Harlan Campbell

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Education

Sept, 2015 - June, 2019	**University of British Columbia**, PhD - *Statistics* Supervisor: Prof Paul Gustafson, link Marshall Prize winner, link Awarded for "excellence in the discipline of statistics as demonstrated by strength in the development and application of statistical methodology."
Sept, 2009 - Dec, 2011	**Simon Fraser University**, Master of Science - *Statistics* Supervisor: Prof Charmaine Dean, link
Sept, 2004 - Dec, 2008	**McGill University**, Bachelor of Science - *Mathematics* Minor concentration in Music

Professional experience

July, 2019 -	**Postdoctoral Research Fellow** – University of British Columbia Developed innovative theoretical and applied statistical methods with local, national and international collaborators, and funding from: - The ReCoDID project supported by the European Commission and the Canadian Institutes of Health Research, link - The ZIKV IPD Consortium supported by the World Health Organization, link
Aug, 2020 -	**Research Consultant** – Precision HEOR Provided expertise for evidence synthesis research to support the development of novel healthcare innovations, link.

July, 2012 - Dec, 2017	**Statistician** – EMMES Canada CRO
	Provided statistical services as a partner to clinicians/scientists for studies including:
	- mTBI Mechanisms of Action of HBO2 for Persistent Post-Concussive Symptoms (BIMA), link
	  Sponsor: U.S. Army Medical Research and Materiel Command
	- The Age-Related Eye Disease Study 2 (AREDS2), link
	  Sponsor: National Eye Institute
	- Evaluation of the Healthy Schools BC Program, link
	  Sponsor: BC Centre for Disease Control

| Sept - Dec, 2011 | **Data Science Intern** – Cardiome Pharma |
| | Developed tools for longitudinal data visualization and analysis. |

Teaching

| July, 2021 | **Guest Lecturer** – UBC Faculty of Pharmaceutical Sciences |
| | Discussed challenges in COVID-19 systematic reviews for PHRM302 |

| Jan - May, 2018 | **Instructor** – UBC Dept of Statistics |
| | Lectured and administered STAT306 for 145 students, link |

| Sept, 2015 - May, 2016 | **Teaching Assistant** – UBC Dept of Statistics |

| Sept, 2009 - Dec, 2010 | **Teaching Assistant** – SFU Dept of Statistics and Actuarial Science |

Research
Statistics Publications (16 first author; 3 single author)

2023 Equivalence testing for linear regression, H Campbell, accepted for publication in *Psychology Methods*, link

2023 A fully Bayesian approach to estimating SARS-CoV-2 cumulative incidence and infection fatality rates from serosurveys, J Slater, A Bansal, H Campbell, P Gustafson, P Brown and J Rosenthal, accepted for publication in *Biostatistics*, link

2022 The Bayes factor, HDI-ROPE and frequentist equivalence tests can all be reverse engineered -almost exactly- from one another: Reply to Linde et al. (2021), H Campbell and P Gustafson, in press at *Psychology Methods*, link

2022 Bayes factors and posterior estimation: Two sides of the very same coin, H Campbell and P Gustafson, *The American Statistician*, link

2022 Bayesian adjustment for preferential testing in estimating infection fatality rates: Theory and methods as motivated by the COVID-19 pandemic, H Campbell, P de Valpine, L Maxwell, V de Jong, T Debray, T Jaenisch and P Gustafson, *The Annals of Applied Statistics*, link

2022 A few things to consider when deciding whether or not to conduct underpowered research (letter to the editor), H Campbell, V de Jong, T Debray and P Gustafson, *Journal of Clinical Epidemiology*, link

2022 Adjusting for misclassification of a predictor in an individual participant data meta-analysis, V de Jong, H Campbell, L Maxwell, T Jaenisch, P Gustafson and T Debray, *Research Synthesis Methods*, link

2022 Limitations introduced by a low participation rate of SARS-CoV-2 seroprevalence data, O Pluss, H Campbell, L Pezzi, I Morales, Y Roell, T Quandelacy, M Lamb, M Chu, T Baernighausen and T Jaenisch, *The International Journal of Epidemiology*, link

