gene and stem cell therapy in acute lung injury. Am J Respir Crit Care Med 187:A1334. Presented at American Thoracic Society International Conference. Philadelphia, Pennsylvania, USA, May 2013.
37. U Allen, **P Hu**, S Pereira, A Dipchand, V Ng, D Hebert, M Solomon, J Beyene, T Paton, N Khodai-Booran, T Nalpathamkalam, S Read. Pilot Study of Genetic Diversity of Epstein-Barr Viral Genes Among Pediatric Solid Organ Transplant Recipients. American Transplant Congress. Seattle, WA, USA, May 18-22, 2013.
38. K Lee, **P Hu**, E Reischl, M Waldenberger, D Gaudet, L Bouchard, T Paus, Z Pausova. 450K epigenome-wide scan reveals differential methylation of DNA in adolescents exposed prenatally to maternal cigarette smoking. 2nd Annual Canadian Human and Statistical Genetics Meeting. Quebec, Canada, April 21 – 24, 2013.
39. N Kanwar, **P Hu**, P Bedard, M Clemons, D McCready, SJ Done. Identifying genomic signatures within circulating breast cancer cells. American Association for Cancer Research Annual Meeting. Washington, DC, USA, April 6-10, 2013.
40. X Song, **P Hu**, R Torra, DC Cattran, AD Paterson, YP Pei. Homozygosity mapping for steroid-sensitive nephrotic syndrome. The Annual Meeting of American Society of Nephrology. San Diego, California, USA, November 2012.
41. DY Zhou, Y Shan, H Amatullah, **P Hu**, C Dos Santos. Informed target discovery for gene and stem cell therapy in acute lung injury. Journal of Critical Care 28, e13. Presented at Critical Care Canada Forum. Toronto, ON, Canada, October 2012.

42. **P Hu, X Wang**, J Haitsma, S Furmli, H Masoom, M Liu, A Slutsky, J Beyene, CMT Greenwood, C Dos Santos. Microarray meta-analysis identifies acute lung injury biomarkers in donor lungs that predict development of primary graft failure in recipients. *Journal of Critical Care* 28, e14. Presented at SCAI 11th International Conference on Complexity in Acute Illness (ICCAI 2012). Ottawa, ON, Canada, September 2012.
43. C Dos Santos, S Murthy, **P Hu**, Y Shan, J Haitsma, S Mei, D Stewart, C Liles. Network analysis of transcriptional responses induced by mesenchymal stem cell treatment of experimental sepsis. *Journal of Critical Care* 28, e14. Presented at SCAI 11th International Conference on Complexity in Acute Illness (ICCAI 2012). Ottawa, ON, Canada, September 2012.
44. **P Hu**, MMG Seno, AD Paterson, SW Scherer. A pathway-based meta-analysis approach for integrating autism gene expression profiles. *NeuroDevNet's 3rd Annual Brain Development Conference*. Toronto, Ontario, Canada, September 2012.
45. U Allen, **P Hu**, S Pereira, J Beyene, D Ho, N Khodai-Booran, T Nalpathamkalam, S Read. Exploring genetic diversity of Epstein-Barr Virus (EBV) using whole genome next generation sequencing. *International Congress on Oncogenic Herpesviruses and Associated Diseases*. Philadelphia, Pennsylvania, USA, August 1-4, 2012.
46. D Picard, S Millar, C Hawkins, H Rogers, SK Kim, YS Ra, T Chan, J Fangusaro, H Toledano, H Nakamura, T Van Meter, J Hayden, J Chan, L Lafay-Cousin, **P Hu**, S Goldman, CC Lau, S Pomeroy, HK Ng, J Pang, C Jones, A Gajjar, S Clifford, S Pfister, C Eberhart, E Bouffet, R Grundy, A Huang. Markers of cell lineage correlate with survival and metastatic potential in CNS-PNET. 15th International Symposium on Pediatric Neuro-Oncology. Toronto, ON, Canada, June 24-27, 2012.
47. CC dos Santos, S Murthy, **P Hu**, Y Shan, JJ Haitsma¹, SHJ Mei, DJ Stewart, WC Liles. Network analysis of transcriptional response induced by systemic administration of bone marrow derived mesenchymal cells in polymicrobial sepsis. *American Journal of Respiratory and Critical Care Medicine* 185: A2211. Presented at American Thoracic Society Annual Meeting. San Francisco, CA, USA. May 2012.
48. E Papp, R Johnson, D Merico, **P Hu**, I Grandal, C Guidos, J Danska. A novel ligand-independent Flt3 allele drives RANKL expression in a murine model of B-precursor acute lymphoblastic leukemia with CNS dissemination. *Cancer Research* 72, 8 Suppl.:A1397. Presented at American Association for Cancer Research Annual Meeting. Chicago, IL, USA. March 31- April 4, 2012.
49. N Kanwar, **P Hu**, M Clemons, D McCreedy, SJ Done. Identification of frequently gained genomic regions in breast circulating tumor cells. *Cancer Research* 72, 8 Suppl.:A3410. Presented at American Association for Cancer Research Annual Meeting. Chicago, IL, USA. March 31- April 4, 2012.
50. R Johnson, **P Hu**, C Fan, C Anders. Gene expression as a predictor of "young adult type" breast cancer: a retrospective analysis. *LIVESTRONG Young Adult Alliance Annual Meeting*. Austin, TX, USA. November 2011.
51. Z Wei, W Wang, **P Hu**, GJ Lyon, H Hakonarson. SNVer: a statistical tool for variant calling in analysis of pooling or individual next-generation sequencing data. *The American Society of Human Genetics (ASHG) Annual Meeting*. Montreal, Canada, October 2011.

