

Curriculum Vitae

Pingzhao Hu, Ph.D.

A. Date Curriculum Vitae is Prepared: September 3, 2020

B. Biographical Information

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1. EMPLOYMENT

Current Appointments

2020 Mar – Present Tenured Associate Professor in Bioinformatics/Statistical Genetics
MMSF Allen Rouse Basic Science Career Scientist
Department of Biochemistry & Medical Genetics
Rady Faculty of Health Sciences, University of Manitoba, Winnipeg
Canada

2018 Nov – present Adjunct Scientist
Research Institute in Oncology and Hematology
CancerCare Manitoba, Canada

2017 Jul – present Adjunct Professor
Department of Computer Science
Faculty of Science, 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-Only)
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), Toronto, Canada
The Hospital for Sick Children, Toronto, Canada

Previous Appointments

2014 Feb – 2020 Mar Assistant Professor in Bioinformatics/Statistical Genetics
Department of Biochemistry & Medical Genetics
George & Fay Yee Centre for Healthcare Innovation
Rady Faculty of Health Sciences, University of Manitoba, Winnipeg
Canada

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 Stephen 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

- 2020 Sep **Terry G. Falconer Memorial Rh Institute Foundation Emerging
Researcher Award (Interdisciplinary Category)**
The Winnipeg Rh Institute Foundation and University of Manitoba.
The most prestigious award for junior faculty members at the
University of Manitoba, which is awarded to the one who
made Outstanding Contributions to Scholarship and Research
in the Interdisciplinary Category in the University of Manitoba.

- 2020 May **MMSF Allen Rouse Basic Science Career Development Research Award**
The Manitoba Medical Service Foundation (MMSF).
- 2019 Mar **Best Oral Presentation Paper Award (Corresponding author)**
2019 IEEE 7th International Conference on Bioinformatics and Computational Biology, Hangzhou, China
- 2019 Feb **Best Oral Presentation Paper Award (Corresponding author)**
2019 11th International Conference on Machine Learning and Computing, Zhuhai, China
- 2018 May **The Interstellar Initiative Award**
New York Academy of Sciences and Japan Agency for Medical Research and Development. The award recognizes “the world's most promising Early Career Investigators in the fields of cancer, neuroscience and artificial intelligence”.
- 2017 May **Poster of Distinction at Digestive Disease Week (DDW) (Corresponding author)**
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)**
CIHR 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

2020 Jul – 2023 Jun Member of Student Research Presentation Award Committee,
Statistical Society of Canada (SSC).

2018 Aug – 2020 Jun Chair of Award for Case Studies in Data Analysis Committee, Statistical
Society of Canada (SSC). As the leader of the committee, I successfully
convinced SSC Board to set up an annual award (\$3000) for all student
teams who participate in the competition and an organization award
(\$750) for a case study competition in 2020.

2017 Jul – 2020 Jun Member of Award for Case Studies in Data Analysis Committee,
Statistical Society of Canada

2016 Aug – present Member of Statistical Society of Canada

2020 Jun – present Member of International Genetic Epidemiology Society

2006 Jan – present Member of International Society of Computational Biology

2016 Aug – 2017 Jul Member of American Society of Human Genetics

2015 Oct – 2016 Sep Member of International Society of Psychiatric Genetics

Editor Activities

2020 Jul – present Associate Editor for Section of Medical Genetics & Genomics,
Annals of Medicine (IF: 3.243)

2018 Dec – 2019 Dec Co-Editor, Special Issue of Bioinformatics and Computational
Biology 2019
Cells journal

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

Conferences

2020 May Chair of 2020 Case Studies in Data Analysis Poster Competition, 2020 Annual Meeting of the Statistical Society of Canada (online).

2019 Dec Co-organizer of the invited session “Statistical advancements in emerging challenges in health data science”, The 11th ICISA (International Chinese Statistical Association) International Conference, Hangzhou, China

2019 Sep One of the 20 selected experts across Canada to attend the planning meeting for “Movember Translation Acceleration Grant to improve patient outcomes and treatment planning with advanced imaging”. Prostate Cancer Canada, Toronto.

2019 Sep Invited Panel Discussion Expert. International Symposium on External Quality Assurance Strategies for NGS based HIV drug resistance (HIVDR) testing. National Microbiology Laboratory, Winnipeg, Canada.

2019 May Chair and Organizer of 2019 Case Studies in Data Analysis Poster Competition held at 2019 Annual Meeting of the Statistical Society of Canada, Calgary, Canada

2018 Aug Chair of the contributed session “Statistical Learning of epigenomics Data” in 2018 Joint Statistical Meeting (JSM) (Annual Meeting of American Statistical Association), Vancouver, Canada

2018 June Organizer of the invited session “Statistical Association Analysis of Imaging and Genomic Data: Opportunities and Challenges”, 2018 Annual Meeting of the Statistical Society of Canada, Montreal

2017 June Organizer and 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

International

2020 Mar – 2020 Apr	National Science Center, Poland, Review Panel for the Computer Science and Informatics (1 Proposal).
2019 Nov – 2020 Feb	Juvenile Diabetes Research Foundation (JDRF), Review Panel for the <i>Repositioning Drugs to Improve Metabolic Control in Established Type 1 Diabetes</i> Competition, New York, USA (3 Proposals).
2019 Oct	Florida Department of Health's Ed & Ethel Moore Alzheimer's Disease Research program, Oak Ridge Associated Universities, USA (1 Proposal).
2019 Jul	Wellcome Trust / DBT Fellowship (1 Proposal). Note: This is a partnership between the Wellcome Trust (UK) and the Department of Biotechnology (Government of India).
2019 May-Jun	Operating Grant, Deutsche Forschungsgemeinschaft (German Research Foundation), German (1 Proposal).
2018 Jul	Wellcome Trust / DBT Fellowship (1 Proposal). Note: This is a partnership between the Wellcome Trust (UK) and the Department of Biotechnology (Government of India).

National and Local

2020 Jul-Aug	Canadian Institute of Health Research (CIHR) - Project Grant: Spring 2020 Competition (7 Proposals) –Peer Reviewer and Member on the Genetics Committee.
2020 Apr	Toronto COVID-19 Action Initiative Review Committee (5 Proposals)
2020 Apr	Research Manitoba's 2020 Masters and PhD Studentship Review Committee (12 Proposals)
2019 Dec – 2020 Jan	Individual Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) (1 Proposals)
2019 Nov –Dec	John R. Evans Leaders Fund, Canada Foundation for Innovation (CFI) (1 Proposal).
2019 Aug	Cancer Early Detection -2018/19 Competition, Alberta Cancer Foundation
2018 Aug-Sep	Grand Challenges Canada Transition to Scale program, Round 8 and Canadian Institute of Health Research (CIHR) (2 Proposals)
2018 Aug	Collaborative Research and Development Grant, Natural Sciences and Engineering Research Council (NSERC) (1 Proposal)
2018 Apr	Scholar Program, The Michael Smith Foundation for Health Research (MSFHR) (Grant Reviewer, 1 Proposal)
2018 Apr	Grand Challenges Canada Transition to Scale program, Round 6 and Canadian Institute of Health Research (CIHR) (3 Proposals)

2018 Apr	Mitacs Elevate (1 Proposal)
2018 Mar	2018-2019 CancerCare Manitoba Foundation Scientific Advisory Committee (3 Proposals)
2018 Jan	Individual Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) (1 Proposals)
2017 Nov - Dec	Individual Discovery Grant, Natural Sciences and Engineering Research Council (NSERC) (2 Proposals)
2017 Oct -	Canadian Institute of Health Research (CIHR) – 2017 Catalyst Grant: Personalized Health Catalyst Grants (12 Proposals)
2017 Sep	Canadian Institute of Health Research (CIHR) – Planning and Dissemination - III 2017 Summer Grants Competition (2 Proposals)
2017 Apr	Canadian Institute of Health Research (CIHR) – Planning and Dissemination - III 2017 Winter Grants Competition (2 Proposals)
2017 Apr	Research Manitoba's 2017 Masters Studentship Review Committee (7 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 (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