2022 A comparison of alternative network meta-analysis methods in the presence of non-proportional hazards: A case study in first-line advanced or metastatic renal cell carcinoma,
S Cope, K Chan, H Campbell, J Chen, J Borrill, J May, W Malcolm, S Branchoux, K Kupas and JP Jansen, *Value in Health*, link

2022 Systematic review reveals lack of causal methodology applied to pooled longitudinal observational infectious disease studies,
H Hufstedler, S Rahman, A Danzer, H Goymann, V de Jong, H Campbell, P Gustafson, T Debray, T Jaenisch, L Maxwell, EC Matthay and T Bärnighausen, *Journal of Clinical Epidemiology*, link

2021 The consequences of checking for overdispersion and zero-inflation,
H Campbell, *Methods in Ecology and Evolution*, link

2021 Inferring the COVID-19 IFR with a simple Bayesian evidence synthesis of seroprevalence study data and imprecise mortality data,
H Campbell and P Gustafson, *Epidemiology and Infection*, link

2021 What to make of equivalence testing with a post-specified margin?,
H Campbell and P Gustafson, *Meta-Psychology*, link

2021 Measurement error in individual participant data meta-analysis – A Bayesian framework for continuous outcome data,
H Campbell, V de Jong, T Jaenisch, T Debray and P Gustafson, *Research Synthesis Methods*, link

2021 Current trends in the application of causal inference methods to pooled longitudinal observational infectious disease studies – A protocol for a methodological systematic review,
H Hufstedler, E Matthay, S Rahman, V de Jong, H Campbell, P Gustafson, T Debray, T Jaenisch, L Maxwell and T Bärnighausen, *PLoS ONE*, link

2021 Current trends in the application of causal inference methods to pooled longitudinal non-randomised data: A protocol for a methodological systematic review,
E Yeboah, NS Mauer, H Hufstedler, S Carr, E Matthay, L Maxwell, S Rahman, T Debray, V de Jong, H Campbell, P Gustafson, T Jaenisch and T Bärnighausen, *BMJ Open*, link

2020 Can we disregard the whole model? Omnibus non-inferiority testing for R^2 in multivariable linear regression and $\hat{\eta}^2$ in ANOVA,
H Campbell and D Lakens, *The British Journal of Mathematical and Statistical Psychology*, link

2019 Is it even rainier in *North* Vancouver? A non-parametric rank-based test for semicontinuous longitudinal data,
H Campbell, *Journal of Applied Statistics*, link

2019 The world of research has gone berserk: Modeling the consequences of requiring "greater statistical stringency" for scientific publication,
H Campbell and P Gustafson, *The American Statistician*, link

2018 Conditional equivalence testing: An alternative remedy to publication bias,
H Campbell and P Gustafson, *PLoS ONE*, link

2018 The validity and efficiency of hypothesis testing in observational studies with time-varying exposures,
H Campbell and P Gustafson, *Observational Studies*, link

2017 Twin data that made a big difference, and that deserve to be better-known and used in teaching,
H Campbell and JA Hanley, *Journal of Statistical Education*, link

2014 The consequences of proportional-hazards based model selection,
H Campbell and CB Dean, *Statistics in Medicine*, link

2012 Model-based clustering of longitudinal data: Application to modeling disease course and gene expression trajectories,
A Ciampi, H Campbell, A Dyachenko, B Rich, J McCusker and MG Cole, *Communications in Statistics-Simulation and Computation*, link

Applied Publications

2020 The Zika Virus Individual Participant Data Consortium: a global initiative to estimate the effects of fetal exposure to Zika virus on adverse fetal, infant, and child health outcomes,
The Zika Virus Individual Participant Data Consortium, *Tropical Medicine and Infectious Disease*, link

2018 Comparison of hemoglobin A1c results based on at-home and in-lab dried blood spot sampling to routine venous blood sampling in-lab in adult patients with type 1 or type 2 diabetes,
T Elliott, K Dooley, M Zhang, H Campbell and D Thompson, *Canadian Journal of Diabetes*, link

2016 Sleep assessments for a mild traumatic brain injury trial in a military population,
J Walker, N James, H Campbell, S Wilson, S Churchill and L Weaver, *Undersea and Hyperbaric Medicine Journal*, link

