

Pawel Buczkowicz, PhD

Education and Training

Lean Six Sigma, School of Continuing Studies September 2015 - August 2016
University of Toronto
Change Management, Project Management, Lean Six Sigma

PhD, University of Toronto, Faculty of Medicine September 2008 - June 2014
Department of Laboratory Medicine and Pathobiology
Thesis entitled “Comprehensive integrated genomic and histopathological analysis of paediatric diffuse intrinsic pontine glioma”

MBA Foundation Series (MOOC format) via Coursera October 2013 - November 2014
Wharton School of the University of Pennsylvania
Marketing, Financial Accounting, Corporate Finance, Operations Management

TCPS - 2nd ed.: Ethical Conduct for Research Involving Humans June 2013
Hospital for Sick Children

Bachelor of Science, Ryerson University, Faculty of Engineering September 2003 - April 2008
Architecture and Science, Department of Chemistry and Biology
Applied Chemistry and Biology Program, Co-operative option
4th year thesis entitled “Prognostic and therapeutic potential of GLI2 zinc finger protein in paediatric medulloblastoma”

Academic Positions and Employment

Gene42 Inc., Chief Medical Affairs Officer & VP Business Development January 2015 – present

Hospital for Sick Children, Laboratory Research Project Manager September 2014 – September 2015
Arthur and Sonia Labatt Brain Tumour Research Centre

Hospital for Sick Children, Graduate Student September 2008 - August 2014
Department of Paediatric Laboratory Medicine, Division of Pathology
Arthur and Sonia Labatt Brain Tumour Research Centre

Hospital for Sick Children, Co-Op Student, Research Assistant January 2007 - August 2008
Department of Paediatric Laboratory Medicine, Division of Pathology
Arthur and Sonia Labatt Brain Tumour Research Centre

Microbix Biosystems Inc.: Biopharmaceuticals, Laboratory Technician May 2006-September 2006
Department of Cell Biology and Manufacturing

Microbix Biosystems Inc.: Biopharmaceuticals, Laboratory Technician May 2005-December 2005
Department of Cell Biology and Manufacturing

Publications

Remke M, Cavalli F, Morrissy SA, Ramaswamy V, Shih D, Agnihotri S, Kiehna E, Mercier E, Mayoh C, Papillon-Cavanagh S, Nikbakht H, Gayden T, Torchia K, Picard D, Merino D, Horswell S, Luu B, Wu X, Yao Y, Hovestadt V, Northcott PA, Jones D, Peacock J, Garzia L, Wang X, Mack SC, Reimand J, Albrecht S, Fontebasso AM, Thiessen N, Li Y, Schein J, Lee D, Carlsen R, Mayo M, Tse K, Tam A, Dhalla N, Ally A, Chuah E, Cheng Y, Plettner P, Li H, Corbett R, Wong T, Long W, Loukides J, **Buczkwicz** P, Hawkins C, Tabori U, Rood B, Myseros J, Packer R, Korshunov A, Lichter P, Kool M, Pfister S, Schuller U, Dirks P, Huang A, Bouffet E, Rutka J, Bader G, Swanton C, Ma Y, Moore R, Mungall A, Majewski J, Jones S, Das S, Malkin D, Jabado N, Marra M, Taylor MD. “Spatial heterogeneity in medulloblastoma” *Nature Genetics* 2017 May;49(5):780-788.

Dzamba M, Ramani A, **Buczkwicz** P, Jiang Y, Yu M, Hawkins C, Brudno M. “Identification of complex genomic rearrangements in cancer using CouGaR” *Genome Research* 2017 Jan;27(1):107-117.

Ryall S, Krishnatry R, Arnoldo A, **Buczkwicz** P, Mistry M, Siddaway R, Ling C, Pajovic S, Yu M, Rubin JB, Hukin J, Steinbok P, Bartels U, Bouffet E, Tabori U, Hawkins C. “Targeted detection of genetic alterations reveal the prognostic impact of H3K27M and MAPK pathway aberrations in paediatric thalamic glioma” *Acta Neuropathologica Communications*, 2016 Aug 31;4(1):93.

Hoffman LM, DeWire M, Ryall S, **Buczkwicz** P, Leach J, Miles L, Ramani A, Brudno M, Kumar SS, Drissi R, Dexheimer P, Salloum R, Chow L, Hummel T, Stevenson C, Li QR, Jones B, Witte D, Aronow B, Hawkins CE, Fouladi M. “Spatial genomic heterogeneity in diffuse intrinsic pontine and midline high-grade glioma: implications for diagnostic biopsy and targeted therapeutics” *Acta Neuropathologica Communications*, 2016 Jan 4;4:1.