2019 Sep	NSERC Discovery Grants Competition (1 Proposal from Faculty of Science)
2018 May	CFI-IF Notices of Intent (1 Proposal)
2017 Sep	NSERC Discovery Grants Competition (1 Proposal from Faculty of Science)
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

2020 Aug	Bioinformatics
2020 Jul	Plos Computational Biology
2020 Jul	Methods
2020 Jun	IEEE Access
2020 Jun	Biometrika
2020 Mar	Computational and Structural Biotechnology Journal
2020 Jan-Feb	Science Translational Medicine
2019 Dec	Genomics
2019 Nov	Computational and Structural Biotechnology Journal
2019 Nov	Bioinformatics
2019 Aug-Sep	Bioinformatics
2019 Aug	Analytic Biochemistry
2019 Aug	ASSAY and Drug Development Technologies
2019 Aug	Pacific Symposium on Biocomputing
2019 Aug	Current Drug Targets
2019 June	EBioMedicine
2019 June	Genomics, Proteomics & Bioinformatics
2019 May	The World Journal of Biological Psychiatry
2018 Oct	Breast Cancer Research and Treatment

2018 May	British Journal of Cancer
2018 Mar	BMC Bioinformatics
2018 Feb	Clinical Epigenetics
2018 Jan	Scientific Reports
2017 Sep	Frontiers in Genetics, section Statistical Genetics and Methodology
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

2020 Jul – 2022 Jun Title: Manitoba-based breast cancer screening mammography using artificial intelligence
Funding agency: CancerCare Manitoba Foundation, Research Operating Funding
Principal Investigator: **HU, Pingzhao**
Co-Investigator: WANG, Yang; NIRAULA, Saroj
Amount: \$150,000 CAD

2020 Jul – 2023 Jun Title: MMSF Allen Rouse Basic Science Career Development Research Award
Funding agency: Manitoba Medical Service Foundation
Principal Investigator: **HU, Pingzhao**
Amount: \$85,000 CAD

2020 Feb – 2025 Feb Title: Identification of novel antibiotic molecules by chemogenetic analysis and machine learning
Funding agency: Canada Institutes of Health Research (CIHR), Project Grant Fall 2019
Principal Investigator: CARDONA, Silvia
Co-Investigators: **HU, Pingzhao**; DAVIS, Rebecca
Amount: \$799,425 CAD

2020 May – 2023 Apr Title: Epigenetic PowerBlade: DNA Precision Marks for Critical Illness
Funding agency: CIHR, 2019 Collaborative Health Research Projects (NSERC partnered)
Principal Investigator: dos SANTOS, Claudia; FOX-ROBICHAUD, Alison; VERES, Teodor;
Co-Investigators: BRASSARD, Daniel; GEISLER, Matthias; **HU, Pingzhao**; MALIC, Lidija; MARSHALL, John; WALLEY, Keith
Amount: \$416,250 CAD

2020 Feb – 2023 Mar Title: The Terry G. Falconer Memorial Rh Institute Foundation Emerging Researcher Award
Funding agency: The Winnipeg Rh Institute Foundation, University of Manitoba
Principal Investigator: **HU, Pingzhao**
Amount: \$12,000 CAD

2020 Feb – 2022 Jan Title: Computational drug repurposing for Alzheimer's disease
Funding agency: University Collaborative Research Program (UCRP), University of Manitoba
Principal Investigator: **HU, Pingzhao**
Co-Investigators: KONG, Jiming
Amount: \$25,000 CAD

2020 Jan – 2023 Dec Title: Prediction and prevention of rheumatoid arthritis in First Nations people
Funding agency: CIHR, Team grant: human immunology Initiative: Research Teams
Principal Investigator: EI-GABALAWY, Hani
Co-Principal Investigator: WILKINS, John; MOOKHERJEE, Neeloffer; PESCHKEN, Christine
Co-Investigators: MARSHALL, Aaron; **HU, Pingzhao**; ANAPARTI, Venkata Veda Vidyanand; LAVOIE, Josee; MACKAY, Dylan; O'NEIL, Liam; ROBINSON, David; TANNER, Stacy; WOODS, Amanda; DUNCAN, Florence; BALLANTYNE, Friederike

	<u>Amount:</u> \$1,587,776 CAD
2020 Jan – 2021 Dec	<p><u>Title:</u> Deep learning for prioritizing small molecules candidates for drug repositioning</p> <p><u>Funding agency:</u> NSERC, Engage Program</p> <p><u>Principal Investigator:</u> HU, Pingzhao</p> <p><u>Amount:</u> \$25,000 CAD</p>
2020 Jan – 2020 Dec	<p><u>Title:</u> Harnessing Population-Based Electronic Healthcare Records to Construct Family Health Histories for Accurate Disease Risk Prediction and Heritability Estimation</p> <p><u>Funding agency:</u> Rady Faculty of Health Sciences, 2020 Rady Innovation Fund</p> <p><u>Principal Investigator:</u> LIX, Lisa</p> <p><u>Co-Investigators:</u> HU, Pingzhao; DELANEY, Joseph; JOZANI, Mohammad Jafari; WALL-WIELER, Elizabeth; BANERJI, Shantanu</p> <p><u>Amount:</u> \$100,000 CAD</p>
2019 Sep – 2024 Aug	<p><u>Title:</u> EpiGen marks for human sepsis</p> <p><u>Funding agency:</u> Canada Institutes of Health Research (CIHR), Project Grant Spring 2019</p> <p><u>Principal Investigator:</u> dos SANTOS, Claudia</p> <p><u>Co-Investigators:</u> HU, Pingzhao; BINNIE, Alexandra; CASTELO-BRANCO, Pedro; EVANS, David; MARSHALL, John; WALLEY, Keith; WEI, Xu</p> <p><u>Amount:</u> \$994,500 CAD</p>
2018 Aug – 2023 Jul	<p><u>Title:</u> Role of taste signaling and host-microbial interactions on caries risk in young children</p> <p><u>Funding agency:</u> Canada Institutes of Health Research (CIHR), Project Grant Spring 2018</p> <p><u>Principal Investigator:</u> CHELIKANI, Prashen; SCHROTH, Robert</p> <p><u>Co-Investigators:</u> HU, Pingzhao; DUAN, Kangmin</p> <p><u>Amount:</u> \$885,870 CAD</p>
2017 May – 2024 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</p> <p><u>Co-Investigators:</u> LIX, Lisa; KUSHNIRUK, Andre; BORYCKI, Elizabeth; ARINO, Julien; HU, Pingzhao; THOMO, Alex; TZANETAKIS, George; van DOMESELAAR, Gary; KOBAYASHI, Karen, LEBOE-MCGOWAN, Jason;</p> <p><u>Amount:</u> \$ 2,100,000 (1,650,000 CAD from NSERC + \$450,000 from University of Manitoba)</p>
2015 Apr – 2021 Mar	<p><u>Title:</u> Developing novel machine learning algorithms for network</p>

Biology

Funding agency: Natural Science and Engineering Research Council of Canada (NSERC), Individual Discovery Grants (With Early Career Supplement)

Principal Investigator: **HU, Pingzhao**

Amount: \$108,000 CAD

2019 Apr – 2024 Mar

Title: Exploring and exploiting reduced USP22 expression in colorectal cancer

Funding agency: Canada Institutes of Health Research (CIHR), Project Grant Fall 2018

Principal Investigator: MCMANUS, Kirk

Co-Investigators: KRIST, Baker; HARMINDER, Singh

Collaborators: **HU, Pingzhao** (I have been budgeted a MSc student to analyze the scCNV data in the grant)

Amount: \$807,075 CAD

2019 Apr – 2022 Mar

Title: Finding novel antibiotics against Burkholderia cepacia complex by genome-wide fitness and machine learning

Funding agency: Cystic Fibrosis Canada, Basic and Clinical Research Grants

Principal Investigator: CARDONA, Silvia

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

Amount: \$300,000 CAD

2018 Nov – 2020 Oct

Title: Antibiotic discovery for Burkholderia cepacia complex

Funding agency: Cystic Fibrosis Foundation (CFF), USA

Pilot and Feasibility Awards – Spring Cycle

Principal Investigator: CARDONA, Silvia

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

Amount: \$100,000 USD

2017 May – 2021 Mar

Title: Developing novel machine learning algorithms for network Biology

Funding agency: Graduate Enhancement of Tri-council Stipends (GETs) Program, University of Manitoba

Principal Investigator: **HU, Pingzhao**

Amount: \$35,000 CAD

2017 May – 2021 Apr

Title: Exploring association between host genetics and microbiome 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.

