#### **Curriculum Vitae**

##### Sam Brilleman

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Contact

Postal: School of Public Health and Preventive Medicine,

Monash University,

553 St Kilda Road, Melbourne,

Victoria 3004, Australia

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Education

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| 2015 – current | Monash University, Australia PhD  Thesis title: Joint longitudinal and time-to-event models for applications in health research  Supervisors: Professor Rory Wolfe (primary), Dr Michael Crowther, Dr Margarita Moreno-Betancur |
| 2013 – 2014 | University of Leicester, UK MSc in Medical Statistics  Grade: Distinction  Dissertation title: Development and application of joint longitudinal and time-to-event models to estimate effects of multiple clinical markers on the durability of tenofovir disoproxil fumarate for treating HIV patients  Dissertation supervisors: Professor Keith Abrams, Dr Michael Crowther |
| 2003 – 2006 | University of Otago, NZ BSc(Hons), major in Statistics  Grade: First class honours  Dissertation title: Limitations of human running performance  Dissertation supervisor: Professor Richard Barker |
| 1997 – 2002 | Hutt International Boys’ School, Wellington, NZ  Bursary subjects: Accounting (A), Physics (B), Calculus (A), Statistics (A) |

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Scholarships, fellowships and awards

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| Jan 2018 | StanCon 2018 Scholarship |
| Jul 2017 | International Society for Clinical Biostatistics (ISCB) 2017 Student Conference Award (StCA) |
| Jul 2017 | School of Public Health and Preventive Medicine Travel Grant, Monash University, Australia |
| Feb 2015 – Feb 2018 | NHMRC Postgraduate Scholarship, Monash University, Australia |
| Feb 2015 – Feb 2017 | Victorian Centre for Biostatistics (ViCBiostat) top-up scholarship |
| Feb 2015 – Feb 2016 | Faculty Postgraduate Excellence Award (Faculty of Medicine, Nursing and Health Sciences), Monash University, Australia |
| Dec 2014 | Royal Statistical Society Prize, University of Leicester, UK  Awarded for overall performance on the MSc in Medical Statistics |
| Feb 2013 – Feb 2015 | National Institute for Health Research Predoctoral Research Methods Fellowship, University of Bristol, UK |
| Dec 2006 | Statistics New Zealand Prize |
| Apr 2006 | Beverly Bursary in Mathematics and Statistics, University of Otago, NZ  Awarded to the top honours year graduate with a major in statistics |

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Employment

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| May 2015 - current | Consultant Statistician  School of Public Health and Preventive Medicine, Monash University, Australia  Responsible for providing consultative statistical support to doctoral students within the Faculty of Medicine, Nursing and Health Sciences as well as external researchers at the Baker IDI Heart and Diabetes Institute, Melbourne, Australia.  Part-time (0.15FTE) |
| Feb 2013 – Feb 2015 | NIHR Predoctoral Research Methods Fellow School of Social and Community Medicine, University of Bristol, UK  2-year training fellowship in statistical methods funded by the National Institute for Health Research (NIHR), UK  Projects included: a systematic review of methods used for dealing with non-adherence in the economic evaluation of RCTs; joint modelling of viral load and time-to-cessation of baseline drug regimens in HIV patients undergoing antiretroviral therapy; the use of Bayesian random change point models for estimating childhood height trajectories. |
| Apr 2012 – Aug 2012 | Research Statistician Research Centre for Gender, Health and Ageing (RCGHA), University of Newcastle, Australia  Project looking at patterns of opioid use in Australian women and associated health outcomes  Analysing linked data (administrative and survey datasets), use of SAS |
| Feb 2010 – Dec 2011 | Research Associate (Statistics)Academic Unit of Primary Care (within the School of Social and Community Medicine), University of Bristol, UK  Project looking at the relationship between multimorbidity (the presence of multiple chronic conditions in a single individual) and primary care resource use in the UK  Advanced models for cost data, managing large datasets, extensive use of Stata |
| May 2008 – Jul 2009 | Research BiostatisticianWomens Health Australia, School of Population Health, University of Queensland, Australia  Working on the Australian Longitudinal Study on Womens Health (ALSWH) ([www.alswh.org.au](http://www.alswh.org.au))  Responsible for the statistical analysis of observational data collected on approximately 30,000 Australian women as part of an ongoing longitudinal study spanning a period of at least 20 years  Projects included: examining the reliability of participant reporting of life events in cohort studies; assessing the impact different forms of attrition may have on the generalisability of results from cohort studies of older people.  Extensive use of SAS |
| Feb 2007 – Nov 2007 | Statistics Tutor Department of Mathematics and Statistics, University of Melbourne, Australia (Semesters 1 & 2) Department of Mathematics and Statistics, Monash University, Australia (Semester 1 only)  Responsible for teaching statistics modules to undergraduate students enrolled on a number of courses rangingfrom environmental sciences, health sciences and psychology  Also included tutoring at a number of University of Melbourne colleges including University College, St Marys/Newman College and International House |

