

# Noushin Nabavi, PhD

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## Education

Degree: Bachelor of Applied Science (B.Sc.) Field Of Study: Cellular and Molecular Biology University of Toronto Dates: 2001 – 2005

Degree: Doctor of Philosophy (Ph.D.) Field Of Study: Cell and Systems Biology University of Toronto Dates: 2006 – 2012

## Research Experiences

1: Canadian Mitacs Science Policy Fellow, BC Ministry of Health, Victoria, BC, Canada, September 2019 - November 2020

- Link health administrative data to replicate and extend surgical quality outcome reporting;
- Enable program and policy evaluations through developing administrative data analytic workflows

2: Canadian Mitacs Science Policy Fellow, BC Ministry of Citizens' Services, Victoria, BC, Canada, September 2018 - September 2019

- Analyze and communicate complex administrative integrated data for evidence based policy making;
- Build and strengthen effective stakeholder relationships with ministry clients and contractors;
- Manage a data science project while developing and implementing timely methodologies and performance metrics

3: Senior Research Fellow, University of British Columbia, Vancouver, BC, Canada, February 2015 - February 2018

- Assemble and lead an international consortium of scientists for a genomics project, published 5 manuscripts and presented the results in 3 international conferences and 2 local symposia
- Analyze and integrate genomics, transcriptomics, and proteomics datasets using R and proprietary softwares
- Wrote and secured a \$275K operating grant from BC Cancer Foundation for next generation sequencing tumor profiling of malignant peritoneal mesothelioma

4: Postdoctoral Fellow, University of California, San Francisco, San Francisco, CA, USA, August 2013 - December 2014

- Design research project and conduct experiments related to liver disease with an expert team of scientists;
- Analyze experimental data and integrate results to generate presentations and publications;
- Contribute to securing a \$427K NIH grant

5: Siebel Stem Cell Fellow, University of California, Berkeley, Berkeley, CA, USA, January 2012 - July 2013

- Implement a reproducible scientific workflow for a project related to aging: designed and carried out experiments with animal models for aging, analyzed results;
- Manage a research project with graduate students and undergraduate students towards publication in a peer-review journal

6: Teaching Assistant and Research Co-Supervisor, University of Toronto, Toronto, ON, Canada, September 2005 - December 2011

- Rank the top 10% among departmental teaching assistants for 500+ hours of instruction in introductory biology laboratory, cellular molecular biology, and microbiology;

- Create and deliver departmental lectures to 500+ students with satisfactory responses from students;
- Co-supervise 10 undergraduate thesis students on successful thesis projects maintaining 100% retention rate (8 students secured successful science jobs, 2 pursued graduate studies)

7: Quality Assurance Intern, Pharma Medica, Toronto, ON, Canada, June 2004 - August 2004

- Trained in the Quality Assurance (QA) and Quality Control (QC) division of Pharma Medica, a full-service contract research organization specializing in bioequivalence trials in healthy volunteers;
- Ensured the chronological collection and collation of various types of data from wet-lab human specimens to documentation;
- Sorting, aggregation, and curation of data complying with company's QA and QC standards

8: Experimental Research Intern, Sanofi Pasteur, Toronto, ON, Canada, May 2003 - January 2004

- Designed and carried out experiments for HIV Vaccine development;
- Purified and titrated viral HIV AIDS proteins using the chicken embryo model systems - Performed high throughput ultra-purification of protein conjugates at industry-level standards (ELISA assays)