2. PREVIOUSLY HOLDING

- 2019 June – 2020 May Title: Prediction antibiotic activity from compound shape with machine learning
Funding agency: University of Manitoba, University Research Grants Program (URGP)
Principal Investigator: SILVIA, Cardona
Co-Principal Investigators: **HU, Pingzhao**; DAVIS, Rebecca
Amount: \$10,000 CAD
- 2019 Jul – 2019 Dec Title: AGEWELL NCE (Networks of Centres of Excellence) innovation hub application for establish the Manitoba aging, rehabilitation, and technology institute (MARTI)
Funding agency: Seed Funding, AGE-WELL NCE, Canada's Technology and Aging Network
Principal Investigator: GRANT, Karen
Co-Investigators: ENGEL, Lisa; CHOUKOU, Mohamed-Amine; GIESBRECHT, Ed; **HU, Pingzhao**; JONES, Meaghan; KO, Ji Hyun; LABOUTA, Hagar; RIPAT, Jacquie; ROGER, Kerstein; SZTURM, Tony; THOMPSON, Genevieve; WEBBER, Sandra; ESKICIOGLU, Rasit; KAZEM-MOUSSAVI, Zahra; PENG, Qingjin; SALEEM, Ayesha; CHIPPERFIELD, Judith; Marotta, Jonathan; LUO, Hai.
Amount: \$25,000
- 2017 Oct – 2019 Sep Title: Genome-wide diet-gene interaction analysis for risk of psychiatric comorbidity in inflammatory bowel disease
Funding agency: The Western Canadian Universities, Collaborative Project Seed Funding
Principal Investigators: **HU, Pingzhao**
Co-Investigators: BERNSTEIN, Charles; LI, Longhai, KONG, Linglong, FRENKEL, Svetlana
Amount: \$20,000 CAD
- 2015 Sep – 2019 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
- 2018 Jun – 2019 Jul Title: Identification of genomic signatures associated with MRI-based deep radiomic phenotypes of breast cancer tumors
Funding agency: Dr. Paul H.T. Thorlakson Foundation
Principal Investigator: **HU, Pingzhao**.
Amount: \$27,528 CAD
- 2018 June – 2019 Mar Title: Machine learning-guided development of multiscale imaging probes for colorectal cancer

	<p><u>Funding agency:</u> New York Academy of Sciences and Japan Agency for Medical Research and Development, Research Grant</p> <p><u>Principal Investigators:</u> MURAKAMI, Kazuhiro; JUNKER, Anna;</p> <p>HU, Pingzhao</p> <p><u>Amount:</u> \$21,000 USD</p>
2017 Feb – 2019 Feb	<p><u>Title:</u> Prediction of novelty and mode of action of natural antibacterial compounds by machine learning</p> <p><u>Funding agency:</u> University of Manitoba, University Collaborative Research Program (UCRP)</p> <p><u>Principal Investigator:</u> SILVIA, Cardona</p> <p><u>Co-Investigators:</u> HU, Pingzhao; DAVIS, Rebecca</p> <p><u>Amount:</u> \$24,200 CAD</p>
2017 Apr – 2018 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 Feb – 2018 Feb	<p><u>Title:</u> Genomics-based computational drug repositioning for inflammatory bowel disease</p> <p><u>Funding agency:</u> University of Manitoba, University Research Grants Program (URGP)</p> <p><u>Principal Investigator:</u> HU, Pingzhao</p> <p><u>Amount:</u> \$7,500 CAD</p>
2016 Sep – 2017 Dec	<p><u>Title:</u> Identification of copy number variation biomarkers in patients with inflammatory bowel disease</p> <p><u>Funding agency:</u> Mitacs, Accelerate Program</p> <p><u>Principal Investigator:</u> HU, Pingzhao</p> <p><u>Co-principal Investigator:</u> BERNSTEIN, Charles</p> <p><u>Amount:</u> \$60,000 CAD</p>
2015 Sep – 2017 Aug	<p><u>Title:</u> Identification of risk genes that modulate the severity of inflammatory bowel disease through copy number variation analysis.</p> <p><u>Funding agency:</u> Health Sciences Centre Foundation (HSCF), General Operating Grants</p> <p><u>Principal Investigator:</u> HU, Pingzhao</p> <p><u>Co-principal Investigator:</u> Dr. BERNSTEIN, Charles</p> <p><u>Co-Investigator:</u> Dr. SPRIGGS, Beth</p> <p><u>Amount:</u> \$70,000 CAD</p>
2016 Sep – 2017 Aug	<p><u>Title:</u> Epigenetic mechanisms and association with septo-optic dysplasia: a pilot project</p>

- 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 Jun
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,

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

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

SRA=Senior Responsible Author

PA=Principal Author

CPA=Co-Principal Author

C=Co-author/Collaborator

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

Journal Articles

1. **MM Islam, S Huang, R Ajwad, C Chi**, Y Wang, **P Hu** (2020). An integrative deep learning framework for classifying molecular subtypes of breast cancer. *Computational and Structural Biotechnology Journal*. 18:2185-2199 [SRA]
2. MR Peter, M Bilenky, R Isserlin, GD Bader, SY Shen, D de Carvalho, AR Hansen, **P Hu**, NE Fleshner, AM Joshua, M Hirst, B Bapat. (2020). Dynamics of the cell-free DNA methylome of metastatic prostate cancer during androgen-targeting treatment. *Epigenomics*. doi.org/10.2217/epi-2020-0173 [C]
3. S Niraula, N Biswanger, **P Hu**, P Lambert, K Decker. (2020) Incidence, Characteristics, and Outcomes of Interval Breast Cancers Compared to Screening Detected Breast Cancers: A Population-Based Cohort Study. *JAMA Network Open*. 3(9):e2018179 [C]
4. **Z Sun, S Huang, P Jiang, P Hu**. (2020) DTF: Deep tensor factorization for predicting anticancer drug synergy. *Bioinformatics*. btaa287, <https://doi.org/10.1093/bioinformatics/btaa287> [SRA]
5. **YW Jin, P Hu** (2020). Tumor-Infiltrating CD8 T Cells Predict Clinical Breast Cancer Outcomes in Young Women. *Cancers*. 12:1076 [SRA]
6. N Younes*, L Zhou*, H Amatullah, SHJ Mei, R Herrero, JA Lorente, DJ Stewart, P Marsden, WCW Liles, **P Hu**, CC dos Santos.(2020). Mesenchymal Stromal/Stem Cells Modulate Response to Experimental Sepsis-Induced Lung Injury via Regulation of miR-27a-5p in Recipient Mice. *Thorax*. <http://dx.doi.org/10.1136/thoraxjnl-2019-213561> [C]

