

# Cora Allen-Coleman

## Statistics PhD Candidate

Statistician with 6 years of theoretical and applied statistics experience and 2 years of software development experience. Currently developing software in Julia for efficient search & model comparison in complex network space.

### Experience

2018-03 - present	<div>Research Assistant with Professor Cécile Ané</div> <div>University of Wisconsin–Madison Statistics</div> <div><b>Julia:</b> Developing software in Julia for the statistical detection of gene flow in phylogenetic networks. Improving the efficiency of search &amp; model comparison in network space, taking the complexity of a full likelihood calculation from exponential time to linear time. <a href="https://github.com/crsl4/PhyloNetworks.jl">github.com/crsl4/PhyloNetworks.jl</a></div>
2016-05 - present	<div>Research Assistant with Professor Ron Gangnon</div> <div>University of Wisconsin-Madison Statistics</div> <div><b>R:</b> Implementing a novel Bayesian optimization method for ranking using adaptable weighted loss. <i>Paper in preparation.</i></div>
2018-09 - present	<div>Teaching Assistant, Computational Tools for Data Analytics</div> <div>University of Wisconsin–Madison Statistics</div> <div><b>Code review &amp; pair programming</b> to teach graduate students Bash scripting, Python, &amp; Julia.</div>
2016-12 - 2017-12	<div>Lead Database Administrator &amp; Analyst</div> <div>Teaching Assistants Association</div> <div><b>Shiny:</b> Developed &amp; managed a Shiny web application for large-scale data management, mobile data entry, &amp; automated statistical summaries.</div>
2016-05 - present	<div>Applied Statistical Collaboration with Dr. Amy Trentham-Dietz</div> <div>University of Wisconsin-Madison Dept of Epidemiology</div> <div>Using variable width smoothing techniques for a spatial analysis of breast cancer incidence using generalized additive models. <i>Paper in preparation</i></div>
2018-02 - present	<div>Applied Statistical Collaboration with Dr. Molly Carnes</div> <div>University of Wisconsin Dept of Medicine</div> <div>Leading an applied analysis of longitudinal, survey, and observational data to evaluate UW’s medical scientist training program. <i>Paper in preparation</i></div>
2012-06 - 2015-08	<div>Research Assistant</div> <div>Harvard Medical School &amp; Brigham and Women’s Hospital</div> <div><b>R &amp; SAS:</b> Large-scale data management &amp; statistical analysis using SAS &amp; R.</div>

### Education

2015-09 - present	University of Wisconsin-Madison, Statistics PhD expected May 2020
2008-09 - 2012-05	Oberlin College, Psychology BA high honors

### Peer-reviewed journal articles

1 Fischer MA, **Allen-Coleman C**, Farrell SF, Schneeweiss S. Stakeholder assessment of comparative effectiveness research needs for Medicaid populations. *Journal of Comparative Effectiveness Research*. 2015 Sept 21.

### Personal Info

Location	Madison, WI
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GitHub	<a href="https://github.com/coraallencoleman">github.com/coraallencoleman</a>
LinkedIn	<a href="https://linkedin.com/in/cora-allen-coleman/">linkedin.com/in/cora-allen-coleman/</a>

### Skills

R	<div><div></div><div></div><div></div><div></div><div></div></div>
Julia	<div><div></div><div></div><div></div><div></div><div></div></div>
Java	<div><div></div><div></div><div></div><div></div><div></div></div>
Python	<div><div></div><div></div><div></div><div></div><div></div></div>
Bash	<div><div></div><div></div><div></div><div></div><div></div></div>

### Courses

Intro to Programming
Data Structures
Statistical Computing
Computational Tools for Data Analytics
Data Analysis in R
Computational Network Methods
Advanced Probability
Mathematical Statistics (3 semesters)
Study Design & Regression (2 semesters)
Applied Statistical Consulting
Multilevel Models
Graphical Models

2 Bateman BT, Huybrechts KF, Maeda A, Desai RJ, Patorno E, Seely EW, Ecker JL, **Allen-Coleman C**, Mogun H, Hernandez-Diaz S, Fischer MA. Calcium channel blocker exposure in late pregnancy and the risk of neonatal seizures: A cohort study. *Obstetrics and Gynecology*. 2015 Aug; 126(2): 271-8.

3 Bateman BT, Hernandez-Diaz S, Fischer MA, Seely EW, Ecker JL, Franklin JM, Desai RJ, **Allen-Coleman C**, Mogun H, Avorn J, Huybrechts KF. Statins and congenital malformations: a cohort study. *BMJ*. 2015 Mar 17;350:h1035.

4 Polinski JM, Kesselheim AS, Frolkis JP, Wescott P, **Allen-Coleman C**, Fischer MA. A matter of trust: Patient barriers to primary medication adherence. *Health Education Research*. 2014; 29: 755-63.

Awards

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2017-07	National Institutes of Health Data Science Traineeship
2015-09	National Institutes of Health Biostatistics Traineeship
2012-03	Leah Freed Memorial Prize for Honors Thesis Research
2012-01	Jerome Davis Prize for Social Science Thesis Research