Robert Lesurf
Postdoctoral Research Associate
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Education and Training

09/02-06/06	B.Sc. (Honours) Biomedical Computing, Queen's University, Kingston, Canada Supervisors: Harriet Feilotter and Parvin Mousavi Thesis: Classification of normal and tumor prostate samples using microarray cross-platform analyses.
09/06-05/09	M.Sc. Computer Science, McGill University, Montreal, Canada Supervisor: Michael Hallett Thesis: Molecular pathway analysis of mouse models for breast cancer.
09/08-05/15	Ph.D. Biochemistry, McGill University, Montreal, Canada Supervisor: Michael Hallett Thesis: Stratified informatics analysis for breast cancer: types, subtypes, and models of the disease. Research included investigating prognostic signatures in breast cancer, mouse models for breast cancer, and identifying features of progression in breast cancer.
09/14-Present	Postdoctoral Research Associate, Washington University in St. Louis, MO, USA Supervisors: Obi Griffith and Elaine Mardis Research topics: Identifying genomic features of response to trastuzumab in HER2-positive breast cancer. Developing a platform for target-capture of the regulatory regions of breast cancer.

Research Interests

Cancer Biology
Precision Medicine
Genomics
Bioinformatics
Statistics
Machine Learning

Positions and Employment

06/02-08/02	Research Assistant, Trent University, Peterborough, Canada Supervisor: Leon Carl Experience: Investigated the effect of damming on watershed ecosystems in northern Ontario. Aquatic species were inventoried by electrofishing.
05/03-08/03	Public Health Assistant, Peterborough County-City Health Unit, Canada Supervisor: Tom Cathcart Experience: West Nile Virus research and public education. Surveillance was carried out for evidence of standing water, mosquito larvae, and bird deaths.
05/04-08/04	Research Assistant, Queen's University, Kingston, Canada Supervisor: Jeanette Holden Experience: Internet technology assistant and database management for autism spectrum disorders research group.

05/05-08/05	Research Assistant, Queen's University, Kingston, Canada Supervisor: Harriet Feilotter Experience: Assisting with experimental design at microarray facility; Fluorescence In Situ Hybridization (FISH) scoring of breast cancer slides.
05/06-08/06	Research Assistant, Queen's University, Kingston, Canada Supervisor: Parvin Mousavi Experience: Using machine learning algorithms to develop predictors of prostate cancer tissues across different microarray platforms.
2014-Present	Postdoctoral Research Associate, Washington University in St. Louis, MO, USA Supervisors: Obi Griffith and Elaine Mardis Experience: Identifying genomic features of response to trastuzumab in HER2-positive breast cancer. Developing a platform for target-capture of the regulatory regions of breast cancer.

Peer-Reviewed Publications

Research Papers

Dourdin N, Schade B, **Lesurf R**, Hallett M, Munn RJ, Cardiff RD, Muller WJ. 2008. Phosphatase and tensin homologue deleted on chromosome 10 deficiency accelerates tumor induction in a mouse model of ErbB-2 mammary tumorigenesis. Cancer Research. 68(7):2122-31. PMID: 18381417.

Schade B, Rao T, Dourdin N, **Lesurf R**, Hallett M, Cardiff RD, Muller WJ. 2009. PTEN deficiency in a luminal ErbB-2 mouse model results in dramatic acceleration of mammary tumorigenesis and metastasis. Journal of Biological Chemistry. 284(28):19018-26. PMID: 19435886.

Ponzo MG*, **Lesurf R***, Petkiewicz S, O'Malley FP, Pinnaduwage D, Andrulis IL, Bull SB, Chughtai N, Zuo D, Souleimanova M, Germain D, Omeroglu A, Cardiff RD, Hallett M, Park M. 2009. Met induces mammary tumors with diverse histologies and is associated with poor outcome and human basal breast cancer. Proceedings of the National Academy of Sciences. 106(31):12903-8. PMID: 19617568. ***Authors contributed equally to the work.**

Knight JF*, **Lesurf R***, Zhao H, Pinnaduwage D, Davis RR, Saleh SM, Zuo D, Naujokas MA, Chughtai N, Herschkowitz JI, Prat A, Mulligan AM, Muller WJ, Cardiff RD, Gregg JP, Andrulis IL, Hallett MT, Park M. 2013. Met synergizes with p53 loss to induce mammary tumors that possess features of claudin-low breast cancer. Proceedings of the National Academy of Sciences. 110(14):E1301-10. PMID: 23509284. ***Authors contributed equally to the work.**