## Awards and recognitions

- 1: Canadian Mitacs Science Policy Fellowship UVic/BC Ministry of Health, Victoria, BC, 2019-2020
- 2: Finalist team for BC Premier's Award in Evidence-Based Design for Children and Youth Mental Health Integrated data project BC Ministry of Citizens' Services, Victoria, BC, 2019
- 3: Third place for designing prosthetic hand tools at Health and Regenerative Medicine Hackathon (donation of award to Victoria Hand Project) University of Victoria, Victoria, BC, 2019
- 4: People's choice leadership award for Victoria Code.Hack health hackathon at Island Health Vancouver Island Hospital, Victoria, BC, 2019
- 5: Canadian Mitacs Science Policy Fellowship UVic/BC Ministry of Citizens' Services, Victoria, BC 2018-2019
- 6: Travel award to participate and lead an analytics team at hackseq hackathon University of British Columbia, Vancouver, BC, 2018-2019
- 7: Travel award to participate at UBC's career panel discussing role of postdocs in industry University of British Columbia, Vancouver, BC, 2018
- 8: Health and Regenerative Medicine Hackathon in kind value in mentorship award University of Victoria, Victoria, BC, 2018
- 9: Honorable mention for Brief Policy Pitch for Indigenous reconciliation Institute of Public Administration, Victoria, BC, 2018
- 10: Certificate of distinction for completing Summer Institute for Evidence-Based STEM Teaching from The CIRTL Network on-line, 2018
- 11: Entrepreneurship@UBC venture building phase 1 University of British Columbia, Vancouver, BC, March-May 2018
- 12: Mitacs Accelerate Postdoctoral Fellowship Award University of British Columbia, Vancouver, BC, 2015-2018
- 13: Mini-MBA award, Partnership with Graduate Management Consulting Association University of British Columbia, Vancouver, BC, 2018
- 14: Rare Genomics Institute's BeHEARD Technology Prize in partnership with Addgene University of British Columbia, Vancouver, BC, 2017-2018
- 15: Travel award to attend the American Association of Cancer Research conference Washington DC, USA, 2017
- 16: Amazon Web Services Cloud Research Grant University of British Columbia, Vancouver, BC, 2016-2017
- 17: Science Teaching Fellowship for the American Society for Microbiology on-line, 2014-2015
- 18: Siebel Stem Cell Postdoctoral Fellowship, University of California Berkeley California, USA, 2012-2013
- 19: Graduate Student Research Award University of Toronto, July 2010
- 20: Travel Award from 15th Canadian Connective Tissue Conference Calgary, AB, July 2009
- 21: Natural Sciences and Engineering Research Council (NSERC)-CGS University of Toronto, Toronto, ON, May 2009-2012
- 22: Ontario Textbook and Technology Grant University of Toronto, Toronto, ON, December 2008
- 23: General Motors Women in Science and Mathematics Award University of Toronto, Toronto, ON, April

2008

24: Travel Award from 14th Canadian Connective Tissue Conference McGill University, Montreal, QC, June 5-7, 2008

25: Travel Award from the American Society for Cell Biology, 47th annual meeting San Diego, CA, USA, December 2007

26: Queen Elizabeth II Aiming for the Top Tuition Scholarship University of Toronto, Toronto, ON, September 2001

## Peer-reviewed journal publications

1: Mirzaei S, Gholami MH, Mahabady MK, **Nabavi N**, Zabolian A, Banihashemi SM, Haddadi A, Entezari M, Hushmandi K, Makvandi P, Samarghandian S, Zarrabi A, Ashrafizadeh M, Khan H. Pre-clinical investigation of STAT3 pathway in bladder cancer: Paving the way for clinical translation. *Biomed Pharmacother*. 2021 Jan;133:111077. doi: 10.1016/j.biopha.2020.111077. Epub 2020 Dec 4. PMID: 33378975.

2: Ashrafizadeh M, Hushmandi K, Rahmani Moghadam E, Zarrin V, Hosseinzadeh Kashani S, Bokaie S, Najafi M, Tavakol S, Mohammadinejad R, **Nabavi N**, Hsieh CL, Zarepour A, Zare EN, Zarrabi A, Makvandi P. Progress in Delivery of siRNA-Based Therapeutics Employing Nano-Vehicles for Treatment of Prostate Cancer. *Bioengineering (Basel)*. 2020 Aug 10;7(3):91. doi: 10.3390/bioengineering7030091. PMID: 32784981; PMCID: PMC7552721.

3: Shrestha R, **Nabavi N**, Volik S, Anderson S, Haegert A, McConeghy B, Sar F, Brahmbhatt S, Bell R, Le Bihan S, Wang Y, Collins C, Churg A. Well- Differentiated Papillary Mesothelioma of the Peritoneum Is Genetically Distinct from Malignant Mesothelioma. *Cancers (Basel)*. 2020 Jun 13;12(6):1568. doi: 10.3390/cancers12061568. PMID: 32545767; PMCID: PMC7352777.

4: Shrestha R, **Nabavi N**, Lin YY, Mo F, Anderson S, Volik S, Adomat HH, Lin D, Xue H, Dong X, Shukin R, Bell RH, McConeghy B, Haegert A, Brahmbhatt S, Li E, Oo HZ, Hurtado-Coll A, Fazli L, Zhou J, McConnell Y, McCart A, Lowy A, Morin GB, Chen T, Daugaard M, Sahinalp SC, Hach F, Le Bihan S, Gleave ME, Wang Y, Churg A, Collins CC. BAP1 haploinsufficiency predicts a distinct immunogenic class of malignant peritoneal mesothelioma. *Genome Med*. 2019 Feb 18;11(1):8. doi: 10.1186/s13073-019-0620-3. PMID: 30777124; PMCID: PMC6378747.

