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# Aaron Fisher

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## Education

- 2011–Present **PhD Candidate in Biostatistics**, *Johns Hopkins Bloomberg School of Public Health*, Baltimore, MD.  
Advisors: Vadim Zipunnikov & Brian Caffo
- 2006–2010 **BA in Economics**, *University of Rochester*, Rochester, NY.  
Summa cum laude

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## Academic Papers

- Peer-Reviewed Publications **A. J. Fisher**, G. B. Anderson, R. Peng, J. Leek (2014). A randomized trial in a massive online open course shows people don't know what a statistically significant relationship looks like, but they can learn. *PeerJ*. ([link](#); 6,428 unique visitors as of September 1, 2015).
- To Appear **A. J. Fisher**, B. Caffo, B. Schwartz, V. Zipunnikov (2015). Fast, Exact Bootstrap Principal Component Analysis for  $p > 1$  million. *Journal of the American Statistical Association (TM)*. ([link](#)).
- Submitted R. Y. Coley, **A. J. Fisher**, M. Mamawala, H. B. Carter, K. J. Pienta, S. L. Zeger (2015). Bayesian Joint Hierarchical Model for Prediction of Latent Health States with Application to Active Surveillance of Prostate Cancer. ([link](#)).
- T. Qian, E. Colantuoni, **A. J. Fisher**, M. Rosenblum (2015). Impact of Delayed Outcomes, Accrual Rates, and Prognostic Variables on a Simulated Randomized Trial with Adaptive Enrichment. ([link](#)).
- Y. Webb-Vargas, S. Chen, **A. J. Fisher**, A. Mejia, Y. Xu, C. Crainiceanu, B. Caffo, M. A. Lindquist (2014). Big Data and Neuroimaging. *Statistics in Biosciences (Invited Submission)*.
- A. J. Fisher**, H. Jaffee, M. Rosenblum (2014). interAdapt – An Interactive Tool for Designing and Evaluating Randomized Trials with Adaptive Enrollment Criteria. ([link](#)).
- Technical Reports **A. J. Fisher**, R. Y. Coley, S. L. Zeger (2015). Fast Out-of-Sample Predictions for Bayesian Hierarchical Models of Latent Health States.

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## Reviewer

2014 Risk Analysis

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## Software

**bootSVD** An R package for implementing fast, exact bootstrap principal component analysis and singular value decompositions for high dimensional data (i.e. > 1 million covariates). Matrices too large for memory can be entered as class `ff` objects, with contents stored on disk. ([CRAN link](#); [GitHub link](#))

**ggBrain** An R package for beautiful brain image figures ([GitHub link](#))

**interAdapt** An interactive tool for designing and evaluating randomized trials with adaptive enrollment criteria ([Shiny App link](#); [CRAN link](#); [Github link](#)).

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## Professional Experience

2010 (Summer) **Structured Decisions Corporation**, Newton, MA.

Intern Analyst - Background research project for a linear programming application

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## Computer Skills

Advanced Skills

R

Basic Skills

git, Python, C, D3.js, MATLAB, stata, shell scripting, L<sup>A</sup>T<sub>E</sub>X

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## Awards and Scholarships

2014 **The June B. Culley Award:** Honors outstanding achievement by a Biostatistics student on his or her school-wide oral examination paper

2012-present **Doctoral Training Grant in Environmental Biostatistics:** Provides funding for at least three years

2006-2010 **Undergraduate Awards:** Phi Beta Kappa; John Dows Mairs Prize (University of Rochester Economics Dept); Omicron Delta Epsilon International Honor Society for Economics; Theta Chi Long, Walter, Ott Award; Theta Chi Valentine H. Zahn Fund

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## Teaching

### Co-Instructor

2015 Statistical Reasoning I and II: My role included teaching independently for 13 hours of lectures. (*JHSPH Summer Institute of Epidemiology and Biostatistics*)

## Guest Lecturer

- 2013 Essentials of Probability and Statistical Inference I-II (*JHSPH*)

## Teaching Assistant with Content Design

- 2012-2014 Essentials of Probability and Statistical Inference I-IV: My role included designing and administering a weekly 1-hour lab lecture. (*JHSPH*)

## Teaching Assistant without Content Design

- 2015 Facilitator at JHU Data Science Hackathon: Assisted a team through the through the process of scraping data and building a shiny app (3-day event).
- 2014-2015 Statistical Methods in Public Health I, II and IV: This (with lab lecture component in term II), (*JHSPH*)
- 2012 Statistical Reasoning I and II, (*JHSPH Summer Institute of Epidemiology and Biostatistics*)

## Educational Presentations

- 2013-2015 JHU Biostatistics Computing Club: I have given talks on environments in R, and on L<sup>A</sup>T<sub>E</sub>X.
- 2013-2015 JHU Biostatistics Journal Club: I have given talks on high dimensional asymptotics, and on adaptive clinical trials.

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## Conference Presentations

- 2015 “A Randomized Trial in a Massive Online Open Course Shows People Don’t Know What a Statistically Significant Relationship Looks Like, but They Can Learn.” JSM, Seattle WA. *Contributed Speed Session & Poster*.
- 2015 “Fast Exact Bootstrap Principal Component Analysis for  $p > 1$  million.” ENAR, Miami, FL. *Contributed Talk*.
- 2014 “Fast, Exact Bootstrap Principal Component Analysis for  $p > 1$  Million.” (4th Annual Hopkins Imaging Conference) Baltimore, MD, *Invited Short Talk & Poster*.
- 2014 “Fast Exact Bootstrap Principal Component Analysis for  $p > 1$  million: Leveraging Low-Dimensional Structure Across High-Dimensional Bootstrap Samples.” JSM, Boston, MA. *Contributed Speed Session & Poster*.
- 2014 “People Can’t See Statistical Significance: A Massive Randomized Trial on the Visual Perception of Relationships.” ENAR Spring Meeting, Baltimore, MD, *Contributed Talk*.

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## Other Leadership Roles

- 2014-2015 JHU Biostatistics Meat Chili Champion
- 2013-2014 JHU Biostatistics Vegetarian Chili Champion
- 2012-2013 Co-organizer of JHU Biostatistics Computing Club, with Prasad Patil ([speaker schedule link](#))

Last updated: October 8, 2015