Schade B, **Lesurf R**, Sanguin-Gendreau V, Bui T, Deblois G, O'Toole SA, Millar EKA, Zardawi SJ, Lopez-Knowles E, Sutherland RL, Giguere V, Kahn M, Hallett M, Muller WJ. 2013. β-catenin signaling is a critical event in ErbB2-mediated mammary tumor progression. Cancer Research. 73(14):4474-87. PMID: 23720052.

Wallace JA, Li F, Balakrishnan S, Cantemir-Stone CZ, Pecot T, Martin C, Kladney RD, Sharma SM, Trimboli AJ, Fernandez SA, Yu L, Rosol TJ, Stromberg PC, **Lesurf R**, Hallett M, Park M, Leone G, Ostrowski MC. 2013. Ets2 in tumor fibroblasts promotes angiogenesis in breast cancer. PLoS One. 8(8):e71533. PMID: 23977064.

Vadnais C, Shooshtarizadeh P, Rajadurai CV, **Lesurf R**, Hulea L, Davoudi S, Cadieux C, Hallett M, Park M, Nepveu A. 2014. Autocrine Activation of the Wnt/β-Catenin Pathway by CUX1 and GLIS1 in Breast Cancers. Biology Open. 3(10):937-46. PMID: 25217618.

Tofigh A, Suderman M, Paquet ER, Livingstone J, Bertos N, Saleh SM, Zhao H, Souleimanova M, Cory S, **Lesurf R**, Shahalizadeh S, Garcia Lopez N, Riazalhosseini Y, Omeroglu A, Ursini-Siegel J, Park M, Dumeaux V, Hallett M. 2014. The prognostic ease and difficulty of invasive breast carcinoma. Cell Reports. 9(1):129-42. PMID: 25284793.

Lesurf R, Cotto KC, Wang G, Griffith M, Kasaian K, Jones SJ, Montgomery SB, Griffith OL; Open Regulatory Annotation Consortium. 2016. ORegAnno 3.0: a community-driven resource for curated regulatory annotation. Nucleic Acids Res. 44(D1):D126-32. PMID: 26578589.

Griffith M, Griffith OL, Krysiak K, Skidmore ZL, Christopher MJ, Klco JM, Ramu A, Lamprecht TL, Wagner AH, Campbell KM, **Lesurf R**, Hundal J, Zhang J, Spies NC, Ainscough BJ, Larson DE, Heath SE, Fronick C, O'Laughlin S, Fulton R, Magrini V, McGrath S, Smith SM, Miller CA, Maher CA, Payton JE, Walker JR, Eldred JM, Walter MJ, Link DC, Graubert TA, Westervelt P, Kulkarni S, DiPersio JF, Mardis ER, Wilson RK, Ley TJ. Comprehensive genomic analysis reveals FLT3 activation and a therapeutic strategy for a patient with relapsed adult B lymphoblastic leukemia. Exp Hematol. Article in press. PMID: 27181063.

Skidmore ZL, Wagner AH, **Lesurf R**, Campbell KM, Kunisaki J, Griffith OL, Griffith M. GenVisR: Genomic Visualizations in R. Bioinformatics. Article in press.

Lesurf R, Aure MR, Mørk HH, Vitelli V, OSBREAC, Lundgren S, Børresen-Dale AL, Kristensen V, Wärnberg F, Hallett M, Sørlie T. Molecular features of subtype-specific progression from ductal carcinoma in situ to invasive breast cancer. Cell Reports. Article in press.

Abstracts

Lesurf R, Tofigh A, Shahalizadeh S, Livingstone L, Cory S, Hallett M. Breast Signature Analysis Tool (BreSAT): a framework for investigating the molecular networks of breast cancer. Abstract for poster presentation, RECOMB Computational Cancer Biology 2010. Oslo, Norway, June 2010.

Lesurf R, Tofigh A, Shahalizadeh S, Livingstone J, Cory S, Hallett M. Breast Signature Analysis Tool (BreSAT): a framework for investigating the molecular networks of breast cancer. Oral presentation, Department of Defense Breast Cancer Research Program 6th Era of Hope Conference. Orlando, FL, August 2011.