52. **P Hu**, C Sandhu, Z Wei, E Cheran, J Foong, L Lau, Z Wang, S Pereira, Z Hu, RF Wintle, AD Paterson, SW Scherer. Next generation Resequencing of pooled DNA samples identified variants of SHANK3 in autism spectrum disorder. Annual Canadian Genetic Epidemiology & Statistical Genetics Meeting. King City, Canada, May 2011.
53. Ye Yang, **P Hu**, Z Wang, SW Scherer. Combining sparse principal component analysis and LASSO to identify autism spectrum disorder associated risk pathways via rare copy number variants. Annual Canadian Genetic Epidemiology & Statistical Genetics Meeting. King City, Canada, May 2011.
54. X Song, **P Hu**, N He, AD Paterson, Y Pei. Homozygosity mapping of recessive disease genes for steroid-sensitive nephrotic syndrome. The Annual Meeting of American Society of Nephrology. Denver, USA, November 2010.
55. MA Tayeb, RM Iwasiow, **P Hu**, RF Wintle, SW Scherer. Evaluation of the performance of genomic DNA from saliva collected with Oragene-DNA for the purpose of SNP discovery on various Illumina Technologies. The American Society of Human Genetics (ASHG) Annual Meeting. Washington, USA, November 2010.
56. RM Iwasiow, MA Tayeb, **P Hu**, RF Wintle, SW Scherer. Evaluation of the performance of gDNA from saliva collected with Oragene-DNA for the purpose of CNV analysis on the Agilent Human Genome CGH Array 244A. The American Society of Human Genetics (ASHG) Annual Meeting. Washington, USA, November 2010.
57. JE Below, J Morrison, E Gamazon, A Konkash-Baev, A Valladares, J Barta, K Ross, M Edwards, N Wachter, J Garcia-Mena, **P Hu**, TD Dyer, J Kumate, M Cruz, R Duggirala, MA Carless, A Pluzhnikov, J Escobedo, PM McKeigue, JE Curran, DM Hallman, MD Shriver, G Bell, J Blangero, E Parra, C Hanis, N Cox. First Meta-Analysis of Type 2 diabetes in Mexicans and Mexican-Americans. Diabetes, 59 (Suppl. 1A):57-LB. Presented at American Diabetes Association's 70th Annual Meeting. Orlando, Florida, June 2010.
58. EJ Parra, A Valladares, JL Barta, K Ross, M Edwards, N Wachter, J Garcia-Mena, **P Hu**, MD Shriver, J Kumate, PM McKeigue, J Escobedo, M Cruz. Genome-wide association study of type 2 diabetes and related quantitative traits in a sample population from Mexico. The 5th annual Canadian Genetic Epidemiology & Statistical Genetics Meeting. King City, Ontario, Canada, April 2010.
59. RM Iwasiow, C James, **P Hu**, RF Wintle, SW Scherer. Evaluation of performance of gDNA from saliva collected with Oragene-DNA for the purpose of SNP and CNV analysis on the Affymetrix Genome-wide Human SNP Array 6.0. The American Society of Human Genetics (ASHG) Annual Meeting. Hawaii, USA, October 2009.
60. B Kabakchiev, D Turner, J Hyams, D Mack, N Leleiko, W Crandall, J Markowitz, A Otley, W Xu, **P Hu**, A Griffiths, MS Silverberg (2010). Gene expression profiles associated with lack of response to intravenous corticosteroid in children with severe ulcerative colitis. The American Society of Human Genetics (ASHG) Annual Meeting. Hawaii, USA, October 2009.
61. MMG Seno, CR Marshall, **P Hu**, J McDonald, T Paton, G Gasallo, SW Scherer. The effect of large de novo chromosomal deletions on gene expression. The American Society of Human Genetics (ASHG) Annual Meeting. Hawaii, USA, October 2009.