7. **P Jiang***, **S Huang***, **Z Sun**, Z Fu, T Lakowski, **P Hu**. (2020) Deep graph embedding for prioritizing synergistic anticancer drug combinations. *Computational and Structural Biotechnology Journal*. 18:427-438 [SRA]
8. VCruz de Jesus, **R Shikder**, D Oryniak, K Mann, A Alamri, BA Mittermuller, K Duan, **P Hu****, RJ Schroth** and P Chelikani** (2020). Sex-based diverse plaque microbiota in children with severe caries. *Journal of Dental Research*. 99(6):703-712 [SRA]
9. A Binnie, JLY Tsang, **P Hu**, G Carrasqueiro, P Castelo-Branco, CC. dos Santos (2020). Epigenetics of Sepsis. *Critical Care Medicine*. 48(5):745-756 [C]
10. M Altaf-Ul-Amin, MB Karim, **P Hu**, N ONO, S Kanaya (2020). Discovery of inflammatory bowel disease-associated miRNAs using a novel bipartite clustering approach. *BMC Medical Genetics*. 13 (Suppl 3):10
11. A Binnie*, **CJ Walsh***, **P Hu**, D Dwivedi, A Fox-Robichaud, PC Liaw, JLY Tsang, J Batt, G Carrasqueiro, S Gupta, JC Marshall, P Castelo-Branco, CC dos Santos (2020). Epigenetic profiling in severe sepsis: A pilot study of DNA methylation profile in critical illness. *Critical Care Medicine*, 48(2):142-150 [C]
12. **S Frenkel**, CN Bernstein, M Sargent, **W Jiang**, **Q Kuang**, W Xu, **P Hu** (2020). Copy number variation-based gene set analysis reveals cytokine signaling pathways associated with psychiatric comorbidity in patients with inflammatory bowel disease. *Genomics*, 112(1): 683-693. [SRA]
13. P Brown, **P Hu** (as a member of the RELISH Consortium), Y Zhou. (2019). Large expert-curated database for benchmarking document similarity detection in biomedical literature search. *Database: The Journal of Biological Databases and Curation*. *Database*, Volume 2019, 2019, baz085. [C]
14. **Q Liu**, A Junker, K Murakami, **P Hu** (2019). Automated counting of cancer cell by ensembling deep features. *Cells*, 8:1019. [SRA]
15. V Bhat, VL Wing, **P Hu**, A Raouf (2019). Isolation and characterization of a new basal-like luminal progenitor in human breast tissue. *Stem Cell Research & Therapy*, 10:269. [C]
16. **S Frenkel**, CN Bernstein, **YW Jin**, M Sargent, **W Jiang**, **Q Kuang**, J Wei, B Thiruvahindrapuram, SW Scherer, **P Hu** (2019). A genome-wide copy number variant data set for inflammatory bowel disease in a Caucasian population. *Data in Brief*, 25:104203. [SRA]
17. **S Frenkel**, CN Bernstein, M Sargent, **Q Kuang**, **W Jiang**, J Wei, B Thiruvahindrapuram, B Spriggs, SW Scherer, **P Hu** (2019). Genome-wide analysis identifies rare copy number variations associated with inflammatory bowel disease. *Plos One*, 14(6):e0217846. [SRA]
18. **R Shikder**, P Thulasiraman, P Irani, **P Hu** (2019). A openAM-based tool for finding longest common subsequence in bioinformatics. *BMC Research Notes*, 12:220. [SRA]
19. **Q Liu**, **P Hu** (2019). Association analysis of deep genomic features extracted by denoising autoencoders with breast cancer clinical outcomes. *Cancers*, 11:494; doi:10.3390/cancers11040494. [SRA]
20. **S Huang**, W Xu, **P Hu****, T Lakowski**. (2019). Integrative analysis reveals subtype-specific regulatory determinants in triple negative breast cancer. *Cancers*. 11: 507; doi:10.3390/cancers11040507. **Co-corresponding authors. [SRA]

21. S Jahan, TH Beacon, S He, C Gonzalez, W Xu, GP Delcuve, **S Jia**, **P Hu**, JR Davie. (2019).Chromatin organization of transcribed genes in chicken polychromatic erythrocytes. *Gene*, 699:80-87. [C]
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23. **L Grenier**, **P Hu** (2019). Computational drug repurposing for inflammatory bowel disease using genetic information. *Computational and Structural Biotechnology Journal*, 17: 127-135. [SRA]
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25. P Basak, S Chatterjee, V Bhat, A Su, H Jin, V Lee-Wing, **Q Liu**, **P Hu**, LC Murphy, A Raouf (2018). H19 acts as an estrogen receptor modulator that is required for endocrine therapy resistance in ER+ breast cancer cells. *Journal of Cellular Physiology and Biochemistry*, 51:1518-1532. [C]
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28. **Y Chen**, C Monteiro, A Matos, **J You**, A Fraga, C Pereira, V Catalán, A Rodríguez, J Gómez-Ambrosi, G Frühbeck, R Ribeiro**, **P Hu**** (2018). Epigenome-wide DNA methylation profiling of periprostatic adipose tissue in prostate cancer patients with excess adiposity – a pilot study. *Clinical Epigenetics*, 10:54. [SRA]
29. **C Chi**, LC Murphy, **P Hu** (2018). Recurrent copy number alterations in young women with breast cancer. *Oncotarget*, 9:11541-11558. [SRA]
30. 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*, 14:845-855. [CPA]
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33. 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]
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42. 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]
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45. 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]
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- 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]
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64. 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 Bezzginov, 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]
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The findings were reported on The Toronto Star (<http://www.healthzone.ca/health/newsfeatures/article/1262462--fat-feeds-aggressive-prostate-tumours-study-finds>)
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expression using microarrays in transplant recipients at risk of EBV lymphoproliferation after organ transplantation: preliminary proof of concept. *Pediatric Transplantation* 13:990-998. [C]

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89. **P Hu***, **H Lan***, W Xu, J Beyene, CMT Greenwood (2007). Identifying cis-and trans-acting SNPs controlling lymphocyte gene expression in humans. *BMC Proceedings* 1 (Suppl 1):S7. Special issue of Genetic Analysis Workshop (GAW15), St. Petersburg Beach, FL, USA, November 2006. [CPA]
90. **P Hu**, G Bader, DA Wigle, A Emili (2007). Computational Prediction of cancer gene function. *Nature Reviews Cancer* 7:23-34. [PA]
91. J Beyene, **P Hu**, E Parkhomenko, D Tritchler (2007). Impact of normalization and filtering on linkage analysis of gene expression data. *BMC Proceedings* 1 (Suppl 1):S150. Special issue of Genetic Analysis Workshop (GAW15), St. Petersburg Beach, FL, USA, November 2006. [C]
92. J Rangrej, J Beyene, **P Hu**, AD Paterson (2007). Sex and age effects on genome-wide linkage analysis of gene expression in transformed lymphoblasts. *BMC Proceedings* 1 (Suppl 1):S92. Special issue of Genetic Analysis Workshop (GAW15), St. Petersburg Beach, FL, USA, November 2006. [C]
93. W Xu, **H Lan**, **P Hu**, SB Bull, CMT Greenwood (2007). Linkage analysis on chromosome 1 for Rheumatoid arthritis NARAC data: gene-gene and gene-environment interactions. *BMC Proceedings* 1 (Suppl 1):S78. Special issue of Genetic Analysis Workshop (GAW15), St. Petersburg Beach, FL, USA, November 2006. [C]
94. T Kislinger*, B Cox*, A Kannan*, C Chung, **P Hu**, A Ignatchenko, MS Scott, A Gramolini, Q Morris, T Hughes, J Rossant, B Frey, A Emili (2006). Global survey of organ and organelle protein expression in mouse: combined proteomic and transcriptomic profiling. *Cell* 125:173-186. [C]

95. **P Hu**, CMT Greenwood, J Beyene (2006). Integrative analysis of gene expression data including an assessment of pathway enrichment for predicting prostate cancer. *Cancer Informatics* 2:289-300. [PA]
96. **P Hu**, J Beyene, CMT Greenwood (2006). Testing for differential gene expression in oligonucleotide microarray experiments using weights. *BMC Genomics* 7:33. [PA]
97. **P Hu**, CMT Greenwood, J Beyene (2006). Statistical methods for meta-analysis of microarray data: a comparative study. *Information Systems Frontiers* 8:9-20. [PA]
98. **P Hu**, CMT Greenwood, J Beyene (2005). Integrative analysis of multiple gene expression profiles with quality-adjusted effect size models. *BMC Bioinformatics* 6:128. [PA]
99. **P Hu**, J Pooler (2002). An empirical test of the competing destinations model. *Journal of Geographical Systems* 4:301-323. [PA]
100. **P Hu**, J Hou, Z Li (1998). A software system for statistical analysis of multivariate spatial information. *Remote sensing information* 2:2-5 (In Chinese). [SRA]
101. Y Wei, G Sun, **P Hu**, J Li, J Jin (1998). The chaotic characteristics of annual precipitation series in JiuJiang. *JiangXi Science* 3:141-145 (In Chinese). [C]

