

Kieran O'Neill

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Current Position

Postdoctoral Fellow (Jones Lab, Michael Smith Genome Sciences Centre, Vancouver, Canada)

Education

2014 Ph.D. (Bioinformatics) University of British Columbia, Vancouver, Canada

- Thesis: Automated analysis of single cell leukemia data
- Supervisor: Dr Ryan Brinkman
- Research undertaken at the BC Cancer Agency

2008 M.Sc. (Computer Science) University of KwaZulu-Natal, Pietermaritzburg, South Africa

- Dissertation: Relieving the Cognitive Load of Constructing Molecular Biological Ontology Based Queries by means of Visual Aids
- Research undertaken at National Bioinformatics Institute, Cape Town
- Internship at European Bioinformatics Institute, Hinxton, UK

2004 B.Sc.(Hons), University of KwaZulu-Natal, Pietermaritzburg, South Africa

- Dissertation: Creation of an Extensible Environment for the Investigation of Genetic Algorithmic Solutions to 3D Cubic Lattice Protein Folding
- *Cum Laude*
- Dean's commendations for 7/10 semesters attended.
- Certificates of Merit (top in class) 14/43 modules completed.

Awards

2017 Postdoctoral Fellowship, Canadian Institutes of Health Research

2015 Postdoctoral Fellowship, Michael Smith Foundation for Health Research
Poster Prize, *ISMB 2015*
2012 Student Travel Award, *CYTO 2012*
2005 Prestigious Masters Award, *National Research Foundation* (South Africa)
2004 Special Honours Award, *National Research Foundation* (South Africa)

First Author Publications

Research Articles

2017 K O'Neill, M Hills, M Gottlieb, M Borkowski, A Karsan and P Lansdorp: *Assembling draft genomes using contiBAIT*, Bioinformatics
2015 **K O'Neill**, N Aghaeepour, J Parker, D Hogge, A Karsan, B Dalal R Brinkman: *Deep profiling of multitube flow cytometry data*, Bioinformatics
2014 **K O'Neill**, A Jalali, N Aghaeepour, H Hoos, R Brinkman: *Enhanced flow-Type/RchyOptimyx: a Bioconductor pipeline for discovery in high-dimensional cytometry data*, Bioinformatics
2008 **K O'Neill**, A Garcia, A Schwegmann, R Jimenez, D Jacobson and H Hermjakob: *OntoDas - a tool for facilitating the construction of complex queries to the Gene Ontology*, BMC Bioinformatics

Commentary/Reviews

2017 **K O'Neill**, V Rai and A Kilpatrick: *The International Society for Computational Biology and WikiProject Computational Biology: celebrating 10 years of collaboration towards open access*, Bioinformatics
2016 **K O'Neill** and R Brinkman: *Publishing code is essential for reproducible flow cytometry bioinformatics*, Cytometry A
2013 **K O'Neill**, N Aghaeepour, J Špidlen, R Brinkman: *Flow Cytometry Bioinformatics*, PLoS Computational Biology

Co-authored Publications

2018 T Hui, Q Cao, J Wegrzyn-Woltosz, **K O'Neill**, C Hammond, D Knapp, E Laks, M Moks, S Aparicio, C Eaves, A Karsan, M Hirst: *High-Resolution Single-Cell DNA Methylation Measurements Reveal Epigenetically Distinct Hematopoietic Stem Cell Subpopulations*

2016 K Krowiorz, J Ruschmann, C Lai, M Ngom, T Maetzig, V Martins, A Scheffold, E Schneider, N Pochert, C Miller, L Palmqvist, A Staffas, M Mulaw, S R Bohl, C Buske, M Heuser, J Kraus, **K O'Neill**, C L Hansen, O I Petriv, H Kestler, H Döhner, L Bullinger, K Döhner, R K Humphries, A Rouhi and F Kuchenbauer: *MiR-139-5p is a potent tumor suppressor in adult acute myeloid leukemia*, Blood Cancer Journal

2013 N Aghaeepour, G Finak, **The FlowCAP Consortium**, The DREAM Consortium, H Hoos, T Mosmann, R Brinkman, R Gottardo and R Scheuermann: *Critical assessment of automated flow cytometry data analysis techniques*, Nature Methods

M Hills, **K O'Neill**, E Falconer, R Brinkman and P Lansdorp: *BAIT: Organizing genomes and mapping rearrangements in single cells*, Genome Medicine

2012 N Aghaeepour, A Jalali, **K O'Neill**, P Chattopadhyay, M Roederer, H Hoos, R Brinkman *RchyOptimyx: Cellular hierarchy optimization for flow cytometry*, Cytometry A

N Aghaeepour, P Chattopadhyay, A Ganesan, **K O'Neill**, H Zare, A Jalali, H Hoos, M Roederer, R Brinkman: *Early immunologic correlates of HIV protection can be identified from computational analysis of complex multivariate T-cell flow cytometry assays*, Bioinformatics

2010 A Garcia, **K O'Neill**, L Garcia, P Lord, R Stevens, O Corcho, F Gibson *Developing Ontologies within Decentralised Settings*, Semantic e-Science

2008 R Jimenez, A Quinn, A Garcia, A Labarga, **K O'Neill**, F Martinez, G Salazar, H Hermjakob: *Dasty2, an Ajax protein DAS client*, Bioinformatics

Scientific Software

2017 Screw (in development)

2016 ContiBAIT

2013 flowBin

BAIT

2011 flowType

2008 OntoDAS

Mentorship

2014 Eva Yap (Masters Student, completed 2017)

2009 Six undergraduate/co-op students during PhD and post-doc (ongoing)

Work Experience

2010 **Scientific Technical Advisor**, *Twentieth Century Fox*, Vancouver, Canada

- Advised on the set of Rise of the Planet of the Apes

2008 **Python Web Developer**, *ReportLab*, London, UK

2001 **Gap Year**, *Various Positions*, London, UK