Chornenkyy Y, Agnihotri S, Yu M, **Buczkwicz** P, Rakopoulos P, Golbourn B, Garzia L, Siddaway R, Leung S, Rutka JT, Taylor MD, Dirks PB, Hawkins C. “Poly-ADP-Ribose polymerase as a therapeutic target in pediatric diffuse intrinsic pontine glioma and pediatric high-grade astrocytoma” *Molecular Cancer Therapeutics* 2015 Nov 14(11):2560-8.

Mistry M, Zhukova N, Merico D, Rakopoulos P, Krishnatry R, Shago M, Stavropoulos J, Alon N, Pole JD, Ray PN, Navicijene V, Mangerel J, Remke M, **Buczkwicz** P, Ramaswamy V, Stucklin AG, Li M, Young EJ, Zhang C, Castelo-Branco P, Bakry D, Laughlin S, Rutka JT, Dirks PB, Taylor MD, Greenberg M, Malkin D, Huang A, Bouffet E, Hawkins C, Tabori U. “*BRAF* mutation and *CDKN2A* deletion define a clinically distinct subgroup of childhood secondary high grade glioma” *Journal of Clinical Oncology*, 2015 Mar 20;33(9):1015-22.

Mangerel J, Price A, Castelo-Branco P, Brzezinski J, **Buczkwicz** P, Rakopoulos P, Merino D, Baskin B, Wasserman J, Mistry M, Barszczyk M, Picard D, Mack S, Remke M, Starkman H, Elizabeth C, Zhang C, Alon N, Lees J, Andrulis IL, Wunder JS, Jabado N, Johnston DL, Rutka JT, Dirks PB, Bouffet E, Taylor MD, Huang A, Malkin D, Hawkins C, Tabori U. “Alternative lengthening of telomeres is enriched in, and impacts survival of *TP53* mutant pediatric malignant brain tumors” *Acta Neuropathologica*, 2014 Dec;128(6):853-62.

Barszczyk M, **Buczkwicz** P, Castelo-Branco P, Mack SC, Ramaswamy V, Mangerel J, Agnihotri S, Remke M, Golbourn B, Pajovic S, Elizabeth C, Yu M, Luu B, Morrison A, Adamski J, Nethery-Brookx K, Li XN, Van Meter T, Dirks PB, Rutka JT, Taylor MD, Tabori U, Hawkins C. “Telomerase inhibition abolishes the tumorigenicity of pediatric ependymoma tumor-initiating cells” *Acta Neuropathologica*, 2014 Dec;128(6):863-77.

Buczkwicz P, Bartels U, Bouffet E, Becher O, Hawkins C. “Histopathological spectrum of paediatric diffuse intrinsic pontine glioma: diagnostic and therapeutic implications” *Acta Neuropathologica*, 2014 Oct 128(4):573-81.

Agnihotri S, Burrell K, **Buczkwicz P**, Remke M, Golbourn B, Chornenkyy Y, Gajadhar A, Fernandez NA, Clarke ID, Barszczyk MS, Pajovic S, Ternamian C, Head R, Sabha N, Sobol RW, Taylor MD, Rutka JT, Jones C, Dirks PB, Zadeh G, Hawkins C. “ATM regulates 3-Methylpurine-DNA glycosylase and promotes therapeutic resistance to alkylating agents” *Cancer Discovery*, 2014 Oct 4(10):1198-1312.

Buczkwicz P, Hoeman C, Rakopoulos P, Pajovic S, Letourneau L, Dzamba M, Morrison A, Lewis P, Bouffet E, Bartels U, Zuccaro J, Agnihotri S, Ryall S, Barszczyk M, Chornenkyy Y, Bourgey M, Bourque G, Montpetit A, Cordero F, Castelo-Branco P, Mangerel J, Tabori U, Ho KC, Huang A, Taylor KR, Mackay A, Bendel AE, Nazarian J, Fangusaro JR, Karajannis MA, Zagzag D, Foreman NK, Donson A, Hegert JV, Smith A, Chan J, Lafay-Cousin L, Dunn S, Hukin J, Dunham C, Scheinmann K, Michaud J, Zelcer S, Ramsay D, Cain J, Brennan C, Souweidane MM, Jones C, Allis CD, Brudno M, Becher O, Hawkins C. “Genomic analysis of diffuse intrinsic pontine glioma reveals three molecular subgroups and activating *ACVR1* mutations” *Nature Genetics*, 2014 May 46(5):451-56.