Conference Proceedings (full papers)

102. **R Shikder**, P Irani, **P Hu** (2019). Genome-wide canonical correlation analysis-based computational methods for mining information from microbiome and gene expression data. In: Rudzicz F. and Meurs M.J. (eds) *Advances in Artificial Intelligence. Canadian AI 2019. Lecture Notes in Artificial Intelligence 11489*, Springer, Cham. DOI:10.1007/978-3-030-18305-9_53. [SRA]
103. **Q Liu**, A Junker, K Murakami, **P Hu** (2019). A novel convolutional regression network for cell counting. *2019 IEEE 7th International Conference on Bioinformatics and Computational Biology (ICBCB 2019)*. Hangzhou, China. In Press. [SRA]. **Won Best Oral Presentation.**
104. **X Hou**, **J You**, **P Hu** (2019). Predicting drug-drug interactions using deep neural network. *Proceedings of the 2019 11th International Conference on Machine Learning and Computing*. Pp. 168-172. Zhuhai, China. <https://doi.org/10.1145/3318299.3318323> and ISBN: 978-1-4503-6600-7, ACM New York, NY, USA@2019. [SRA]. **Won Best Presentation Award.**
105. **MM Islam**, K Jeffers, AM Hogan, **Q Liu**, R Davis, S Cardona, **P Hu** (2018). Deep neural network model for predicting gene activity using three-dimensional structures of chemical compounds. *In Joint Statistical Meeting Proceedings, Section on Statistical Learning and Data Science*. pp. 1126-1135. Vancouver BC: American Statistical Association. [SRA]
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107. **MM Islam**, **R Ajwad**, **C Chi**, M Domaratzki, Y Wang, **P Hu** (2017). Somatic copy number

alteration-based prediction of molecular subtypes of breast cancer using deep learning model. In: Mouhoub M., Langlais P. (eds) *Advances in Artificial Intelligence*. Canadian AI 2017. Lecture Notes in Computer Science, Vol 10233. Springer, Cham. [SRA]

108. **P Hu**, H Jiang (2011). Classification of high-throughput data using correlation-shared gene clusters. *Proceedings of the 2011 International Conference on Bioinformatics & Computational Biology (BIOCOMP 2011)*, ISBN 1-60132-170-8, pp. 58-62. CSREA Press. Edited by HR Arabnia and QN Tran. Las Vegas, USA. [SRA]
109. **P Hu**, S Bull, H Jiang (2011). Gene network models-based linear discriminant analysis of microarray expression data. *Proceedings of 7th International Symposium on Bioinformatics Research and Applications (ISBRA'11)*, LNBI 6674, pp. 286 - 296. Springer-Verlag Berlin Heidelberg. Edited by J. Chen, J. Wang and A. Zelikovsky. Changsha, China. [SRA]
110. **P Hu***, Z Wei*, Z Wang, AD Paterson, J Beyene, SW Scherer (2009). Scoring of ChIP-Seq experiments by modeling large-scale correlated tests. *Proceedings of Critical Assessment of Massive Data Analysis (CAMDA)*, pp. 25 - 32. Chicago, USA. [SRA]
111. **P Hu**, H Jiang, A Emili (2009). A topology-sharing based method for protein function prediction via analysis of protein functional association networks. *Proceedings of 2009 IEEE International Conference on Bioinformatics and Biomedicine (BIBM' 09) Workshops*, ISBN: 978-1-4244-5121-0. pp. 243 - 248. Washington D.C., USA. [SRA]
112. **P Hu**, W Le, S Lim, B Xing, CMT Greenwood, J Beyene (2009). Serum Diagnosis of Chronic Fatigue Syndrome Using Array-based Proteomics. *Methods of Microarray Data Analysis VI, (CAMDA'06)*, edited by McConnell, P, Lim, S., and A.J. Cuticchia. Scotts Valley, California: Create Space Publishing. [PA]
113. S Lim, W Le, **P Hu**, B Xing, CMT Greenwood, J Beyene (2009). Integration of clinical, SNP, and microarray gene expression measurements in prediction of chronic fatigue syndrome. *Methods of Microarray Data Analysis VI, (CAMDA'06)*, edited by McConnell, P, Lim, S., and A.J. Cuticchia. Scotts Valley, California: Create Space Publishing. [C]
114. **P Hu**, CMT Greenwood, CE M'lan, J Beyene (2007). Chromosomal clustering of periodically expressed genes in plasmodium falciparum. *Methods of Microarray Data Analysis V, (CAMDA'04)*, edited by P McConell, SM Lin and P Hurban. Springer-Verlag Press. [PA]
115. **P Hu**, CMT Greenwood, J Beyene (2006). Integrating Affymetrix microarray data sets using probe-level test statistic for predicting prostate cancer. *Proceedings of the 2006 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB'06)*, pp. 63 - 70. Toronto, Canada. [PA]
116. **P Hu**, CMT Greenwood, J Beyene (2004). Quality-adjusted modeling of inter-study variation in gene expression profiles. *Proceedings of the 3rd Canadian Working Conference on Computational Biology (CCCB'04)*, IBM Cascon Conference. IBM TR-74-203-8. [PA]
117. **P Hu**, MI Heywood (2003). Predicting Intrusions with Local Linear Models. *Proceedings of IEEE International Joint Conference on Neural Networks*, pp. 1780 - 1785. Portland, Oregon. [PA]

Book Chapters

118. PC Havugimana*, **P Hu***, Emili A. (2019). Chapter 8 - Functional proteomics: Systematic characterization of the physical and functional organization of cell systems. Veenstra TD and Yates JR. *Proteomics for Biological Discovery*. 2th Edition. Wiley Press, ISBN: 978-1-118-27924-3. pp197-214. <https://www.wiley.com/en-ca/Proteomics+for+Biological+Discovery%2C+2nd+Edition-p-9781118279243> [CPA, * co-first author]
119. **MM Islam**, Y Wang, **P Hu**. Deep learning models for predicting phenotypic traits and diseases from omic data. *Artificial Intelligence* (ISBN 978-953-51-6129-5), 2018, edited by, Marco Antonio Aceves-Fernandez. InTechOpen Press. DOI: 10.5772/intechopen.75311. Available from: <https://www.intechopen.com/books/artificial-intelligence-emerging-trends-and-applications/deep-learning-models-for-predicting-phenotypic-traits-and-diseases-from-omics-data> [SRA]
120. **P Hu**, H Jiang, A Emili (2010). Incorporating correlations among gene ontology terms into predicting protein functions. Invited chapter for *Ontology learning and knowledge discovery using the web: challenges and recent advances*. pp. 154 – 173. Edited by W Wong, W Liu and M Bennamoun. IGI Global Press. [SRA]
121. **P Hu**, C Chung, H Jiang, A Emili (2008). Chapter 13: Bioinformatics application: predicting protein subcellular localization by applying machine learning. *A Concept based Introduction to Bioinformatics*, edited by VS Mathura et al. Springer-Verlag Press. [SRA]
122. J Hou, Z Yin, W Li, Y Xiang, J Huang, **P Hu** (1998). *Applied Geostatistics*. Beijing Geological Press. Beijing, China (In Chinese). [C]

E. Presentations and Special Lectures

1. INTERNATIONAL

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|----------|---|
| 2019 Dec | Oral Presenter. Deep learning for decoding molecular phenotypes with radiogenomics in breast cancer. ICSA (International Chinese Statistical Association) International Conference 2019, Hangzhou, China. |
| 2019 Feb | Oral Presenter. Novel diagnostic and therapeutic approaches for breast cancer and colorectal cancer. New York Academy of Sciences, New York, USA, jointly presented with MURAKAMI, Kazuhiro; JUNKER, Anna. |
| 2019 Jan | Oral Presenter. Predicting drug - target interaction network using deep learning models. The 17 th Asia Pacific Bioinformatics Conference (APBC2019), Wuhan, China. |
| 2018 Oct | Oral Presenter. Machine learning-based radiogenomic analysis of invasive breast carcinoma. Computational System Biology Group, Nara Institute of Science and Technology, Ikoma, Nara, Japan. |
| 2018 Oct | Oral Presenter. Predicting drug - target interaction network using deep learning models for drug repurposing through genetic information. Division |