5: **Nabavi N**, Wei J, Lin D, Collins CC, Gout PW, Wang Y. Pre-clinical Models for Malignant Mesothelioma Research: From Chemical-Induced to Patient-Derived Cancer Xenografts. *Front Genet*. 2018 Jul 4;9:232. doi: 10.3389/fgene.2018.00232. PMID: 30022998; PMCID: PMC6040159.

6: Choi SYC, Ettinger SL, Lin D, Xue H, Ci X, **Nabavi N**, Bell RH, Mo F, Gout PW, Fleshner NE, Gleave ME, Collins CC, Wang Y. Targeting MCT4 to reduce lactic acid secretion and glycolysis for treatment of neuroendocrine prostate cancer. *Cancer Med*. 2018 Jun 14;7(7):3385–92. doi: 10.1002/cam4.1587. Epub ahead of print. PMID: 29905005; PMCID: PMC6051138.

7: Ramnarine VR, Alshalalfa M, Mo F, **Nabavi N**, Erho N, Takhar M, Shukin R, Brahmbhatt S, Gawronski A, Kobelev M, Nouri M, Lin D, Tsai H, Lotan TL, Karnes RJ, Rubin MA, Zoubeidi A, Gleave ME, Sahinalp C, Wyatt AW, Volik SV, Beltran H, Davicioni E, Wang Y, Collins CC. The long noncoding RNA landscape of neuroendocrine prostate cancer and its clinical implications. *Gigascience*. 2018 Jun 1;7(6):giy050. doi: 10.1093/gigascience/giy050. PMID: 29757368; PMCID: PMC6007253.

8: Qu S, Xue H, Dong X, Lin D, Wu R, **Nabavi N**, Collins CC, Gleave ME, Gout PW, Wang Y. Aneustat (OMN54) has aerobic glycolysis-inhibitory activity and also immunomodulatory activity as indicated by a first-generation PDX prostate cancer model. *Int J Cancer*. 2018 Jul 15;143(2):419-429. doi: 10.1002/ijc.31310. Epub 2018 Mar 1. PMID: 29441566; PMCID: PMC6001442.

9: **Nabavi N**, Saidy NRN, Venalainen E, Haegert A, Parolia A, Xue H, Wang Y, Wu R, Dong X, Collins C, Crea F, Wang Y. miR-100-5p inhibition induces apoptosis in dormant prostate cancer cells and prevents the emergence of castration-resistant prostate cancer. *Sci Rep*. 2017 Jun 22;7(1):4079. doi: 10.1038/s41598-017-03731-8. PMID: 28642484; PMCID: PMC5481412.