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Casual employment or contract-based work

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| 2017 | Demonstrator, School of Population and Global Health, University of Melbourne, Melbourne, Australia |
| 2016-2017 | Consultant Statistician, Software Development in Stan and R Generable Inc. (formerly Stan Group Inc.), New York, US |
| 2007 | Consultant Statistician/Analyst Arthur Rylah Research Institute, Melbourne, Australia |
| 2007 | Consultant Statistician/Analyst Strategic Data Pty Ltd., Melbourne, Australia |

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Teaching (tutor or demonstrator)

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| **Year** | **Location** | **Course(s)** | **Role** |
| 2018 | PAWS/PAGANZ 2018, Melbourne, Australia | Introduction to Stan (1 day workshop) | Co-facilitator |
| 2017 | School of Population and Global Health, University of Melbourne, Australia | Masters of Public Health, Survival Analysis | Demonstrator |
| 2016 | Murdoch Children’s Research Institute, Royal Children’s Hospital, Melbourne, Australia | Victorian Centre for Biostatistics (ViCBiostat) Winter School 2017: Survival Analysis | Demonstrator |
| 2016 | School of Population and Global Health, University of Melbourne, Australia | Victorian Centre for Biostatistics (ViCBiostat) Summer School 2016: Longitudinal and Correlated Data | Demonstrator |
| 2015- 2016 | School of Public Health and Preventive Medicine, Monash University, Australia | ‘Introduction to Stata’ short course | Demonstrator |
| 2013-2014 | School of Social and Community Medicine, University of Bristol, UK | ‘Introduction to Stata’, ‘Advanced Stata’, ‘Rates and Survival Analysis’ and ‘Linear and Logistic Regression Models’ short courses | Demonstrator |
| 2012 | School of Computing, Engineering and Mathematics, University of Brighton, UK | Various undergraduate statistics courses | Tutor |
| 2011 | School of Social and Community Medicine, University of Bristol, UK | ‘Rates and Survival Analysis’ short course | Demonstrator |
| 2009 | School of Population Health, University of Queensland, Australia | Various postgraduate courses in biostatistics | Relief tutor |
| 2007 | Department of Mathematics and Statistics, University of Melbourne, Australia | Various undergraduate statistics courses | Tutor |
| 2007 | Halls of Residence at the University of Melbourne (University College, St Marys/Newman College, International House) | Various undergraduate statistics courses | Tutor |
| 2007 | Department of Mathematics and Statistics, Monash University, Australia | Various undergraduate statistics courses | Tutor |
| 2006 | Department of Mathematics and Statistics, University of Otago, NZ | Undergraduate statistics courses | Demonstrator |

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Teaching (lecturer)

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| **Year** | **Location** | **Course(s)** | **Role** |
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Professional memberships

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| **Year** | **Organisation** | **Membership type** |
| 2015 - current | Statistical Society of Australia | Student member |
| 2015 - current | Royal Statistical Society | Graduate Statistician |
| 2014 | Royal Statistical Society | Student member |

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Publications (journal articles)

Moreno-Betancur M, Carlin J, **Brilleman SL**, Tanamas S, Peeters A, Wolfe R. Survival analysis with time-dependent covariates subject to missing data or measurement error: Multiple Imputation for Joint Modeling (MIJM). *Biostatistics.* 2017 (Epub ahead of print)

Karim Md N, Reid CM, Huq M, **Brilleman SL**, Cochrane A, Tran L, Billah B. Predicting long-term survival after coronary artery bypass graft surgery. *Interactive CardioVascular and Thoracic Surgery*. 2017 (Epub ahead of print)

**Brilleman SL**, Howe LD, Wolfe R, Tilling K. Bayesian piecewise linear mixed models with a random change point: an application to BMI rebound in childhood. *Epidemiology*. 2017;28(6):827-833.