62. JJ Diaz-Mejia, **P Hu**, SC Janga, M Babu, G Butland, W Yang, O Pogoutse, X Guo, S Phanse, P Wong, S Chandran, C Christopoulos, A Nazarians-Armavil, N Karimi Nasser, G Musso, M Ali, N Nazemof, V Eroukova, A Golshani, A Paccanaro, JF Greenblatt, G Moreno-Hagelsieb, A Emili. Functional Atlas of Escherichia coli Encompassing Previously Uncharacterized Proteins. HUPO VIII World Congress. Toronto, Canada, September 2009.
63. M Babu, G Butland, JJ Diaz-Mejia, **P Hu**, S Pu, G Moreno-Hagelsieb, SC Janga, S Wodak, A Emili, J Greenblatt. Protein complexes and functional pathways in Yeast and Bacteria. HUPO VIII World Congress. Toronto, Canada, September 2009.
64. PC Havugimana, **P Hu**, V Fong, A Emili. Global detection of human protein complexes by high resolution proteome fractionation and exhaustive tandem mass spectrometry profiling. HUPO VIII World Congress. Toronto, Canada, September 2009.
65. CS Dos Santos, **P Hu**, X Chen, AS Slutsky, C Greenwood, J Beyene. Cross-species, cross-platform, meta-analysis of acute lung injury (ALI) and ventilator induced lung injury (VILI) microarrays. American Journal of Respiratory and Critical Care Medicine 179, A3838. Presented at American Thoracic Society Annual Meeting. San Diego, USA, May 2009.
66. B Kabakchiev, D Turner, JS Hyams, DR Mack, NS LeLeiko, W Crandall, J Markowitz, AR Otle, W Xu, **P Hu**, AM Griffiths, MS Silverberg. Gene expression profiles associated with lack of response to intravenous corticosteroids in children with severe ulcerative colitis. Gastroenterology 136 (Suppl.), A-172. Presented at Digestive Disease Week (DDW). Chicago, USA, May 2009.
67. U Allen, M Barton-Forbes, J Beyene, **P Hu**, N Khodai-Booran, D Héber, A Diphchand, V Ng, M Soloman, D Grant. Host gene expression in Epstein-Barr Virus (EBV) infection after pediatric organ transplantation. Pediatric Transplantation 13, S1 7 – 43. Presented at 5th Congress of the International Pediatric Transplant Association. Istanbul, Turkey, April 2009.
68. J Li, W Xuan, **P Hu**, RK Kharbanda, AN Redington. Remote ischemic preconditioning modifies cardiac microRNA expression in Vivo: first observations in a mouse model. Journal of the American College of Cardiology 53 (Suppl.), A310. Presented at The American College of Cardiology 58th Annual Scientific Conference. Orlando, USA, March 2009.
69. M Babu, G Butland, JJ Diaz-Mejia, **P Hu**, S Pu, G Moreno-Hagelsieb, SC Janga, S Wodak, A Emili, J Greenblatt. Protein complexes and functional pathways in S. cerevisiae and E. coli. The Ninth International Symposium on Mass Spectrometry in the Health & Life Sciences: Molecular & Cellular Proteomics. San Francisco, CA, USA, 2009.
70. D Pinto, J Zhang, B Thiruvahindrapduram, Z Wang, L Feuk, **P Hu**, CMT Greenwood, SW Scherer. A robust copy number variation discovery algorithm for multiple array platforms. The American Society of Human Genetics (ASHG) Annual Meeting. Philadelphia, USA, November 2008.
71. MMG Seno, D Pinto, CR Marshall, T Paton, J Skaug, **P Hu**, G Casallo, K Lee, B Thiruvahindrapduram, SW Scherer. Dysregulation of microRNAs and genes in autism spectrum disorder. 2008 Neuroscience Meeting. Washington, DC., USA, November 2008.
72. **P Hu**, I Matei, E Parkhomenko, C Guidos, J Danska, J Beyene. Evaluation of CNV calling algorithms in identifying T-ALL related cancer genes. Genetic Epidemiology 32, 696.

Presented at International Genetic Epidemiology Society 17th Annual Meeting. St. Louis, Missouri, USA, September 2008.

73. E Parkhomenko, D Tritchler, **P Hu**, C Guidos, J Danska, J Beyene. Studying genomic impact of copy number variation on gene expression profiles using sparse canonical correlation analysis. *Genetic Epidemiology* 32, 710. Presented at International Genetic Epidemiology Society 17th Annual Meeting. St. Louis, Missouri, USA, September 2008.
74. **X Wang**, **P Hu**, M Cameron, M Anraku, M Cypel, Y Imai, J Penninger, AAS Slutsky, D Kelvin, S Keshavjee, J Beyene, CMT Greenwood, C dos Santos. Cross-species, cross-platform meta-analysis of acute lung injury microarrays and validation of injury expression profiles in human models of lung transplantation. 16th Annual International Conference Intelligent Systems for Molecular Biology (ISMB'08). Toronto, Canada, July 2008.
75. I Sung, T Kim, T Kim, B Lee, L Peddle, P Rahman, C Greenwood, **P Hu**, R Inman. IL-23R Polymorphisms in patients with ankylosing spondylitis in Korea. *Annals of the Rheumatic Diseases* 67 (Suppl. II), 509. Presented at Annual European Congress of Rheumatology. Paris, June 2008.
76. **P Hu**, J Beyene, CMT Greenwood. Discovering regulatory modules from eQTL data. Annual Canadian Genetic Epidemiology & Statistical Genetics Meeting. Toronto, Canada, April 2007.
77. Muhammad A Rafiq, C Marshall, **P Hu**, M Ansar, A Mowjoodi, L Fuke, SW Scherer. A novel locus for autosomal recessive mental retardation maps to 2p25.3-25.2 in a consanguineous Pakistani family. HUGO's 12th Human Genome Meeting (HGM). Montreal, Canada, May 2007.
78. **P Hu**, CMT Greenwood, J Beyene. Pathway-based models for predicting prostate cancer by integrative analysis of gene expression data. BioC2006-Where Software and Biology Connect. Seattle, WA, USA, August 2006.
79. N Khodai-Booran, J Beyene, M Barton-Forbes, **P Hu**, D Hébert, A Dipchand, V Ng, D Grant, A Fecteau, M Soloman, B Ngan, S Read, S Weitzman, U Allen. Preliminary assessment of gene expression profiling using DNA microarray technology in patients at risk of Epstein-Barr virus (EBV) Lymphoproliferation after Transplantation. *American Journal of Transplantation* 6(Suppl. 2), 869. Presented at World Transplant Congress. Boston, MA, USA, July 2006.
80. **P Hu**, J Beyene, CMT Greenwood. Genetic analysis of gene expression variation in human cell lines. *Statistical Genetics: From Haplotype Maps to Disease Susceptibility Genes*. The University of Hong Kong, Hong Kong, February 2006.
81. J Beyene, **P Hu**, CMT Greenwood. Data Integration Method for High-throughput Data. Joint Statistical Meetings (JSM). Minneapolis, USA, August 2005.
82. **P Hu**, CMT Greenwood, J Beyene. Identifying prognostic gene expression signatures by meta-analysis of microarray data sets for improved prediction of prostate cancer. Donnelly CCB/MaRS Joint Opening Scientific Symposium on Computational & Chemical Biology. Toronto, September 2005.