- 10: Lin D, Ettinger SL, Qu S, Xue H, **Nabavi N**, Choi SYC, Bell RH, Mo F, Haegert AM, Gout PW, Fleshner N, Gleave ME, Pollak M, Collins CC, Wang Y. Metabolic heterogeneity signature of primary treatment-naïve prostate cancer. *Oncotarget*. 2017 Apr 18;8(16):25928-25941. doi: 10.18632/oncotarget.15237. PMID: 28460430; PMCID: PMC5432227.
- 11: **Nabavi N**, Bennewith KL, Churg A, Wang Y, Collins CC, Mutti L. Switching off malignant mesothelioma: exploiting the hypoxic microenvironment. *Genes Cancer*. 2016 Nov;7(11-12):340-354. doi: 10.18632/genesandcancer.124. PMID: 28191281; PMCID: PMC5302036.
- 12: Kim SM, Wang Y, **Nabavi N**, Liu Y, Correia MA. Hepatic cytochromes P450: structural degrons and barcodes, posttranslational modifications and cellular adapters in the ERAD-endgame. *Drug Metab Rev*. 2016 Aug;48(3):405-33. doi: 10.1080/03602532.2016.1195403. Epub 2016 Jun 20. PMID: 27320797; PMCID: PMC5094896.
- 13: Shin J, He M, Liu Y, Paredes S, Villanova L, Brown K, Qiu X, **Nabavi N**, Mohrin M, Wojnoonski K, Li P, Cheng HL, Murphy AJ, Valenzuela DM, Luo H, Kapahi P, Krauss R, Mostoslavsky R, Yancopoulos GD, Alt FW, Chua KF, Chen D. SIRT7 represses Myc activity to suppress ER stress and prevent fatty liver disease. *Cell Rep*. 2013 Nov 14;5(3):654-665. doi: 10.1016/j.celrep.2013.10.007. Epub 2013 Nov 7. Erratum in: *Cell Rep*. 2013 Dec 12;5(5):1479. PMID: 24210820; PMCID: PMC3888240.
- 14: Pustyl'nik S, Fiorino C, **Nabavi N**, Zappitelli T, da Silva R, Aubin JE, Harrison RE. EB1 levels are elevated in ascorbic Acid (AA)-stimulated osteoblasts and mediate cell-cell adhesion-induced osteoblast differentiation. *J Biol Chem*. 2013 Jul 26;288(30):22096-110. doi: 10.1074/jbc.M113.481515. Epub 2013 Jun 5. PMID: 23740245; PMCID: PMC3724663.
- 15: **Nabavi N**, Pustyl'nik S, Harrison RE. Rab GTPase mediated procollagen trafficking in ascorbic acid stimulated osteoblasts. *PLoS One*. 2012;7(9):e46265. doi: 10.1371/journal.pone.0046265. Epub 2012 Sep 26. PMID: 23050002; PMCID: PMC3458846.
- 16: Durand M, Komarova SV, Bhargava A, Trebec-Reynolds DP, Li K, Fiorino C, Maria O, **Nabavi N**, Manolson MF, Harrison RE, Dixon SJ, Sims SM, Mizianty MJ, Kurgan L, Haroun S, Boire G, de Fatima Lucena-Fernandes M, de Brum-Fernandes AJ. Monocytes from patients with osteoarthritis display increased osteoclastogenesis and bone resorption: the In Vitro Osteoclast Differentiation in Arthritis study. *Arthritis Rheum*. 2013 Jan;65(1):148-58. doi: 10.1002/art.37722. PMID: 23044761.
- 17: **Nabavi N**, Khandani A, Camirand A, Harrison RE. Effects of microgravity on osteoclast bone resorption and osteoblast cytoskeletal organization and adhesion. *Bone*. 2011 Nov;49(5):965-74. doi: 10.1016/j.bone.2011.07.036. Epub 2011 Aug 2. PMID: 21839189.
- 18: Hassanzadeh A, Nitsche M, Armstrong S, **Nabavi N**, Harrison R, Dixon SJ, Langbein U, Mittler S. Optical waveguides formed by silver ion exchange in Schott SG11 glass for waveguide evanescent field fluorescence microscopy: evanescent images of HEK293 cells. *J Biomed Opt*. 2010 May-Jun;15(3):036018. doi: 10.1117/1.3443796. PMID: 20615020.
- 19: **Nabavi N**, Urukova Y, Cardelli M, Aubin JE, Harrison RE. Lysosome dispersion in osteoblasts accommodates enhanced collagen production during differentiation. *J Biol Chem*. 2008 Jul 11;283(28):19678-90. doi: 10.1074/jbc.M802517200. Epub 2008 May 7. PMID: 18463099.

## Pre-prints, reviews, and abstracts

- 1: Ferrarini, Mariana, Vanessa Aguiar-Pulido, Eric T. Dawson, Andrea Guarracino, Andreas Gruber, **Nabavi, Noushin**, Lukas Heumos, Alexander Kanitz, et al. 2020. "Global Analysis of Human Sars-cov-2 Infection and Host-virus Interaction." *BioHackrXiv*. May 14, 2020. doi:10.37044/osf.io/b4zqp.
- 2: Al Nakouzi, Nader; Wang, Chris Kedong; Nelepcu, Irina; Crouzit, Coralie; **Nabavi, Noushin**; Almami, Amal; Oo, Htoo Zarni; Clausen, Thomas Mandel; Gustavsson, Tobias; Salanti, Ali; Expression and regulation of chondroitin sulfate in prostate cancer, 2018, American Association for Cancer Research.
- 3: Shrestha, Raunak; **Nabavi, Noushin**; Lin, Yen-Yi; Mo, Fan; Anderson, Shawn; Volik, Stanislav; Adomat, Hans H; Lin, Dong; Xue, Hui; Dong, Xin; Integrated Multi-omics Molecular Subtyping Predicts Therapeutic

Vulnerability in Malignant Peritoneal Mesothelioma, bioRxiv, 243477, 2018, Cold Spring Harbor Laboratory.