2015 Comparison of reducing epicardial fat by exercise, diet or bariatric surgery weight loss strategies: A systematic review and meta-analysis,
S Rabkin and H Campbell, *Obesity Reviews*, link

2014 Impact on diabetes care of access to an online patient portal,
M Lau, H Campbell, T Tang, DJS Thompson and T Elliott, *Canadian Journal of Diabetes*, link

2013 Modelling factors that affect the presence of larval mosquitoes (diptera: culicidae) in stormwater drainage systems to improve the efficacy of control programmes,
M Jackson, J Gow, M Evelyn, T McMahon, H Campbell, J Sheppard, TJ Howay, D Fladmark and A Thielman, *The Canadian Entomologist*, link

2012 An evaluation of the effectiveness of a commercial mechanical trap to reduce abundance of adult nuisance mosquito populations,
MJ Jackson, JL Gow, MJ Evelyn, TJS McMahon, TJ Howay, H Campbell, J Blancard, and A Thielman, *Journal of the American Mosquito Control Association*, link

Preprints

Defining a credible interval is not always possible with "point-null" priors: A lesser-known consequence of the Jeffreys-Lindley paradox, H Campbell and P Gustafson, submitted to *Bayesian Analysis*, link

Estimating marginal treatment effects from single studies and indirect treatment comparisons: When are standardization-based methods preferable to those based on inverse probability of treatment weighting?, H Campbell, JE Park, JP Jansen and S Cope, submitted to *Research Synthesis Methods*, link

Invited Talks

Determining the lethality of COVID19
- ISI World Statistics Congress, Ottawa, ON, Jul 19, 2023
- School of Population and Global Health, McGill University, Feb 23, 2023
- The Therapeutics Initiative, University of British Columbia, Jan 27, 2021

Apples and oranges in the context of anchored indirect treatment comparisons – Is there more to it than effect modifiers?
- Spotlight session at ISPOR 2023, Boston, MA, May 10, 2023

Bayes Factors and Posterior Estimation: Two Sides of the Very Same Coin
- Aki Vehtari research group, Aalto University, Aug 25, 2022

Bayesian adjustment for preferential testing in estimating infection fatality rates
- Dept of Statistics, University of British Columbia, Sept 29 2020

If journals embraced conditional equivalence testing, would research be better?
- METRICS, Stanford University, Oct 18, 2019
- The Therapeutics Initiative, University of British Columbia, June 26, 2019
- Dept of Statistics and Actuarial Science, University of Waterloo, Jan 30, 2019
- Mathematics Dept, Reed College, Feb 26, 2019
- Dept of Mathematics and Statistics, University of Ottawa, Apr 17, 2019
- The Annual Meeting of the Statistical Society of Canada, Montreal, June 5, 2018.

Skills & Service

Communication and Technology:

- Fully bilingual in french and english.

- Programming proficiency in R (JAGS, stan, shiny), SAS, and Matlab.

- Cloud computing experience with Compute Canada clusters.

- Data management experience with electronic data capture software (AdvantageEDC).

Leadership:

- Advisor on COVID-19 modelling strategies for the Joint Biosecurity Centre (UK Health Security Agency).

- Review member for the 2022 Mitacs Accelerate research proposals.

- Evaluation committee for the 2021 Statistical Society of Canada's Biostatistics competition.

- Organizer of the 2017 and 2018 Constance van Eeden seminars.

Peer Review:

Reviewer for the journals:

- The BMJ
- Methods in Ecology and Evolution
- Nature Human Behaviour
- Royal Society Open Science (4)
- Canadian Journal of Public Health
- PLoS ONE
- Statistical Methods & Applications
- Journal of Statistical Education
- Computational Statistics (2)

- The American Statistician
- The Journal of Applied Statistics
- BMC Medical Research Methodology (5)
- Canadian Journal of Diabetes
- J. of Statistical Computation and Simulation
- Obesity Reviews
- PLOS Neglected Tropical Diseases
- The Lancet Regional Health - Southeast Asia
- J. of Data Science, Statistics, and Visualisation
- Epidemiology