E. Presentations and Special Lectures

1. INTERNATIONAL

- 2017 Mar **Oral Presenter.** Recurrent somatic copy number alteration analysis identifies risk genes that modulate the survival of young women with breast cancer. Nara Institute of Science and Technology, Ikoma, Nara, Japan.
- 2014 Aug **Oral Presenter.** A Graph based algorithm to identify recurrent runs of homozygosity variants in a Mexican American sample. Genetic Analysis Workshop 19. Vienna, Austria.
- 2013 Dec **Oral Presenter.** Machine learning approaches for network-based prediction of protein functions and disease outcomes. College of Information Science and Technology, Beijing Normal University. Beijing, China.
- 2013 Dec **Oral Presenter.** Meta-analysis of microarray studies. Oncology division of Qilu Hospital, Shangdong University. Jinan, Shangdong, China.
- 2012 Oct **Oral Presenter.** Dynamic pathway analysis of genes associated with blood pressure using whole genome sequence data. Genetic Analysis Workshop (GAW18). Stevenson, WA, USA. Co-authors: AD Paterson.
- 2012 May **Oral Presenter.** Machine learning approaches for network-based prediction of protein functions and disease outcomes. Department of Computer Science, University of New Orleans, LA, USA.
- 2011 May **Oral Presenter.** Gene network models-based linear discriminant analysis of microarray expression data. 7th International Symposium on Bioinformatics Research and Applications (ISBRA'11). Changsha, Hunan, China. Co-authors: S Bull, H Jiang.
- 2011 Apr **Oral Presenter.** Integrative analysis of biomedical data: algorithms and applications. Department of Pathology, University of Alabama at Birmingham, AL, USA.
- 2010 Oct **Oral Presenter.** Pathway-based joint effect analysis of rare genetic variants using GAW17 exom sequence data. Genetic Analysis Workshop (GAW17). Boston, Massachusetts, USA. Co-authors: W Xu, L Chen, AD Paterson.
- 2010 Jan **Oral Presenter.** Predicting protein functions by relaxation labelling protein interaction network. Asia Pacific Bioinformatics Conference (APBC2010). Bangalore, India. Co-authors: H Jiang, A Emili.
- 2009 Nov **Oral Presenter.** A topology-sharing based method for protein function prediction via analysis of protein functional association networks. IEEE International Conference on Bioinformatics and Biomedicine (BIBM' 09) Workshops. Washington DC, USA. Co-authors: H Jiang, A Emili.

- 2009 Oct **Oral Presenter.** Scoring of ChIP-seq experiments by modeling large-scale correlated tests. The International Conference for the Critical Assessment of Massive Data Analysis (CAMDA09). Chicago, USA. Co-authors: Z Wei, Z Wang, AD Paterson, J Beyene, SW Scherer.
- 2006 Jun **Oral Presenter.** Serum Diagnosis of Chronic Fatigue Syndrome Using Array-based Proteomics. The Sixth International Conference for the Critical Assessment of Microarray Data Analysis (CAMDA 2006). Durham, USA. Co-authors: W Le, S Lim, B Xing, CMT Greenwood, J Beyene.
- 2006 Sep **Oral Presenter.** Integrating Affymetrix microarray data sets using probe-level test statistic for predicting prostate cancer. 2006 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB'06). Toronto, ON, Canada. Co-authors: CMT Greenwood, J Beyene.
- 2004 Nov **Oral Presenter.** Chromosomal clustering of periodically expressed genes in plasmodium falciparum. The Fifth International Conference for the Critical Assessment of Microarray Data Analysis (CAMDA). Durham, USA. Co-authors: CMT Greenwood, J Beyene.

2. NATIONAL

- 2017 Jun **Oral Presenter.** A deep learning-based integrative analysis framework for molecular classification of breast cancer. The 45th Annual Meeting of the Statistical Society of Canada, Winnipeg, Manitoba, Canada.
- 2017 Apr **Oral Presenter.** Integrative bioinformatics analysis for identifying cancer susceptibility genes and classifying molecular subtypes of breast cancer. Department of Physiology and Pathophysiology, University of Manitoba, Winnipeg, Manitoba, Canada.
- 2017 Apr **Oral Presenter.** Recurrent somatic copy number alteration analysis identifies risk genes that modulate the survival of young women with breast cancer. Division of Biostatistics, University of Toronto, Toronto, Ontario, Canada.
- 2015 Nov **Oral Presenter.** Genetic dissection of pandemic influenza-associated severe respiratory illness and bioinformatics of host-pathogen interactions in influenza A infections. Department of Medical Microbiology, University of Manitoba, Winnipeg, Manitoba, Canada.
- 2015 Oct **Oral Presenter.** Gene Set Analysis of Omics Data. Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto. Toronto, Ontario, Canada.
- 2015 Sep **Oral Presenter.** Bioinformatics for infectious disease. Joint meeting between The Centre for HealthCare Innovation and Guandong (China) Centre for Disease Control and Prevention. Winnipeg, Manitoba, Canada.