- of Information Science. Nara Institute of Science and Technology, Ikoma, Nara, Japan.
- 2018 Jul **Oral Presenter.** Deep neural network model for predicting gene activity using three-dimensional structures of chemical compounds. Joint Statistical Meeting (American Statistical Association), Vancouver, Canada.
- 2018 June **Oral Presenter.** Machine learning-guided development of multiscale Imaging probes for colorectal cancer. New York Academy of Sciences, New York, USA, jointly presented with MURAKAMI, Kazuhiro; JUNKER, Anna.
- 2017 Mar **Oral Presenter.** Recurrent somatic copy number alteration analysis identifies risk genes that modulate the survival of young women with breast cancer. Computational System Biology Group, 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

- 2019 Oct **Oral Presenter.** Integrative bioinformatics approaches for medical research. 2019 Terry Fox Research Institute Alberta and Prairie Node Meeting. Edmonton, Alberta, Canada.
- 2019 Sep **Oral Presenter.** Integrative bioinformatics analysis for identifying breast cancer susceptibility genes and repurposing drugs for breast cancer using genetic information. Division of Biostatistics, University of Toronto, Toronto, Ontario, Canada.
- 2019 May **Oral Presenter.** New machine learning approaches for drug-target interaction network prediction and drug repurposing. The 47th Annual Meeting of the Statistical Society of Canada, Calgary, Canada.
- 2019 May **Oral Presenter.** Deep learning for decoding molecular phenotypes with radiogenomics in breast cancer. Manitoba Centre for Proteomics and Systems Biology Seminar series, Manitoba, Canada.

- 2019 Feb **Oral Presenter.** Deep learning for magnetic resonance imaging-genomic mapping of invasive breast carcinoma. Division of Biostatistics, University of Toronto, Toronto, Ontario, Canada.
- 2019 Jan **Oral Presenter.** Integrative bioinformatics analysis for identifying breast cancer susceptibility genes and repurposing drugs for breast cancer using genetic information. Department of Biochemistry and Medical Genetics, University of Manitoba, Manitoba, Canada.
- 2018 Dec **Oral Presenter.** Computational model for target identifications and drug discovery, College of Pharmacy, University of Manitoba, Manitoba, Canada.
- 2018 Oct **Oral Presenter.** Deep learning for breast cancer radiogenomic analysis and drug repurposing. Breast Cancer Research Group, Research Institute in Oncology and Hematology, Manitoba, Canada.
- 2018 Jun **Oral Presenter.** Deep learning for MR imaging-genomic mapping of invasive breast carcinoma. The 46th Annual Meeting of the Statistical Society of Canada, Montreal, Canada.
- 2017 Sep **Oral Presenter.** Genome-wide diet-gene interaction analysis for risk of psychiatric comorbidity in inflammatory bowel disease. Western Canadian Universities Big Data Health Conference: The Future of Precision Health and Big Data, Banff, Alberta, Canada.
- 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 – 2018 Aug **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. Current Position: Analyst in Department of Agriculture, Manitoba, Canada.
- 2016 Sep – 2017 Aug **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. PHD AND MASTER STUDENTS

- 2019 Sep – Now **Supervisor.** Qian Liu. PhD Candidate in Individual Interdisciplinary Studies Program (Department of Biochemistry and Medical Genetics Department of Computer Science and Department of Statistics, University of Manitoba).
- 2018 Sep – Now **Supervisor.** Md. Mohaiminul Islam. PhD Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Yang Wang, Department of Computer Science, University Manitoba.

- 2019 Sep – Now **Supervisor.** Mohammed Wasif Khan. PhD Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba).
- 2020 Sep – Now **Supervisor.** Yan Sun. PhD Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Yang Wang, Department of Computer Science, University Manitoba.
- 2020 Apr – Now **Supervisor.** Hafsa Moontari Ali. MSc Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Yang Wang, Department of Computer Science, University Manitoba.
- 2019 Sep – Now **Supervisor.** Chengyou Liu. MSc Candidate (Department of Electrical and Computer Engineering, University of Manitoba). Co-supervisor: Dr. Bob McLeod, Department of Electrical and Computer Engineering, University Manitoba.
- 2018 Sep – Now **Supervisor.** Yong Won Jin. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba).
- 2016 Sep – Now **Supervisor.** Ye Tian. MSc Candidate (Part-time, Department of Electrical and Computer Engineering, University of Manitoba). Co-supervisor: Dr. Bob McLeod, Department of Electrical and Computer Engineering, University Manitoba.
- 2019 Oct – Now **Supervisor.** Zhongyuan Zhang. MSc Candidate in Artificial Intelligence Stream (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
- 2019 Oct – 2020 Aug **Supervisor.** Bowen Cheng. MSc Candidate in Artificial Intelligence Stream (Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto).
- 2019 Oct – 2020 Aug **Supervisor.** Andrew Tran. MSc Candidate in Artificial Intelligence Stream (Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto). Co-supervisor: Dr. Claudia DosSantos, Faculty of Medicine, University of Toronto
- 2018 May – 2020 Apr **Supervisor.** Shuo Jia. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba). Current Position: AI Software engineer in Huawei Canada Research Center, Toronto.
- 2018 Sep – 2020 Apr **Bioinformatics Advisor.** Shujun Huang. PhD Candidate. (College of Pharmacy, University of Manitoba). Supervisor: Dr. Wayne Xu (01/2016 - 08/2018), Ted Lakowski (09/2018 - Now), University of Manitoba. Current Position: Research Programmer in BC Cancer Genome Science Center.
- 2018 Oct – 2019 Jul **Supervisor.** Fei Zuo. 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. Current Position: Research Biostatistician in St. Michael's Hospital, Toronto

- 2017 Oct – 2019 Jul **Supervisor.** Jiahui Zhang. 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. Current Position: PhD Candidate in Biostatistics, Dalla Lana School of Public Health, University of Toronto.
- 2017 Sep – 2019 Aug **Supervisor.** Nikta Feizi. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba). Current Position: Biostatistician at Amaris, Toronto.
- 2017 Sep – 2019 Aug **Supervisor.** Rayhan Shikder. MSc Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Pourang Irani, Department of Computer Science, University Manitoba. Current Position: Software engineer in Huawei Canada Research Center, Toronto.
- 2017 May – 2019 Aug **Supervisor.** Qian Liu. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba). Current Position: PhD Candidate in Individual Interdisciplinary Studies Program at the University of Manitoba.
- 2014 Feb – 2019 Jul **Bioinformatics Advisor.** Chris Walsh. PhD Candidate. (Faculty of Medicine, University of Toronto). Supervisor: Dr. Claudia Santos, Faculty of Medicine, University of Toronto. Current Position: Respiriologist at Michael Garron Hospital, Toronto East Health Network
- 2016 Sep – 2018 Sep **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. Current Position: Data Scientist, InVivo AI Inc., Montreal, Canada.
- 2016 Aug – 2017 Dec **Supervisor.** Md. Mohaiminul Islam. MSc Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Yang Wang, Department of Computer Science, University Manitoba. Current Position: PhD Candidate in Computer Science, University of Manitoba.
- 2016 Sep – 2017 Jul **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. Current Position: Analyst in Canada Institute for Health Information.
- 2015 Sep – 2017 Sep **Supervisor.** Rasif Ajwad. MSc Candidate (Department of Computer Science, University of Manitoba). Co-supervisor: Dr. Michael

Domaratzki, Department of Computer Science, University Manitoba.
Current Position: Software Engineer in Winnipeg City Hall (City of Winnipeg).