Buczkwicz P, Zarghooni M, Bartels U, Morrison A, Misuraca KL, Chan T, Bouffet E, Huang A, Becher O, Hawkins C. “Aurora kinase B is a potential therapeutic target in pediatric diffuse intrinsic pontine glioma” *Brain Pathology*, 2013 May 23(3):244-53.

Khuong-Quang DA*, **Buczkwicz P***, Rakopoulos P, Liu XY, Fontebasso AM, Bouffet E, Bartels U, Albrecht S, Schwartzentruber J, Letourneau L, Bourgey M, Bourque G, Montpetit A, Bourret G, Lepage P, Fleming A, Lichter P, Kool M, von Deimling A, Sturm D, Korshunov A, Faury D, Jones DT, Majewski J, Pfister SM, Jabado N, Hawkins C. “K27M mutation in histone H3.3 defines clinically and biologically distinct subgroups of pediatric diffuse intrinsic pontine gliomas” *Acta Neuropathologica*, 2012 Sep 124(3):439-47.
* authors contributed equally to the manuscript

Buczkwicz P, Ma J, Hawkins C. “GLI2 is a potential therapeutic target in pediatric medulloblastoma” *Journal of Neuropathology and Experimental Neurology*, 2011 June 70(6):430-37.

Zarghooni M, Bartels U, Lee E, **Buczkwicz P**, Morrison A, Huang A, Bouffet E, Hawkins C. “Whole-genome profiling of pediatric diffuse intrinsic pontine gliomas highlights platelet-derived growth factor receptor alpha and poly (ADP-ribose) polymerase as potential therapeutic targets” *Journal of Clinical Oncology*, 2010 Mar 10:28(8):1337-44.

Invited Publications

Buczkwicz P & Hawkins C. “Pathology, molecular genetics, and epigenetics of diffuse intrinsic pontine glioma” *Frontiers in Oncology* 2015 June 30: 5(147):1-9.

Abstracts and Conference Proceedings

Buczkwicz et al. “Performance optimization of a genomic variant store for genotype-phenotype correlation in PhenoTips software” *The American Society of Human Genetics Annual Meeting*, October 2017; Orlando, FL

Buczkwicz et al. “Comprehensive genomic analysis of diffuse intrinsic pontine gliomas identifies three molecular subgroups and a novel cancer driver, ACVR1” Canada Next Generation Sequencing Symposium, September 2014; Toronto, ON

Buczkwicz et al. “Comprehensive genomic analysis of diffuse intrinsic pontine gliomas identifies three molecular subgroups and a novel cancer drivers, ACVR1” 16th International Symposium on Pediatric Neuro-Oncology, June-July 2014; Republic of Singapore

Buczkwicz et al. “Uncovering molecular subgroups and a novel cancer driver, ACVR1, in diffuse intrinsic pontine gliomas” AACR Pediatric Cancer at the Crossroads, November 2013; San Diego, CA

Buczkwicz et al. “Genetic and histopathological spectrum of paediatric diffuse intrinsic pontine gliomas” Pediatric Neuro-Oncology Basic and Translational Research Conference, May 2013; Fort Lauderdale, FL

Buczkwicz et al. “Clinical relevance of the histopathological spectrum of pediatric diffuse intrinsic pontine gliomas” Society for Neuro-Oncology, November 2012; Washington, DC

Buczkwicz et al. “Aurora kinase B inhibition in diffuse intrinsic pontine glioma has therapeutic potential” Canadian Neuro-Oncology Meeting, February 2012; Vancouver, BC

Buczkwicz et al. “Aurora kinase B inhibition as a potential therapy in paediatric glioblastoma including diffuse intrinsic pontine glioma” The Canadian Cancer Research Conference, November, 2011; Toronto, ON

Buczkwicz et al. “Aurora kinase B inhibition as a potential therapy in paediatric glioblastoma including diffuse intrinsic pontine glioma” Pediatric Brain Tumor Foundation, May, 2011; New Orleans, LA

Buczkwicz et al. “Comparison of expression profiles of paediatric diffuse intrinsic pontine gliomas to paediatric supratentorial high grade astrocytomas” American Association for Cancer Research, April 2011; Orlando, FL

Buczkwicz et al. “Comparison of copy number and expression profiles of pediatric high and low grade brainstem glioma to paediatric supratentorial high grade astrocytomas” Society for Neuro-Oncology, November 2010; Montreal, QC

Buczkwicz et al. “Genome-wide profiling of pediatric diffuse intrinsic pontine glioma” National Brain Tumor Society, September 2010; San Francisco, CA