- 2015 Apr **Oral Presenter.** Epigenome-wide scan identifies prenatal smoke exposure–associated differential DNA methylation during adolescence. Research Rounds of The Children’s Hospital Research Institute of Manitoba. Winnipeg, Manitoba, Canada.
- 2015 Mar **Oral Presenter.** Analysis of DNA methylation data: a tutorial. Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto. Toronto, Ontario, Canada.
- 2014 Nov **Oral Presenter.** Computational biology in translational research. Research Grand Round of The Centre for HealthCare Innovation. Winnipeg, Manitoba, Canada. Jointly presented the talk with Dr. Ron Beavis.
- 2014 Nov **Oral Presenter.** Machine learning approaches for predicting protein functions and disease outcomes using omics data. Department of Statistics, University of Manitoba. Winnipeg, Manitoba, Canada.
- 2014 Jan **Oral Presenter.** Integrative analysis of omics data: a bioinformatics perspective. Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto. Toronto, Ontario, Canada.
- 2013 Sep **Oral Presenter.** Integrative analysis of omics data: a bioinformatics perspective. Faculty of Medicine, University of Manitoba, Manitoba, Winnipeg, Canada.
- 2013 Sep **Graduate Lecturer.** Differential gene expression analysis. Faculty of Medicine, University of Manitoba, Manitoba, Winnipeg, Canada.
- 2013 Jun **Oral Presenter.** Integrative analysis of omics data: a bioinformatics perspective. College of Medicine, University of Saskatchewan, Saskatchewan, Saskatoon, Canada.
- 2013 Jun **Undergraduate Lecturer.** The BLAST algorithm: how it works and how to use it effectively. College of Medicine, University of Saskatchewan, Saskatchewan, Saskatoon, Canada.
- 2011 Oct **Oral Presenter.** A comparative analysis of statistical approaches for biomarker discovery using microbiome data. Methods to Study the Human Microbiome: Workshop II, Toronto, Canada.
- 2008 Nov **Oral Presenter.** Genome-wide copy number analysis: A tutorial. Statistical Methods for Genomics Group at University of Toronto. Toronto, Canada.
- 2008 Feb **Oral Presenter.** Block-Diagonal Linear Discriminant Analysis for Disease Classification Using Gene Expression Profiling. Statistical Methods for Genomics Group at University of Toronto. Toronto, Canada. Co-authors: S Bull.
- 2007 Mar **Oral Presenter.** Critical review of published microarray studies for cancer

outcome. Biostatistics Methodology Unit (BMU) of The Hospital for Sick Children. Toronto, ON, Canada.

- 2007 Jan **Oral Presenter.** Copy number variation in the human genome. Statistical Methods for Genomics Group at University of Toronto. Toronto, Canada.
- 2005 Dec **Oral Presenter.** Quantification of the quality of Affymetrix microarray data and its application to identifying significantly expressed genes. Affymetrix User Group Meeting. Toronto, Canada. Co-authors: CMT Greenwood, J Beyene.
- 2005 Mar **Oral Presenter.** Statistical analysis of the plasmodium falciparum periodically-expressed gene expression data. University of Toronto Microarray Interest Group (MIG). Toronto, Canada. Co-authors: CMT Greenwood, J Beyene.
- 2004 Oct **Oral Presenter.** Quality-adjusted modeling of inter-study variation in gene expression profiles. The Third Canadian Working Conference on Computation Biology (CCCB), IBM Center for Advanced Studies, Toronto, Canada. Co-authors: CMT Greenwood, J Beyene.

F. Training of Highly Qualified Personnel (HQP)

1. POSTDOCTORAL FELLOWS AND VISITING PROFESSORS

- 2016 Sep – Now **Supervisor.** Dr. Svetlana Frenkel. Postdoctoral Fellow (Department of Biochemistry and Medical Genetics, University of Manitoba). Co-supervisor: Dr. Charles Bernstein, Department of Internal Medicine, University Manitoba.
- 2016 Sep – Now **Supervisor.** Dr. Yan Cheng. Visiting Professor (Department of Biochemistry and Medical Genetics, University of Manitoba). Current Position: Associate Professor, Northwest University for Nationalities, China.

2. MASTER AND PHD STUDENTS

- 2017 Sep – Now **Supervisor.** Nikta Feizi. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba).
- 2017 Sep – Now **Supervisor.** Rayhan Shikder. MSc Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Pourang Irani, Department of Computer Science, University Manitoba.
- 2017 May – Now **Supervisor.** Qian Liu. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba).
- 2016 Sep – 2017 Jun **Supervisor.** Wenxin Jiang. MSc Candidate (Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto). Co-

supervisor: Dr. Wei Xu, Dalla Lana School of Public Health, University of Toronto.