- 2015 May – 2017 Jun **Supervisor.** Chen Chi. MSc Candidate (Department of Biochemistry and Medical Genetics, University of Manitoba). Current Position: Analyst in Department of Agriculture, Manitoba.
- 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

- 2020 May – Aug **Supervisor.** Judah Zammit in Computer Science (University of Manitoba). Industrial project student (2020-2020).
- 2020 May – Aug **Supervisor.** Daryl Fung in Computer Science (University of Manitoba). Honour thesis project student (2020-2020).
- 2020 May – Aug **Supervisor.** Yolanda Ding in Medical Science (University of Western Ontario).
- 2019 Sep – Aug **Supervisor.** Yun Xu in Neuroscience and Statistics (University of Toronto). Current Position: MSc Candidate at Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto.
- 2019 Sep – 2020 Aug **Supervisor.** Allan Bruinooge in Genetics (University of Manitoba). Honour project student (2019-2020).
- 2019 Sep – 202 Apr **Supervisor.** Lukas Timmerman in Computer Science (University of Manitoba). Co-supervisors: Dr. Silvia Cardona; Dr. Rebecca Davis

- 2019 Jun – 2019 Aug **Supervisor.** Christiana Cholakias in Mathematics and Biology (St. Olaf College, USA).
- 2019 Jun – 2019 Sep **Supervisor.** Zexuan Sun in Mathematics and Statistics (Wuhan University, China). Mitacs Globalink Research Internship Student.
- 2019 Jun – 2019 Aug **Supervisor.** Peiran Jiang in Life Science (Huazhong University of Science and Technology, China). Mitacs Globalink Research Internship Student.
- 2018 Jun – 2019 Aug **Supervisor.** Lourens Jacobs in Medicine (BSc Medicine, University of Manitoba).
- 2018 Jun – 2018 Sep **Supervisor.** Xinyu Hou in Automation (Beijing Institute of Technology, China). Mitacs Globalink Research Internship Student. Current Position: PhD candidate in Engineering Science in University of Oxford, UK
- 2017 Sep – 2018 Aug **Supervisor.** Liam Grenier in Science (University of Manitoba). Current Position: Medical Student at the University of Manitoba.
- 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: PhD Candidate in Statistics in University of California, Los Angeles, 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. Current Position: PhD Candidate, Department of Biology, Emory University, USA
- 2010 May – 2012 May **Supervisor.** Xiang Xing in Computer Science (University of Toronto).

2008 May – 2008 Aug **Co-supervisor.** Xinchen 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 – Present **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 COMMITTEE MEMBERS

2020 May – Now **Committee Member.** Fatimah Eashour. PhD Candidate. (University of Manitoba). Supervisor: Dr. Stephen Pistorius, Department of Physics and Astronomy, University of Manitoba.

2020 Apr – Now **Committee Member.** Zisanur Rahman. PhD Candidate. (University of Manitoba). Supervisor: Dr. Silvia Cardona, Department of Microbiology, University of Manitoba.

2019 Oct – Now **Committee Member.** Darien Yeung. PhD Candidate. (University of Manitoba). Supervisor: Dr. Oleg Krokhin, Department of Biochemistry and Medical Genetics, University of Manitoba.

2019 Sep – Now **Committee Member.** Samantha Lee. PhD Candidate. (University of Manitoba). Supervisor: Dr. Meaghan Jones, Department of Biochemistry and Medical Genetics, University of Manitoba.

2018 Sep – Now **Committee Member.** Shujun Huang. PhD Candidate. (University of Manitoba). Supervisors: Dr. Ted Lakowski, College of Pharmacy, University of Manitoba.

2016 Apr – Sep **Committee Member.** Linwei Ye. PhD Candidate. (University of Manitoba). Supervisor: Dr. Yang Wang, Department of Computer Science, University of Manitoba.

2019 Jan – 2020 Jun **Committee Member.** Taryn Athey, MSc Genetic Counselling Candidate. (University of Manitoba). Supervisor: Dr. Patrick Frosk, Department of Biochemistry and Medical Genetics, University of Manitoba.

- 2017 Sep – 2019 Aug **Committee Member.** Nikho Hizon, MSc Candidate.
(University of Manitoba). Supervisors: Dr. Hao Ding, Department of Biochemistry and Medical Genetics, University of Manitoba.
- 2018 Jan – 2019 Jun **Committee Member.** Seyed Shahabeddin Nabavi. MSc Candidate.
(University of Manitoba). Supervisors: Dr. Yang Wang, Department of Computer Science, University of Manitoba.
- 2017 Mar – 2019 May **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 – 2018 Jun **Committee Member.** Neil Vincent Reyes. MSc Candidate.
(University of Manitoba). Supervisors: Dr. Hezhao Ji and Dr. T. Blake Ball, Department of Medical Microbiology and Infectious Diseases, 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

- 2020 June **VADA Summer School Best Presentation Award**
Visual and Automated Disease Analytics Graduate Training Program,
University of Manitoba and University of Victoria
Qian Liu, PhD student in Departments of Biochemistry and Medical Genetics, Computer Science and Statistics
- 2020 Mar **2020 Undergraduate Summer Studentship**
George & Fay Yee Centre for Healthcare Innovation, Manitoba
Yolanda Ding, Undergraduate student in Medical Science, The University of Western Ontario
Total Amount: \$4500
- 2020 Mar **2020 Undergraduate Summer Studentship**
Research Institute in Oncology and Hematology, Manitoba
Yun Xu, Neuroscience and Statistics, University of Toronto
Total Amount: \$5000
- 2020 Mar **Rupinder Singal Travel Award – 2020**
CancerCare Manitoba Foundation

Md. Mohaiminul Islam, PhD student in Department of Computer Science
Total Amount: \$750

2020 Feb **Mindel Rady Olenick Fellowship in Human Genetics**
University of Manitoba
Qian Liu, PhD student in Departments of Biochemistry and Medical Genetics and Computer Science
Total Amount: \$3,900 CAD

2019 Nov **Dean's Travel Award**
Rady Faculty of Health Sciences
Qian Liu, PhD student in Departments of Biochemistry and Medical Genetics and Computer Science
Total Amount: \$646 CAD

2019 Aug **Best Basic Research Presentation Award**
CancerCare Manitoba Research Institute Summer Student Symposium
Peiran Jiang, Mitacs Undergraduate Student

2019 June **VADA Summer School Big Data Challenge Award**
Visual and Automated Disease Analytics Graduate Training Program, University of Manitoba and University of Victoria
Md. Mohaiminul Islam, PhD student in Department of Computer Science

2019 June **Master's Studentship Award**
Research Manitoba
Yong Won Jin, Master's student in Department of Biochemistry and Medical Genetics
Total Amount: \$17,850 CAD (for 1 year)

2019 May **International Graduate Student Entrance Scholarship (IGSES)**
University of Manitoba
Mohammed Wasif Khan, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$5,400 CAD

2019 May **VADA NSEARC CREATE Award**
University of Manitoba
Qian Liu, PhD student in Departments of Biochemistry and Medical Genetics and Computer Science
Total Amount: \$38,000 CAD

2019 May **Faculty of Graduate Studies (FGS) Travel Award**
University of Manitoba

Qian Liu, MSc student in Department of Biochemistry and Medical Genetics

Total Amount: \$1000 CAD

2019 March

Best Oral Presentation Award

2019 IEEE 7th International Conference on Bioinformatics and Computational Biology

University of Manitoba

Qian Liu, MSc student in Department of Biochemistry and Medical Genetics

2019 March

University of Manitoba Graduate Fellowship (UMGF) – PhD Level

University of Manitoba

Md. Mohaiminul Islam, PhD student in Department of Computer Science

Total Amount: \$54,000 CAD (for 3 years)

2019 Feb

Best Presentation Award

2019 11th International Conference on Machine Learning and Computing, Zhuhai, China

Xinyu Hou, Mitacs-funded Undergraduate student in Beijing Institute of Technology, China

2019 Jan

Globalink Research Internship Award

Mitacs, Canada

Zexuan Sun. Undergraduate Student in Mathematics and Statistics in Wuhan University, China

Total Amount: \$6,000 CAD

2019 Jan

Globalink Research Internship Award

Mitacs, Canada

Peiran Jiang. Undergraduate Student in Life Science in Huazhong University of Science and Technology, China

Total Amount: \$6,000 CAD

2018 Sep

International Graduate Student Entrance Scholarship (IGSES)