4: **Nabavi, Noushin**; Organelles enter the game of aging related aggregation and retention of misfolded proteins, Journal of Postdoctoral Research, February, 2015.

5: **Nabavi, Noushin**; Protein turnover: to self-eat or not to self-eat, that's the question, Journal of Postdoctoral Research, January, 2014.

6: **Nabavi, Noushin**; YAP/TAZ Join the Play with B-catenin to Orchestrate Wnt Signaling, Journal of Postdoctoral Research, November, 2014.

7: **Nabavi, Noushin**; Can aging be reversed? Journal of Postdoctoral Research, 2014.

8: **Nabavi, Noushin**; Cancer-associated PTEN: Structural and Functional Characterization, Journal of Postdoctoral Research, 2014.

## Book chapter publications

1: **Nabavi N**, Wei J, Lin D, Collins CC, Gout PW, Wang Y. Pre-clinical Models for Malignant Mesothelioma Research: From Chemical-Induced to Patient-Derived Cancer Xenografts. Front Genet. 2018 Jul 4;9:232.

2: **Nabavi, Noushin**; Roberts, Morgan E; Crea, Francesco; Collins, Colin C; Wang, Yuzhuo; Bishop, Jennifer L; Immuno-oncology of Dormant Tumours, Tumor Dormancy and Recurrence, 51-60, 2017

3: **Noushin Nabavi**, Susan L. Ettinger, Francesco Crea, Yuzhuo Wang, Colin C. Collins: Biological and Clinical Evidence for Metabolic Dormancy in Solid Tumors Post Therapy, Tumor Dormancy and Recurrence, 1, Pages 17-29, 2017

## Science policy research, opinions, and perspectives

1: Healthwiser: Monitoring and evaluation of surgical outcomes; Human Health and Services Library at the BC Ministry of Health, BC-Gov, December 2020.

2: McGuirk, Shawn; Sultmanis, Stefanie; Westwood, Alana R; Woolfson, Kathlyn N; **Nabavi, Noushin**: Boosting the volume and speed of genetic sequencing comes with challenges, iPolitics, November 2020.

3: **Nabavi, Noushin**. "Initiating an Experiment." Zenodo, 2020. doi:10.5281/zenodo.4083752, Zenodo, Oct 12 2020.

4: **Noushin Nabavi**; Coronavirus shining a spotlight on homo sapiens, Canadian Science Policy Centre Editorial, June 2, 2020.

5: Christine Gibb , **Noushin Nabavi**, Qutuba Karwi, Emma Griffiths; Limiting the negative impact of the COVID-19 pandemic on Canadian postdoctoral scholars, Canadian Science Policy Centre Editorial, May 4, 2020.

6: McGuirk, Shawn; Sultmanis, Stefanie; Westwood, Alana R; Woolfson, Kathlyn N; **Nabavi, Noushin**: The Frontiers of DNA Regulation: Developing a National Policy Framework Encouraging Transparency, Security, and Cost-efficiency of Genetic Technology and Data; Policy Memo, JSPC, 2020.

## Blog posts

1: **Noushin Nabavi**, To code or not to code, Data Driven Investor, Apr 13, 2020

2: **Noushin Nabavi**, Hacking Disease and Death, Medium, Jun 30, 2019.

3: **Noushin Nabavi**. From messy to tidy: the case for a data science workflow Data Driven Investor, May 4, 2019.

4: **Noushin Nabavi**, Disruption by Design, Data Driven Investor, Nov 30, 2018.

- 5: **Noushin Nabavi**, Technical Considerations for Longitudinal Data Analyses Data Driven Investor, Oct 24, 2018.
- 6: **Noushin Nabavi**, Menu for preparing data & serving it cold Data Driven Investor, Oct 19, 2018.
- 7: **Noushin Nabavi**, Metacognition in the Data Age, Data Driven Investor, Oct 6, 2018.
- 8: **Noushin Nabavi**, Data Renaissance: Creating Data-driven Cultures Data Driven Investor, Sep 21, 2018.

## **Media coverage of research**

- 1: New research suggests immunotherapy could help nearly 50 per cent of patients with rare mesothelioma, Terry Fox News, June 2019.
- 2: First-person account: Graduate student turns rocket scientist, University of Toronto, Jan 28, 2008.
- 3: Bone cells space out, The Star, March 6, 2008.
- 4: Blasting off: Professor's research goes up in space, University of Toronto, Sep 24, 2007.