- 2016 Sep – Now **Supervisor.** Jiaying You. MSc Candidate (Department of Electrical and Computer Engineering, University of Manitoba). Co-supervisor: Dr. Bob McLeod, Department of Electrical and Computer Engineering, University Manitoba.
- 2016 Sep – Now **Supervisor.** Ye Tian. MSc Candidate (Department of Electrical and Computer Engineering, University of Manitoba). Co-supervisor: Dr. Bob McLeod, Department of Electrical and Computer Engineering, University Manitoba.
- 2016 Aug – Now **Supervisor.** Md. Mohaiminul Islam. MSc Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Yang Wang, Department of Computer Science, University Manitoba.
- 2015 Sep – Now **Supervisor.** Rasif Ajwad. MSc Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Michael Domaratzki, Department of Computer Science, University Manitoba.
- 2015 May – 2017 Jun **Supervisor.** Chen Chi. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba).
- 2014 Feb – Now **Bioinformatics Advisor.** Chris Walsh. PhD Candidate. (Faculty of Medicine, University of Toronto). Supervisor: Dr. Claudia Santos, Faculty of Medicine, University of Toronto.
- 2014 Sep – 2016 Aug **Supervisor.** Kaiqiong Zhao. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba). Current Position: PhD Candidate in Biostatistics in McGill University.
- 2015 Oct – 2016 Jan **Supervisor.** Bingqing Shen. MSc Candidate (Biostatistics Division, University of Toronto). Current Position: Information Management Analyst in Institute for Clinical Evaluative Sciences, Toronto.
- 2014 Feb – 2015 Sep **Bioinformatics Advisor.** Philippe Simon. PhD Candidate. (Department of Medical Microbiology, University of Manitoba). Supervisor: Dr. Darwyn Kobasa. Current Position: Medical student in University Laval.
- 2014 May – 2014 Aug **Co-supervisor.** Cynthia Kpekpen. Summer Student and MSc Candidate (Department of Statistics, University of Manitoba). Supervisor: Dr. Lisa Lix, University of Manitoba.
- 2006 May – 2006 Aug **Co-supervisor.** Hui Lan. Summer Student and PhD Candidate (Department of Computer Science, University of Toronto), Supervisor: Dr. Celia Greenwood, The Hospital for Sick Children.

3. UNDERGRADUATE STUDENTS

- 2016 Sep – 2017 Aug **Supervisor.** Nikho Hizon in Genetics (University of Manitoba). Honour project student (2016-2017) and summer student (2017). Current Position: MSc Candidate in Bioinformatics in University of Manitoba.
- 2016 Jun – 2016 Sep **Supervisor.** Linfan Zhang in Statistics (Zhejiang University, China). Mitacs Globalink Research Internship Student. Current Position: MSc Candidate in Biostatistics in University of Washington, USA.
- 2015 May – 2016 Apr **Supervisor.** Jessica Bondoc in Statistics and Computer Science (University of Manitoba). Co-supervisor: Dr. Kevin Coombs, University of Manitoba. Summer student (2015) and part-time research assistant (2015-2016).
- 2015 May – 2015 Aug **Supervisor.** Huyen Le in Mathematics (University of Manitoba). Co-supervisor: Dr. Yang Wang, Department of Computer Science, University of Manitoba. Summer student. Current Position: Research Assistant at Field Institute for Research in Mathematical Sciences, University of Toronto.
- 2015 Jun – 2015 Aug **Supervisor.** Xiaohui Ding in Mathematics and Statistics (Huazhong University of Science and Technology, China). Mitacs Globalink Research Internship Student. Current Position: MSc Candidate in Data mining in Nanjing University, China.
- 2015 May – 2015 Aug **Supervisor.** Masami Ando Kuri in Genome Science (Universidad Nacional Autónoma de México UNAM). Mitacs Globalink Research Internship Student.
- 2010 May – 2012 May **Supervisor.** Xiang Xing in Computer Science (University of Toronto).
- 2008 May – 2008 Aug **Co-supervisor.** Xinchun Wang in Medical Genetics (University of Toronto). Supervisor: Dr. Claudia Santos, St. Michael's Hospital. Current Position: Ph.D. Candidate in Bioinformatics in Massachusetts Institute of Technology (MIT).
- 2005 Jun – 2005 Dec **Co-supervisor.** Jun Yan in Statistics (University of Toronto). Supervisor: Dr. Joseph Beyene, The Hospital for Sick Children.

4. RESEARCH ASSOCIATES

- 2014 Dec – Now **Supervisor.** Qin Kuang. MD, Data Coordinator. University of Manitoba.
- 2014 Jul – 2015 May **Supervisor.** Justin Zhang. B.Sc., Bioinformatician. Co-supervisor: Dr. Ron Beavis, University of Manitoba.

5. ADVISORY MEMBERS

- 2017 Apr – Now **Committee Member.** Linwei Ye, PhD Candidate.

- (University of Manitoba). Supervisors: Dr. Yang Wang, Department of Computer Science, University of Manitoba.
- 2017 Apr – Now **Committee Member.** Mrigank Rochan, PhD Candidate.
(University of Manitoba). Supervisors: Dr. Yang Wang, Department of Computer Science, University of Manitoba.
- 2017 Mar – Now **Committee Member.** Lucas Falarz. MSc Candidate.
(University of Manitoba). Supervisors: Dr. Guanqun (Gavin) Chen, Department of Biological Sciences, University of Manitoba.
- 2016 Sep – 2017 Jun **Committee Member.** Eu Wern Teh. MSc Candidate.
(University of Manitoba). Supervisors: Dr. Yang Wang, Department of Computer Science, University of Manitoba.
- 2016 Mar – Now **Committee Member.** Neil Vincent Reyes. MSc Candidate.
(University of Manitoba). Supervisors: Dr. Hezhao Ji and Dr. T. Blake Ball, Department of Medical Microbiology, University of Manitoba.
- 2015 Dec – 2016 Jul **Committee Member.** Md. Atiqur Rahman. MSc Candidate.
(University of Manitoba). Supervisors: Dr. Yang Wang, Department of Computer Science, University of Manitoba.

