

# Bruce Swihart | Curriculum Vitae

NIH / NIAID / DCR / BRB  
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*"I don't care what you call yourself, just do good work."  
-Nate Silver, when asked "Statistician or Data Scientist?" at  
Joint Statistical Meetings 2013*

## Education

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### Johns Hopkins Bloomberg School of Public Health

*Postdoc in Biostatistics*

Advisor: Ciprian Crainiceanu

### Johns Hopkins Bloomberg School of Public Health

*PhD in Biostatistics*

Advisor: Brian Caffo

### University of Colorado at Denver and Health Sciences Center

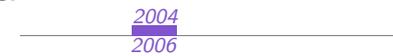
*MS in Biostatistics*

Advisor: Gary Grunwald

### University of Colorado – Boulder

*BS in Applied Mathematics*

Advisor: Anne Dougherty



## PhD thesis

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*From Individuals to Populations: Application and Insights Concerning the Generalized Linear Mixed Model*

## Master thesis

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*Characterizing Sleep Structure Using the Hypnogram*

## Relevant Work and Research Experience

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### NIH/NIAID (via Kelly Government Solutions)

Mathematical Statistician

2014

Malaria, drug-resistant bacteria, tuberculosis, HIV, and necrotizing fasciitis research with Dean Follmann, PhD and Michael Fay, PhD

### Johns Hopkins Bloomberg School of Public Health

Postdoctoral Fellow

2011

2014

Functional data analysis research with Ciprian Crainiceanu, PhD

## Computer skills

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- ▣ Programming: R, R Studio, WinBUGS, Matlab, SAS, STATA, bayesX, git/github
- ▣ Document Preparation: Microsoft Office,  $\LaTeX$ (via emacs, winEdt, TexShop)

## Selected Honors

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- ▣ Helen Abbey Award recipient
- ▣ June B. Culley Award recipient
- ▣ Thomas I. and Louis D. Dublin Award recipient
- ▣ Best Biostatistics Poster, Delta Omega Poster Competition
- ▣ 2<sup>nd</sup> Overall, Applied Research section, Delta Omega Poster Competition
- ▣ 2<sup>nd</sup> Place, Mason F. Lord Lecture and Poster Competition
- ▣ Eugene Carroll Scholar
- ▣ Boettcher Scholar

## Publications

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Statistical.....

- [1] **Bruce J Swihart**, Naresh M Punjabi, and Ciprian M Crainiceanu. Modeling sleep fragmentation in sleep hypnograms: An instance of fast, scalable discrete-state, discrete-time analyses. *Computational Statistics & Data Analysis*, 89:1–11, 2015.
- [2] Ciprian Crainiceanu, Philip Reiss, Jeff Goldsmith, Lei Huang, Lan Huo, Fabian Scheipl, **Bruce Swihart**, and Maintainer Lei Huang. Package 'refund'. 2014.
- [3] **Bruce J Swihart**, Brian S Caffo, and Ciprian M Crainiceanu. A unifying framework for marginalised random-intercept models of correlated binary outcomes. *International Statistical Review*, 82(2):275–295, 2014.
- [4] **Bruce J Swihart**, Jeff Goldsmith, and Ciprian M Crainiceanu. Restricted likelihood ratio tests for functional effects in the functional linear model. *Technometrics*, 56(4):483–493, 2014.
- [5] Michael E Griswold, **Bruce J Swihart**, Brian S Caffo, and Scott L Zeger. Practical marginalized multilevel models. *Stat*, 2(1):129–142, 2013.
- [6] Roland Langrock, **Bruce J Swihart**, Brian S Caffo, Naresh M Punjabi, and Ciprian M

Crainiceanu. Combining hidden markov models for comparing the dynamics of multiple sleep electroencephalograms. *Statistics in medicine*, 32(19):3342–3356, 2013.

- [7] **Bruce J Swihart**, Brian S Caffo, Ciprian M Crainiceanu, and Naresh M Punjabi. Mixed effect poisson log-linear models for clinical and epidemiological sleep hypnogram data. *Statistics in medicine*, 31(9):855–870, 2012.
- [8] **Bruce J Swihart**. *From Individuals to Populations: Application and Insights Concerning the Generalized Linear Mixed Model*. PhD thesis, THE JOHNS HOPKINS UNIVERSITY, 2011.
- [9] Matthew Strand, Yu Zhang, and **Bruce J Swihart**. Monotone nonparametric regression and confidence intervals. *Communications in Statistics-Simulation and Computation*®, 39(4):828–845, 2010.

Others.....

- [1] Hongyuan Gao, Diana SM Buist, Timothy L Lash, Jaclyn LF Bosco, and **Bruce Swihart**. Lasagna plots made in different (statistical) ovens. *Epidemiology*, 23(6):934, 2012.
- [2] Alison Laffan, Brian Caffo, **Bruce J Swihart**, and Naresh M Punjabi. Utility of sleep stage transitions in assessing sleep continuity. *Sleep*, 33(12):1681, 2010.
- [3] David Patz, Mark Spoon, Richard Corbin, Michael Patz, **Bruce Swihart**, Louise Dover, and David White. The importance of evaluating obstructive sleep apnea patients at their home altitude. *SALUD I CIENCIA*, 17(5):435–439, 2010.
- [4] David Patz, Mark Spoon, Richard Corbin, Michael Patz, **Bruce Swihart**, Louise Dover, and David White. La apnea obstructiva del sueño debe evaluarse en la altitud en que viven los pacientes. *Salud (i) cienc.,(Impresa)*, 17(5):435–439, 2010.
- [5] David S Patz, **Bruce Swihart**, and David P White. Cpap pressure requirements for obstructive sleep apnea patients at varying altitudes. *Sleep*, 33(5):715, 2010.
- [6] **Bruce J Swihart**, Brian Caffo, Bryan D James, Matthew Strand, Brian S Schwartz, and Naresh M Punjabi. Lasagna plots: A saucy alternative to spaghetti plots. *Epidemiology*, 21(5):621–625, 2010.
- [7] Brian Caffo, **Bruce Swihart**, Ciprian Crainiceanu, Alison Laffan, and Naresh Punjabi. An overview of observational sleep research with application to sleep stage transitioning. *Chance*, 22(1):10–15, 2009.
- [8] Sommer E Gentry, Robert A Montgomery, **Bruce J Swihart**, and Dorry L Segev. The roles of dominos and nonsimultaneous chains in kidney paired donation. *American Journal of Transplantation*, 9(6):1330–1336, 2009.
- [9] **Bruce J Swihart**, Brian Caffo, Karen Bandeen-Roche, and Naresh M Punjabi. Characterizing sleep structure using the hypnogram. *Journal of clinical sleep medicine: JCSM: official publication of the American Academy of Sleep Medicine*, 4(4):349, 2008.
- [10] David Patz, Mark Spoon, Richard Corbin, Michael Patz, Louise Dover, **Bruce Swihart**, and David White. The effect of altitude descent on obstructive sleep apnea. *CHEST Journal*, 130(6):1744–1750, 2006.