## **Software projects**

- 1: CO-SOL: Connecting Solidarity is an app that matches suppliers and demanders of resources, which are essential for survival in the fight against COVID-19, Devpost hackathon

## **Academic services**

- 1: 2020-2021: Expert assessment of applications submitted to Treasury Board of Canada Secretariat, advisor on scientific methodology and merit, Government of Canada
- 2: 2020: Vice Chair of Survey and Data at Canadian Association of Postdoctoral Scholars (CAPS), developing analytics, methodologies, and partnerships
- 3: 2020: Fellowship adjudication committee at Mitacs Inc., evaluating Canadian Science Policy Fellowship applications
- 4: 2019-2020: Evaluation and program committee member at Canadian Science Policy Centre (CSPC), analyzing and reporting conference survey data
- 5: 2019: Vice Chair of Career Development at Canadian Association of Postdoctoral Scholars (CAPS), developing career development strategies for Canadian postdocs, and organization of annual general meeting at Dalhousie University (Halifax, NS in November 2019)
- 6: 2019: Participant and session facilitator at Chief Information Officer's BC Connect conference, Victoria, BC
- 7: 2019: Facilitator at Policy Community of Practice, Making it Real; putting policy into practice conference held at Marriott Hotel Inner Harbour, Victoria, BC
- 8: 2018-2020: Data and privacy analyst at Institute of Public Administration, New Professionals (IPAC-NP), Victoria, BC
- 9: 2018-2019: Hackseq hackathon organizing committee and team lead, managing social media posts and leading teams; University of British Columbia, Vancouver, BC
- 10: 2018: UBC Career panel participation; exploring role of postdocs in academia and industry, Vancouver, BC Science Outreach & Mentorship
- 11: 2020: Lead data scientist for Covid-19 hackathon at Devpost, Build for covid, and Biohackathon
- 12: 2015-2020: Canada Learning Code, Vancouver/Victoria, BC
- 13: 2018: Victoria Health Hackathon mentor, Victoria, BC

- 14: 2016: 3-Minute Thesis presentation, UBC, Vancouver, BC
- 15: 2014: Phillip and Sala Burton Academic High School Science Mentor, San Francisco, CA
- 16: 2013-2014: City College of San Francisco's Biotechnology Program Curriculum Development, San Francisco, CA
- 17: 2013-2014: Cybelle Biosciences co-founder & consultant, San Francisco, CA
- 18: 2013: Onestart America Lean Launchpad competitor, San Francisco, CA
- 19: 2012: UCSF Mission Bay consulting club participant, San Francisco, CA
- 20: 2007: Graduate Student Association Co-President at the University of Toronto (GSAS), Toronto, ON
- 21: 2006-2011: Let's Talk Science (LTS) volunteer member, Toronto, ON
- 22: 2006-2009: Landmark Education coach & mentor, Toronto, ON
- 23: 2003-2005: Co-founder of The Debating Club at University of Toronto Scarborough, Toronto, ON
- 24: 2001-2005: Created friendships and taught leadership development to people with intellectual and developmental disabilities at BestBuddies, Toronto, ON

## **Evidence-based Teaching and Learning**

- 1: 2020: Presentation of a demonstration project for implementing data integration workflows for data-driven decision making at the BC Ministry of Health's knowledge translation talk series (~100 participants)
- 2: 2019: Presentation of a case study for reproducible data science workflow implementation at BC Government's Data Science Community of Practice (~40 participants)
- 3: 2018-2019: Undergraduate STEM teaching certification and facilitation; Scientific teaching fellowship from Yale Centre for Integration of Teaching and Learning certification, Teaching-as-Research, and Associate Partner at Summer Institute for Teaching, and course modules for teaching coding, doi.
- 4: 2018 & 2019: Lead a team of 12 participants on visualizing health population data and the yeast transcriptome at Hackseq Genomics Hackathon at University of British Columbia
- 5: 2018: Worked with a team of 8 participants to create a model for the victoria hand project, design a sieving device to separate aggregated drug microspheres, and a cloud-based medical repository solution for patient medical records
- 6: 2016: Recipient of Teaching Science Fellowship from American Society for Microbiology certification
- 7: 2014: Implemented lessons as a science mentor at Phillip and Sala Burton Academic High School for their Fairposium project and assisted grade 11 students in generating a research question, finding evidence, and making a poster for their science fair research day, the team ended up winning second prize for their work
- 8: 2013-2014: Taught in the biotechnology program at City College of San Francisco
- 9: 2006-2011: Participated and taught in 'Teacher Training Program' at University of Toronto
- 10: 2001-2005: Let's Talk Science partnership program participant; designed and carried out hands-on science and experimental activities to engage children in K12 education system