Chimeddamba O, Gearon E, **Brilleman SL**, Tumenjargal E, Peeters A. Increases in waist circumference independent of weight in Mongolia over the last decade: the Mongolian STEPS surveys. *BMC Obesity*. 2017;4:19.

**Brilleman SL**,Wolfe R, Moreno-Betancur M, Sales AE, Langa KM, Li Y, Daugherty Biddison EL, Rubinson L, Iwashyna TJ. Associations between community-level disaster exposure and individual-level changes in disability and risk of death for older Americans. *Social Science & Medicine*. 2017;173:118-125.

**Brilleman SL**, Crowther MJ, May M, Gompels M, Abrams K. Joint longitudinal hurdle and time-to-event models: an application related to viral load and duration of the first treatment regimen in HIV patients initiating therapy. *Statistics in Medicine*. 2016;35(20):3583-3594.

**Brilleman SL**, Metcalfe C, Peters TJ, Hollingworth W. The reporting of treatment non-adherence and its associated impact on economic evaluations conducted alongside randomised trials: a systematic review. *Value in Health*. 2016;19(1):99-108.

McClean S, **Brilleman S**, Wye L. What is the perceived impact of Alexander technique lessons on health status, costs and pain management in the real life setting of an English hospital? The results of a mixed methods evaluation of an Alexander technique service for those with chronic back pain. *BMC Health Services Research*. 2015;15:293.

**Brilleman SL**, Gravelle H, Hollinghurst S, Purdy S, Salisbury C, Windmeijer F. Keep it simple? Predicting primary health care costs with measures of morbidity and multimorbidity. *Journal of Health Economics*. 2014;35:109-122.

**Brilleman SL**, Purdy S, Salisbury C, Windmeijer F, **Gravelle H**, Hollinghurst S. Implications of comorbidity for UK primary care costs: a retrospective observational study. *The British Journal of General Practice.* 2013;63:274-282.

**Brilleman SL**, Salisbury C. Comparing measures of multimorbidity to predict outcomes in primary care: a cross sectional study. *Family Practice.* 2013;30(2):172-178.

**Brilleman SL**, Pachana NA, Dobson, AJ. The impact of attrition on the representativeness of cohort studies of older people. BMC Medical Research Methodology. 2010;10:71-79.

Pachana NA, **Brilleman SL**, Dobson AJ. Reporting of life events over time: Methodological issues in a longitudinal sample of women. *Psychological Assessment*. 2010;23(1):277-281.

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Publications (other)

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Conference presentations (oral)

**Brilleman SL**, Crowther MJ, Moreno-Betancur M, Buros Novik J & Wolfe R. Joint longitudinal and time-to-event models via Stan. *StanCon 2018.* 10-12 Jan 2018. Pacific Grove, CA, USA.

**Brilleman SL**, Crowther MJ, Moreno-Betancur M, Lo S & Wolfe R. Bayesian joint models for multiple longitudinal biomarkers and a time-to-event outcome: software development and a melanoma case study. *38th Annual Conference of the International Society for Clinical Biostatistics.* 9-13 July 2017. Vigo, Spain.

**Brilleman SL**, Crowther MJ, Moreno-Betancur M & Wolfe R. Bayesian joint models for multiple longitudinal biomarkers and time-to-event data: methods and software development. *Australian Statistical Conference 2016*. 5-9 Dec 2017. Canberra, Australia.

**Brilleman SL**, Iwashyna TJ, Moreno-Betancur M & Wolfe R. Joint longitudinal and survival models for investigating the association between natural disasters and disability whilst accounting for non-random dropout due to death. *Conference of the International Biometric Society: Australasian Region.* 29 Nov – 3 Dec 2015. Hobart, Australia.

**Brilleman SL**, Hollinghurst S, Windmeijer F, Purdy S, Salisbury C & Gravelle H. Multimorbidity indices improve the prediction of consultation costs in primary care in the UK. *Proceedings of the 40th Society for Academic Primary Care Annual Scientific Meeting.* 6-8 July 2011. Bristol, UK. Abstract A52.