Buczkwicz et al. “Genetic comparison of pediatric diffuse intrinsic pontine gliomas to high and low grade astrocytomas” International Symposium on Pediatric Neuro-Oncology, June 2010; Vienna, Austria

Buczkwicz et al. “Paediatric diffuse intrinsic pontine gliomas: Genetic distinction from high and low grade astrocytomas” Canadian Neuro-Oncology Meeting, May 2010; Niagara-on-the-Lake, ON

Buczkwicz et al. “Pediatric diffuse intrinsic pontine gliomas are genetically distinct from high and low grade astrocytomas” American Association for Cancer Research, April 2010; Washington, DC

Buczkwicz et al. “GLI1 and GLI2 have prognostic and therapeutic potential in paediatric medulloblastoma” AACR Genetics and Biology of Brain Cancers, December 2009; San Diego, CA

Buczkwicz et al. “Genetics of pediatric gliomas – uncovering therapeutic targets” Glioma Symposium, September 2009; Toronto, ON

Buczkwicz et al. “GLI1 and GLI2 have prognostic and therapeutic potential in paediatric medulloblastoma” Society for Neuro-Oncology, November 2008; Las Vegas, NV

Buczkwicz et al. “Prognostic and therapeutic potential of sonic hedgehog pathway proteins in paediatric medulloblastoma” Canadian Neuro-Oncology Meeting, May 2008; Banff, AB

Buczkwicz et al. “GLI2 zinc finger protein as a prognostic marker in paediatric medulloblastoma” Society for Neuro-Oncology, November 2007; Dallas, TX

Invited Lectures and Presentations

February 2015	Guest Speaker – 11 th Annual Life Sciences Career Development Society Networking Reception
April 2015	Guest Panelist - Ryerson University Networking Reception
April 2015	Guest Speaker - LMP Graduate Student Conference
November 2015	Guest Panelist - Graduate and Life Sciences Education (GLSE) - Faculty of Medicine, University of Toronto

Honours and Awards

November 2017	Marilynn Booth Award of Excellence
June 2015	Stuart Alan Hoffman Memorial Prize
December 2014	2014 Lap-Chee Tsui Publication Prize Clinical, Health Services, Population Health, or Genetic Ethical, Legal and Social Issues Research category in recognition of Buczkwicz <i>et al.</i> Nature Genetics 2014
November 2014	2014 CIHR Institute of Cancer Research Publication Prize in recognition of Buczkwicz <i>et al.</i> Nature Genetics 2014
September 2014	Award for Presentation 1 st Place Toronto Next Generation Sequencing Symposium
April 2014	Honourable Mention CIHR National Poster Competition at the Canadian Students Research Health Forum
June 2011	Award for Presentation 2 nd Place Laurence E. Becker Symposium 15 th Annual Symposium on Advances in Paediatric Laboratory Medicine
May 2011	School of Graduate Studies Conference Grant
March 2011	Award for Presentation 1 st Place 14 th Annual LMP Research Day

April 2010	University of Toronto: Dutkevich Foundation Award
June 2009	Honourable Mention Lucien J. Rubinstein Award for best paper in neuro-oncology entitled "Genetic analysis of pediatric diffuse intrinsic pontine gliomas by high-resolution single nucleotide polymorphism arrays" American Association of Neuropathologists
November 2008	Ryerson University: Dean's Departmental Academic Achievement Award for 2007/2008
September 2008	University of Toronto: Fellowship Award
June 2007	Award for Presentation 3 rd Place Laurence E. Becker Symposium 11 th Annual Symposium on Advances in Paediatric Laboratory Medicine

Grants and Funding

September 2015	OCE SmartStart Seed Fund Grant entitled "Implementing PhenoTips for use in clinical oncology"
May 2015	University of Toronto Early Stage Technology (UTEST) Program (declined)
April 2012	CIHR Doctoral Award Frederick Banting and Charles Best Canada Graduate Scholarship
December 2010	b.r.a.i.n.child Research Grant entitled "Detailed expression analysis of paediatric brainstem glioma"

Editorial Responsibilities - *Ad hoc* Reviewer

Molecular Cancer Therapeutics | Clinical Cancer Research | Acta Neuropathologica

Professional Societies and Affiliations

The American Society of Human Genetics	January 2017 – present
American Association for Cancer Research Associate Member	January 2009 – December 2015
Pediatric Cancer Working Group	January 2011 – December 2015
Society for Neuro-Oncology	November 2007 – December 2015
Canadian Pediatric Cancer Genome Consortium	February 2011 - April 2014

Appointments and Committees

BTRC Data Access Committee