6. HIGHLY QUALIFIED PERSONNEL (HQP)'S HONORS AND AWARDS

- 2017 Sep **International Graduate Student Entrance Scholarship (IGSES)**
University of Manitoba
Nikta Feizi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$5,400 CAD
- 2017 Sep **International Graduate Student Entrance Scholarship (IGSES)**
University of Manitoba
Rayhan Shikder, MSc student in Department of Computer Science
Total Amount: \$5,400 CAD
- 2017 July **2016-2017 BGEN Seminar Winner (3rd place)**
University of Manitoba
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
- 2017 May **Faculty of Graduate Studies (FGS) Travel Award**
University of Manitoba
Md. Mohaiminul Islam, MSc student in Department of Computer Science

Total Amount: \$750 CAD

- 2017 May **Faculty of Science and Department of Computer Science Travel Award**
University of Manitoba
Md. Mohaiminul Islam, MSc student in Department of Computer Science
Total Amount: \$700 CAD
- 2017 May **Poster of Distinction at Digestive Disease Week (DDW)**
American Gastroenterological Association (AGA)'s Digestive Disease Week
Svetlana Frenkel, Postdoctoral fellow in Department of Biochemistry and Medical Genetics
This poster was rated in the top 10% of all AGA abstracts selected for poster presentation at DDW.
- 2017 May **International Graduate Student Entrance Scholarship (IGSES)**
University of Manitoba
Qian Liu, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$5,400 CAD
- 2017 Jan **GAW20 Travel Award**
Genetic Analysis Workshop
Ye Tian, MSc student in Department of Electrical and Medical Genetics
Total Amount: \$900 USD
- 2016 Oct **CIHR Travel Award**
University of Manitoba
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$1,000 CAD
- 2016 Sep **2015-2016 BGEN Seminar Winner**
University of Manitoba
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
- 2016 Sep **Phyllis J. McAlpine Graduate Fellowship**
University of Manitoba
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$1,000 CAD
- 2016 Sep **Manitoba Graduate Scholarship**

University of Manitoba
Md. Mohaiminul Islam, MSc student in Department of Computer Science
Total Amount: \$15,000 CAD

2016 Sep **International Graduate Student Entrance Scholarship (IGSES)**
University of Manitoba
Jiaying You, MSc student in Department of Electrical and Computer Engineering
Total Amount: \$5,400 CAD

2016 Jul **2016 Charles J. Epstein Trainee Award for Excellence in Human Genetics Research – Semifinalist**
American Society of Human Genetics
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
The Semifinalist award is for outstanding trainee research in 2016. American Society of Human Genetics (ASHG) granted 60 awards to 490 applicants based on abstracts scored by the Scientific Program Committee of 2016 Annual Meeting of ASHG.

2016 Jul **The 66th Annual Meeting of the American Society of Human Genetics Travel Award**
American Society of Human Genetics
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$750 USA

2016 May **Mindel and Tom Olenick Research Studentship in Medicine**
University of Manitoba
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$6,256 CAD

2016 May **Faculty of Graduate Studies (FGS) Travel Award**
University of Manitoba
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$750 CAD

2016 Jan **Edge of Science and Medicine**
University of Manitoba
Kaiqiong Zhao, MSc student in Department of Biochemistry and Medical Genetics
Kaiqiong was selected as one of the four student speakers at Edge of Science and Medicine Seminar Series at Faculty of Health Sciences

2015 Dec	<p>Globalink Research Internship Award Mitacs, Canada Linfan Zhang. Undergraduate Student in Statistics, Zheijiang University, China Total Amount: \$6,000 CAD</p>
2015 Sep	<p>International Graduate Student Entrance Scholarship (IGSES) University of Manitoba Rasif Ajwad, MSc student in Department of Computer Science Total Amount: \$5,400 CAD</p>
2015 Mar	<p>Computational Biology Undergraduate Summer Student Health Research Award Canadian Institutes of Health Research (CIHR), Canada Jessica Bondoc. Undergraduate Student in Statistics and Computer Science, University of Manitoba Total Amount: \$5,000 CAD</p>
2014 Dec	<p>Globalink Research Internship Award Mitacs, Canada Xiaohui Ding. Undergraduate Student in Mathematics and Statistics, Huazhong University of Science and Technology, China Total Amount: \$6,000 CAD</p>
2014 Dec	<p>Globalink Research Internship Award Mitacs, Canada Masami Ando Kuri. Undergraduate Student in Genome Science, Universidad Nacional Autónoma de México UNAM Total Amount: \$6,000 CAD</p>
2014 Sep	<p>International Graduate Student Entrance Scholarship (IGSES) University of Manitoba Kaiqiong Zhao, MSc student in Department of Biochemistry and Medical Genetics Total Amount: \$5,400 CAD</p>

G. Teaching

1. NEW COURSE DEVELOPMENT

2017 Feb – 2017 June	IMED 7280 (Credit: 3.0), Medical Computational Biology (Role: redesigned the course syllabus)
2015 Feb – 2015 Dec	IMED 7280 (Credit: 3.0), Medical Computational Biology (Role: Participated in developing the course for approval by university)

2. UNDERGRADUATE TEACHING

2016 Sep – 2017 May BGEN 4010 (Credit: 3.0), Project Course in Human Genetics (1 Student), Single instructor.

3. GRADUATE TEACHING

2018 Jan – May IMED 7280 (Credit: 3.0), Medical Computational Biology. One of the two course coordinators.

2017 Sep – 2018 May CHSC 7400 (Credit: 3.0), Advanced Topics in Community Health I: Seminar in Foundations of Disease Analytics. One of the 10 course instructors. This is the required course for Visual and Automatic Disease Analytics (VADA) NSERC CREATE program.