**Brilleman SL**, Hollinghurst S, Windmeijer F, Purdy S, Salisbury C & Gravelle H. Multimorbidity and general practice costs. *Health Economists’ Study Group Summer Conference.* 29 June-1 July 2011. Bangor, Wales.

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Conference presentations (posters)

**Brilleman SL**, Moreno-Betancur M & Wolfe R. stanJM: An R package for the Bayesian estimation of joint longitudinal and time-to-event models using Stan. *Joint Modeling and Beyond.* 14-15 April 2016. Hasselt, Belgium.

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Software (maintainer)

**Brilleman SL**. (2018) simjm: Simulate joint longitudinal and survival data. R package version 0.0.0. <https://github.com/sambrilleman/simjm>

**Brilleman SL**. (2017) simsurv: Simulate survival data. R package version 0.1.0. <https://CRAN.R-project.org/package=simsurv>

**Brilleman SL**. (2011) DEVR2: Stata module to compute Cameron and Windmeijer’s deviance based R-squared measure. <https://ideas.repec.org/c/boc/bocode/s457340.html>

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Software (contributor)

**Stan Development Team**. (2018) RStanArm: Bayesian applied regression modeling via Stan. R package version 2.17.2. <http://mc-stan.org>

(S*ee also*: **Brilleman SL**, Crowther MJ, Moreno-Betancur M, Buros Novik J & Wolfe R. Joint longitudinal and time-to-event models via Stan. In: *Proceedings of StanCon 2018*. 10-12 Jan 2018. Pacific Grove, CA, USA. <https://github.com/stan-dev/stancon_talks>)

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Reviewer

I have reviewed articles for the following journals:Statistics in Medicine, Biometrical Journal

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Supervision

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| **Year** | **Location** | **Student** | **Details** | **Supervisory role** |
| 2013 | School of Social and Community Medicine, University of Bristol, UK | Rebecca Molyneux | 2-week National Institute for Health Research (NIHR) funded internship | Co-supervisor |

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Course attendance (academic)

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| **Year** | **Location** | **Course(s)** | **Duration** |
| 2017 | School of Population and Global Health, University of Melbourne, Australia | Victorian Centre for Biostatistics (ViCBiostat) Workshop: Propensity score methods (Professor Liz Stuart) | 1 day |
| 2016 | School of Mathematics and Statistics, University of Sydney, Australia (in conjunction with the Statistical Society of Australia) | Variational Approximations in Statistics (Professor Matt Wand) | 1 day |
| 2016 | School of Population and Global Health, University of Melbourne, Australia | Victorian Centre for Biostatistics (ViCBiostat) Summer School 2016: Multiple Imputation for missing data | 1 day |
| 2016 | School of Population and Global Health, University of Melbourne, Australia | Victorian Centre for Biostatistics (ViCBiostat) Summer School 2016: Survival Analysis: competing risks and time-dependent covariates | 1 day |
| 2016 | School of Public Health, University of Adelaide, Australia | Victorian Centre for Biostatistics (ViCBiostat) Summer School 2016: Causal Inference: concepts and methods | 2 days |
| 2015 | School of Public Health and Preventive Medicine, Monash University, Australia | Causal Inference and Mediation Analysis (Dr Richard Emsley) | 1 day |
| 2015 | School of Public Health and Preventive Medicine, Monash University, Australia | Ethics and Good Research Practice | Half-day |
| 2014 | School of Social and Community Medicine, University of Bristol, UK | Introduction to Statistical Methods for Lifecourse Epidemiology | 1 day |
| 2010 | School of Social and Community Medicine, University of Bristol, UK | Advanced Stata | 3 days |
| 2010 | Centre for Health Economics, University of York, UK | Methods for the analysis of panel data in health and health care | 3 days |
| 2010 | School of Social and Community Medicine, University of Bristol, UK | Introduction to Stata | 2 days |

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Course attendance (professional development)

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Other achievements or awards

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| **Year** | **Details** |
| 2016 | Peer-reviewed article “The reporting of treatment non-adherence and its associated impact on economic evaluations conducted alongside randomised trials: a systematic review” selected as an issue highlight in the January/February 2016 issue of *Value in Health* as well as a write-up in ISPOR’s *Value & Outcomes Spotlight* publication. |

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Referees

Available on request.