University of Manitoba

Md. Mohaiminul Islam, PhD student in Department of Computer Science

Total Amount: \$5,400 CAD

2018 May

VADA NSEARC CREATE Award

University of Manitoba

Md. Mohaiminul Islam, PhD student in Department of Computer Science

Total Amount: \$38,000 CAD

- 2018 May **Computer Science Entrance Award**
University of Manitoba
Md. Mohaiminul Islam, PhD student in Department of Computer Science
Total Amount: \$36,000 CAD
- 2018/2019 May – Aug **BSc Med Summer Studentship**
College of Medicine, University of Manitoba
Lourens Jacobs, University of Manitoba
Total Amount: \$15,000 CAD
- 2018 May **2018 Undergraduate Summer Studentship Award**
The Children’s Hospital Foundation of Manitoba
Liam Grenier. University of Manitoba
Total Amount: \$6,000 CAD
- 2018 Feb **Globalink Research Internship Award**
Mitacs, Canada
Xinyu Hou. Undergraduate Student in Automation in Beijing Institute of Technology, China
Total Amount: \$6,000 CAD
- 2018 May **International Graduate Student Entrance Scholarship (IGSES)**
University of Manitoba
Shuo Jia, 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
Nikta Feizi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$5,400 CAD
- 2017 Sep **VADA NSEARC CREATE Award**
University of Manitoba
Rayhan Shikder, MSc student in Department of Computer Science
Total Amount: \$16,000 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

Nancie J. Mauro Graduate Scholarship in Oncology Research

University of Manitoba
Chen Chi, MSc student in Department of Biochemistry and Medical Genetics
Total Amount: \$2,600 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 **Globalink Research Internship Award**
Mitacs, Canada
Linfan Zhang. Undergraduate Student in Statistics, Zheijiang University,
Total Amount: \$6,000 CAD

2015 Sep **International Graduate Student Entrance Scholarship (IGSES)**
University of Manitoba
Rasif Ajwad, MSc student in Department of Computer Science
Total Amount: \$5,400 CAD

2015 Mar **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

2014 Dec **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

2014 Dec **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

2014 Sep **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

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

- 2020 May – 2020 Aug COMP4560 (Credit: 3.0) Computer Science Undergraduate Industrial Project (1 Student, Judah Zammit), Co-supervised with Dr. Carson Kai-Sang Leung.
- 2020 May – 2020 Aug COMP4520 (Credit: 3.0) Computer Science Undergraduate Honours Project (1 Student, Daryl Fung), Co-supervised with Dr. Carson Kai-Sang Leung.
- 2020 Mar - Apr BGEN 3024 (Credit: 3.0), Introduction to Human Genetics B (2 lectures – 2.5 hours).
- 2019 Sep – 2020 Aug BGEN 4010 (Credit: 6.0), Project Course in Human Genetics (1 Student - Allan Bruinooge), Single instructor.
- 2016 Sep – 2017 May BGEN 4010 (Credit: 6.0), Project Course in Human Genetics (1 Student - Nikho Hizon), Single instructor.

3. GRADUATE TEACHING

- 2020 Sep – Dec IMED 7280 (Credit: 3.0), Medical Computational Biology. Single course coordinator. (8 students)
- 2020 Jan – May IMED 7280 (Credit: 3.0), Medical Computational Biology. Single course coordinator. (8 students)
- 2019 Jan – May BGEN 7130 (Credit: 3.0), Genetic Epidemiology of Human Populations. (3 students). This is a required course for MSc genetic counseling. I am teaching 2 sessions (weeks) with 6 hours.
- 2019 Jan – May IMED 7280 (Credit: 3.0), Medical Computational Biology. Single course coordinator. (11 students)
- 2018 Jan – May IMED 7280 (Credit: 3.0), Medical Computational Biology. One of the two course coordinators. (13 students)
- 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. (7 students)

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

2018 Nov 2 Research Computing Workshop
Centre for Healthcare Innovation, Winnipeg, Canada
Speaker: Grigory Shamov, WestGrid
Organizers: **Pingzhao Hu**

2017 Oct 27 Gene Set Analysis and Visualization
Centre for Healthcare Innovation, Winnipeg, Canada
Speaker: **Pingzhao Hu**, Svetlana Frenkel (Postdoc Fellow in my lab)
Organizers: **Pingzhao Hu**

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**

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

- 2019 Apr **COMP4360: Machine Learning (Course Lecturer: Dr. Yang Wang).**
New machine learning approaches for drug – target interaction network prediction and drug repurposing, University of Manitoba, Canada.
- 2018 Mar **COMP4360: Machine Learning (Course Lecturer: Dr. Yang Wang).**
Practical applications of machine learning approaches to genome science, University of Manitoba. Winnipeg, Manitoba, Canada.
- 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 CLUBS

- 2018 Sep - Now Organizers of Bioinformatics and Biostatistics Monthly Journal Club, Faculty of Health Sciences. University of Manitoba
- 2014 Oct – 2019 Dec Organizer of Webinars of CIHR STAGE Monthly International Speaker Seminar Series in the University of Manitoba Site (5-15 Participants per time)

8. STEM (SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS) OUTREACH

- 2019 Nov **Oral Presenter.** Artificial Intelligence for Cancer Diagnosis and Treatment, Event for “WISE Kid-netic Energy Girls Club”, Manitoba, Canada. STEM – High School Students.
- 2018 Oct **Oral Presenter.** *Artificial Intelligence in HealthCare*, Event of “Meet the Expert”, Game Changer – Manitoba’s Idea Competition, Manitoba, Canada. STEM – Undergraduate and Graduate Students.

H. University Committees and Organizations

- 2020 Sep Rady Faculty of Health Sciences 2020 Tenure/Tenure Plus Promotion Meetings –External Representatives
- 2020 Mar – 2024 Mar Member of Animal Care Committee -Bannatyne Campus (Non-animal user), University of Manitoba
- 2020 Feb Chair of VADA Admission Committee
- 2019 Oct Poster Judge of 2019 CHRIM Research Day
- 2019 Aug Chair of Weijia Zhang PhD oral defence in the Department of Statistics
- 2019 Jun Poster Judge of CIHR National Poster Competition at the Health Research Forum
- 2019 May Poster Judge of 2019 CancerCare Manitoba Research Day, Winnipeg.
- 2019 Apr Participate in BGEN 7040 Presentations (Genetic Counseling course)
- 2019 Mar-Jul Member of Search and Selection Committee for the CRC Tier 2 Canada Research Chair in Bioinformatics. The Department of Biochemistry and Medical Genetic, Winnipeg.
- 2018 May-Aug Facilitator of meetings and presentations of the summer students in Data Science Platform of CHI and CHRIM.
- 2018 July Mentor of one of the five student teams in summer school of the VADA Program in the University of Manitoba
- 2018 Jun Poster Judge of 2018 Statistical Society of Canada Case Studies Competition
- 2018 Jun Poster Judge of CIHR National Poster Competition at the Health Research Forum
- 2018 Mar Host an invited speaker (Dr. Altaf Amin) from Nara Institute of Science and Technology, Japan at Department of Biochemistry and Medical Genetics Department, University of Manitoba
- 2018 Jan - Now Member of Selection Committee for Graduate Students in VADA Program in the University of Manitoba
- 2018 Jan Member of Search and Selection Committee for the tenure track assistant professor faculty position in epigenetics and child health in the Department of Biochemistry and Medical Genetics
- 2017 Oct Host an invited speaker (Dr. Andrew Advani) from St. Michael’s Hospital and University of Toronto at Biochemistry and Medical Genetics Department, University of Manitoba

2017 Oct	Poster Judge of University Undergraduate Poster Competition
2017 Sep – 2018 Dec	Member of Internship/Lab Exchange Committee of VADA Program
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 – 2019 Oct	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 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 May – 2018 May	Member of Bioinformatics Needs and Assessment Team in the University of Manitoba
2017 Mar	Host an invited speaker (Dr. Altaf Amin) from Nara Institute of Science and Technology, Japan at Department of Biochemistry and Medical Genetics Department, University of Manitoba
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.