Lesurf R, Tofigh A, Shahalizadeh S, Livingstone J, Cory S, Hallett M. Breast Signature Analysis Tool (BreSAT): a framework for investigating the molecular networks of breast cancer. Abstract for poster presentation, Department of Defense Breast Cancer Research Program 6th Era of Hope Conference. Orlando, FL, August 2011.

Lesurf R, Mørk HH, Aure MR, Gribbestad I, Wärnberg F, Børresen-Dale A-L, Kristensen V, Hallett M, Sørlie T. Integrated molecular profiles identify mechanisms of subtype-specific progression from ductal carcinoma in situ to early invasive breast cancer. Abstract for poster presentation, Personalized Cancer Care Symposium. Oslo, Norway, September 2012.

Lesurf R, Griffith O, Griffith M, Watson MA, Hoog J, Ellis M, Ota D, Suman VJ, Meric-Bernstam F, Leitch AM, Boughey JC, Unzeitig G, Buzdar AU, Hunt KK, Mardis ER. The genomics of response to neoadjuvant trastuzumab and chemotherapy in HER2-positive breast cancer – results from the ACOSOG Z1041 (Alliance) trial. San Antonio Breast Cancer Symposium, San Antonio, TX, December 2015.

Lesurf R, Campbell KM, Fulton RS, Griffith M, Mardis ER, Griffith OL. Identification of regulatory biomarkers in breast cancer. Advances in Genome Biology and Technology (AGBT), Orlando, FL, February 2016.

Lesurf R, Griffith O, Griffith M, Trani L, Watson MA, Ellis M, Ota D, Suman VJ, Meric-Bernstam F, Leitch AM, Boughey JC, Unzeitig G, Buzdar AU, Hunt KK, Mardis ER. The genomics of response to neoadjuvant trastuzumab and chemotherapy in HER2-positive breast cancer – results from the ACOSOG Z1041 (Alliance) trial. Personalized Cancer Care Symposium, Oslo, Norway, May 2016.

Academic and Professional Honors

06/02	Declared National Biology Scholar, University of Toronto, Toronto, Canada
09/02	Excellence in Science Award, Trent University, Peterborough, Canada
09/02	Governor General Medal, Adam Scott High School, Peterborough, Canada
09/02	Entrance Honours with Merit, Queen's University, Kingston, Canada
07/03	Placed on Dean's Honour List, Queen's University, Kingston, Canada
07/04	Placed on Dean's Honour List, Queen's University, Kingston, Canada
07/05	Placed on Dean's Honour List, Queen's University, Kingston, Canada
07/06	Placed on Dean's Honour List, Queen's University, Kingston, Canada

Awards and Scholarships

09/06-08/08	Agency: Natural Sciences and Engineering Research Council of Canada (NSERC) Program: Postgraduate Scholarship (Master's) Title: Intelligent Bioinformatics Management Systems Total Value: $34,600
09/06-08/08	Agency: McGill University, School of Computer Science Program: Bioinformatics Title: André Courtemanche Fellowship in Bioinformatics Total Value: $12,500
04/08	Agency: German Academic Exchange Service (DAAD) Program: DAAD Research Grant Title: Identifying the underlying mechanisms of breast cancer through molecular signature integration Total Value: $2,835
10/08	Agency: Mathematics of Information Technology and Complex Systems (MITACS) Program: MITACS Travel Grant Title: Systems Biology and the New Frontiers of Food Biotechnology Total Value: $1,000
06/12	Agency: Canadian Institutes of Health Research (CIHR) Program: Canadian Student Health Research Forum (CSHRF) Title: Breast Signature Analysis Tool (BreSAT): a framework for investigating the molecular networks of breast cancer Total Value: $1,000 (Declined)
04/12-06/12	Agency: McGill University, Faculty of Medicine Program: Graduate Student International Travel Fund Title: The molecular networks of breast cancer progression from DCIS to IDC Total Value: $3,000
05/10-04/13	Agency: US Department of Defense Program: Breast Cancer Research Program 2009

Title: Uncovering the hidden molecular signatures of breast cancer
Total Value: $95,470