## **Invited Presentations**

- 1: Long-Term Impacts of the Enhanced Recovery Collaborative on Colorectal Surgical Site Infections (BC Quality Forum, Virtual, February 14, 2021)
- 2: Variation in Rates of Dispensing of Opioids After Surgery: Opportunities for Therapeutics Stewardship (BC Quality Forum, Virtual, February 13, 2021)

- 3: Adapting to a New Normal: The Effect of Covid-19 on the Next Generation of Scientists (Canadian Science Policy Conference, Virtual, November 16-20, 2020)
- 4: Pandemics and postdocs: COVID survey findings (Postdoc Appreciation Week, Virtual, September 17, 2020) CAPS survey findings related to COVID-19 (National meeting on postdoc affairs organized by the University of Western Ontario, Virtual, July 31, 2020)
- 5: Reproducible analytic workflows in the public service (Data and Analytics Conference, Vancouver, BC, February 15, 2020)
- 6: Health systems administrative data integration to support data-driven decision making (Ministry of Health's Knowledge Exchange Talk Series, Government of BC, Victoria, BC, January 22, 2020)
- 7: Using administrative data to evaluate programs and services (Public Service Agency, Victoria, BC, January 21, 2020)
- 8: Delivering bundles of care through deciphering government programs and services (Academic Health Science Network, Victoria, BC, January 20, 2020)
- 9: Open source data and data science to enable integrated data projects (Island Health, Victoria, BC, September 2019)
- 10: Implementing reproducible analytic workflows in the public service (University of Victoria, Victoria, BC, August 2019)
- 11: From messy to tidy: reproducible analytic workflows for data analysis (BCDev Exchange, Victoria, BC, May 2019)
- 12: Healing old wounds, Institute of Public Administration of Canada, Policy Pitch (Victoria Event Centre, Victoria, BC, October 2018)
- 13: Expression and regulation of chondroitin sulfate in prostate cancer (American Association of Cancer Research, Chicago, IL, July 2018)
- 14: BAP1 creates a potential therapeutic vulnerability in malignant peritoneal mesothelioma. Malignant Mesotheliomas poster presentation at International Mesothelioma Interest Group (Ottawa, ON, May 2018)
- 15: Comprehensive molecular characterization of peritoneal mesothelioma, Vancouver Prostate Centre Friday Seminar (Vancouver, BC, February 2017)
- 16: Cytochrome P450 degradation in hepatocytes and implications in drug metabolism, UCSF Postdoctoral Symposium, Gladstone, UCSF Mission Bay (San Francisco, CA, USA, June 2014)
- 17: SIRT2's role in stem cell biology, Berkeley Stem Cell Center Retreat, Fred Farr Forum (Asilomar, CA, USA, April 2012 and 2013)
- 18: Rab-3 mediated collagen trafficking in differentiating osteoblasts, 16th Canadian Connective Tissue Conference (CCTC) (Toronto, ON, June 3-5, 2010)
- 19: Delineating collagen trafficking pathway in differentiating osteoblasts, 15th Canadian Connective Tissue Conference (CCTC) (Calgary, July 17-18, 2009)
- 20: Cytoskeleton and adhesion alteration in osteoblasts in microgravity environment, 14th Canadian Connective Tissue Conference (CCTC) (Montreal, QC, June 5-7, 2008)
- 21: Osteoblast differentiation in microgravity environments, 14th Canadian Connective Tissue Conference (CCTC) (Halifax, NS, June 5-7, 2007)
- 22: Lysosome dispersion in osteoblasts accommodates enhanced collagen production during differentiation, 13th Canadian Connective Tissue Conference (CCTC) (Toronto, ON, May 24-26, 2006)