2017 Jan – May BGEN 7070 (Credit: 3.0), Special Topics in Human Genetics (2 Students). Single instructor.

2016 Jan – May BGEN 7070 (Credit: 3.0), Special Topics in Human Genetics (1 Student). Single instructor.

2015 Jan – May BGEN 7070 (Credit: 3.0), Special Topics in Human Genetics (1 Student). Single instructor.

4. WORKSHOP AND WEBINAR

2017 Jan 27 RNA-Seq using ParTek software (Webinar – 12 participants)
Department of Biochemistry and Medical Genetics, University of Manitoba
Speaker: Technical Leader from ParTek Inc., USA
Organizer: **Pingzhao Hu**

2016 Nov 30 Chip-Seq using ParTek software (Webinar – 13 participants)
Department of Biochemistry and Medical Genetics, University of Manitoba
Speaker: Technical Leader from ParTek Inc., USA
Organizer: **Pingzhao Hu**

2016 Oct 05 Differential analysis using ParTek software (Webinar – 11 participants)
Department of Biochemistry and Medical Genetics, University of Manitoba
Speaker: Technical Leader from ParTek Inc., USA
Organizer: **Pingzhao Hu**

2016 May 25 Pharmacogenomic analysis on cancer studies: methodology and applications
George & Fay Yee Centre for Healthcare Innovation, Winnipeg, Canada
Speaker: Dr. Wei Xu, Princess Margaret Cancer Centre / University of

Toronto
Organizer: **Pingzhao Hu**

2016 Jan 25/26 Genomic Variant Annotation and Prioritization with ANNOVAR and wANNOVAR
George & Fay Yee Centre for Healthcare Innovation, Winnipeg, Canada
Speaker: Dr. Kai Wang, University of Southern California
Organizer: **Pingzhao Hu**

2015 May 26/27 Gene Set Analysis of Omics Data
Centre for Healthcare Innovation, Winnipeg, Canada
Speaker: **Pingzhao Hu**
Organizers: **Pingzhao Hu**, Justin Zhang, Ron Beavis

5. GUEST LECTURE

2017 Apr **COMP4360: Machine Learning (Course Lecturer: Dr. Yang Wang).** Machine learning approaches for predicting protein functions and disease outcomes. Department of Computer Science, University of Manitoba. Winnipeg, Manitoba, Canada.

2015 Mar **COMP4360: Machine Learning (Course Lecturer: Dr. Yang Wang).** Machine learning approaches for predicting disease outcomes and protein functions using omics data. Department of Computer Science, University of Manitoba. Winnipeg, Manitoba, Canada.

2014 May **CHL 7001: Statistical Models on Complex Human Genetic Diseases (Course Lecturer: Dr. Wei Xu).** Epigenome-wide analysis identifies DNA methylation markers in adolescents exposed prenatally to maternal cigarette smoking. Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto. Toronto, Ontario, Canada.

6. SUMMER SCHOOL

2016 Jun **Data Analysis and Visualization Using R.** Lecture 3: Feature selection and model evaluation in high throughput studies. George & Fay Yee Centre for Healthcare Innovation, Winnipeg, Manitoba, Canada (13 Participants).

7. JOURNAL CLUB

2014 Oct - Now Organizer of Webinars of CIHR STAGE Monthly International Speaker Seminar Series in the University of Manitoba Site (5-15 Participants per time).

H. University Committees and Organizations

2017 Sep – Now Member of Appointments, Promotions and Tenure Committee, Department of Biochemistry and Medical Genetics,

	University of Manitoba
2017 Aug – Sep	Search Committee for Research Administrative Coordinator, Data Science Platform of Centre for Healthcare Innovation.
2017 Jul – Now	Member of Professional Development and Travel Selection Committee, Data Science Platform of Centre for Healthcare Innovation.
2017 Jul – Now	Member of the College of Reviewers, CIHR
2017 Jul– 2020 Jun	Member of Case Studies Committee, Statistical Society of Canada
2017 Jun	Poster Judge of 2017 Statistical Society of Canada Case Studies Competition
2017 Jun	Poster Judge of CIHR National Poster Competition at the Health Research Forum
2017 Mar	Chair of CHI Data Science Platform summer student admission committee
2016 Sep – 2017 Aug	Member of Teaching Committee, Department of Biochemistry and Medical Genetics, University of Manitoba
2016 Oct	Poster Judge of University Undergraduate Poster Competition
2016 Jun	Poster Judge of CIHR National Poster Competition at the Health Research Forum
2015 Oct	Poster Judge of University Undergraduate Poster Competition
2015 Sep	Member of Terry Fox Research Institute Prairie Node, Canada
2015 Aug	Chair and Organizer of Summer Student Research Symposium, George & Fay Yee Centre for Healthcare Innovation (CHI), Manitoba
2015 Jun	Chair of Mr. Amarnath Pisipati's PhD oral defence in the Department of Medical Microbiology
2014 Dec - Now	Member of Biomedical Youth Program (BYP), University of Manitoba
2014 Dec - Now	Member of Manitoba Epigenetics Network, University of Manitoba
2014 Oct	Poster Judge of University Undergraduate Poster Competition
2014 May	Chair of Ms. Meika Elizabeth Ivy Richmond's PhD oral defence in the Department of Medical Microbiology
2014 May	Poster Judge of Cancer Care Manitoba Research Day.