## Poster Presentations

- 1: Alleviative Effects Of Meta-therapy Consciousness Field On *Triticumaestivum*.l Under Salinity Stress [in lieu of S. Torabi & MA. Taheri] (The Science of Consciousness Conference, Lowes Ventana Canyon Resort, Tucson, AZ, April 13-18, 2020 - went virtual for COVID)
- 2: Evaluation of Depression, Anxiety, Stress and Headache Indices in Migraine Patients During Conventional Therapies Under Influence of Consciousness Fields [in lieu of S. Behbudi & MA. Taheri] (The Science of Consciousness Conference, Lowes Ventana Canyon Resort, Tucson, AZ, April 13-18, 2020 - went virtual for COVID)
- 3: BAP1 creates a potential therapeutic vulnerability in malignant peritoneal mesothelioma. 12th Lorne D. Sullivan Lectureship and Research Day (Vancouver General Hospital, Vancouver, BC, June 2018)
- 4: Expression and regulation of chondroitin sulfate in prostate cancer (Vancouver General Hospital, BC, 2018)
- 5: Oncofetal glycosaminoglycan signature provides therapeutic potential for malignant mesothelioma, poster presentation at Cell Death, Cell Stress and Metabolism Conference: From Basic Mechanisms to Novel Treatment
- 6: Options conference (Vancouver General Hospital, Vancouver, BC, June 2017)
- 7: Comprehensive multi-omics characterization of the rare malignant peritoneal mesothelioma, 11th Lorne D. Sullivan Lectureship and Research Day (Vancouver General Hospital, Vancouver, BC, June 2017)
- 8: An oncofetal glycosaminoglycan modification provides therapeutic access to mesothelioma, poster presentation at Cell Death, Cell Stress and Metabolism Conference: From Basic Mechanisms to Novel Treatment Options conference (Cancun, Mexico, March 2017)
- 9: Characterization of Intertumor Heterogeneity of Malignant Mesotheliomas poster presentation at International Mesothelioma Interest Group (Birmingham, UK, May 2016)
- 11: Molecular landscape of pleural mesothelioma poster presentation at 10th Lorne D. Sullivan Lectureship and Research Day (Vancouver General Hospital, Vancouver, BC, June 2015-2016)
- 12: Cytochrome P450 degradation in hepatocytes, UCSF Postdoctoral Symposium, UCSF Mission Bay, poster presentation (San Francisco, CA, USA, June 2013)
- 13: Rab mediated collagen trafficking in differentiating osteoblasts, 50th American Society for Cell Biology (ASCB) conference (Philadelphia, PA, U.S.A., Dec. 11-15, 2010)
- 14: Rab-1 mediated collagen trafficking in differentiating osteoblasts, 49th American Society for Cell Biology (ASCB) conference (San Diego, U.S.A., Dec. 5-11, 2009)
- 15: In vitro Osteoclast Differentiation in Arthritis (IODA) project: Osteoclastogenesis as a marker of presence and activity of disease in Arthritis, Canadian 2009 Annual Scientific Conference (Vancouver, BC, November 19-21, 2009)
- 16: Mechanism of collagen trafficking in bone cells, 48th Annual meeting of the Canadian Society of Zoologists (CSZ) (Toronto, ON, Canada, May 12-16, 2009)
- 17: Cytoskeleton and adhesion alteration in osteoblasts in microgravity environment, 30th international conference of ASBMR (Montreal, QC, Canada, September 12, 16, 2008)
- 18: Compromised Adhesion of Osteoblasts in Microgravity Environment, 37th Committee on Space Research (COSPAR) conference (Montreal, QC, Canada, July 13-20, 2008)
- 19: Cytoskeleton and adhesion alteration in osteoblasts in microgravity environment, the 30th ASBMR Annual Meeting (Montreal, QC, Canada, September 12-16, 2008)
- 20: Modulation of the osteoblasts cytoskeleton in microgravity environment, the 47th American Society for Cell Biology (ASCB) conference (Washington D.C., U.S.A., Dec. 1-5, 2007)

21: Lysosome secretion by bone cells under normal and pathological conditions including rheumatoid and osteoarthritis. Poster presentation at the Canadian Arthritis Network (CAN) Annual Scientific Conference (Halifax, Canada, October 11-13, 2007)

22: Cellular trafficking of lysosomes in osteoblasts, 46th American Society for Cell Biology (ASCB) conference (San Francisco, CA, U.S.A. Dec. 9-13, 2006)

### **Community volunteer activities**

- 2019: Victoria Jazz Festival, Victoria, BC
- 2018: Vancouver Opera Festival volunteer, Vancouver, BC
- 2015-2018: Vancouver International Film Festival (VIFF), Vancouver, BC
- 2015-2018: International Performing arts Festival (Push), Vancouver, BC
- 2015-2018: Vancouver Jazz Festival, Vancouver, BC
- 2015-2018: Fringe Theatre Festival, Vancouver, BC
- 2016-2017: Vancouver Writer's Festival, Vancouver, BC
- 2015-2019: Caravan World Rhythms, Vancouver/Victoria, BC