

# LEE KENNEDY-SHAFFER

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<https://leekshaffer.com> | <https://github.com/leekshaffer>

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## EDUCATION

*Harvard University Graduate School of Arts and Sciences, Cambridge, MA, Aug. 2016–present*

- Ph.D. Candidate, Department of Biostatistics at the Harvard T.H. Chan School of Public Health
- A.M., Biostatistics, May 2018
- Ph.D., Biostatistics, Expected May 2020
  - Advisor/Dissertation Committee Chair: Professor Michael D. Hughes
  - Dissertation Committee Members: Professor Victor De Gruttola, Professor Marc Lipsitch
  - Dissertation Topic: Biostatistical Methods for the Design and Analysis of Infectious Disease Intervention Studies

*Yale University, New Haven, CT, August 2009–May 2013*

- B.S., Mathematics, May 2013
- Honors: Summa Cum Laude, Phi Beta Kappa

## TEACHING EXPERIENCE

*Instructor*

- Biostatistics Summer Preparatory Course, Summer 2019.
  - Created syllabus, created course materials, and taught course covering linear algebra, single- and multi-variable calculus, programming skills, and probability and statistics for incoming Ph.D. students.
  - Materials available upon request.

*Teaching Assistant/Fellow*

- BIOSTAT 232/BST 232: Methods I, Fall 2019.
  - Harvard University Graduate School of Arts and Sciences/Harvard T.H. Chan School of Public Health. Instructor: Professor Brent Coull.
  - Designed lab session materials, taught lab sessions, held office hours, performed grading for course with first-year Ph.D. students and students from other programs and departments at the School of Public Health.
- GENED 1129: Infectious Diseases and Social Injustice, Fall 2019.
  - Harvard College. Instructors: Professors Donald Goldmann and Kenneth McIntosh.
  - Designed section materials, taught small-group discussion sections, handled administrative responsibilities, held office hours, and performed grading for general education course for undergraduates from all years from a variety of departments.
- BST 223: Applied Survival Analysis, Spring 2019.
  - Harvard T.H. Chan School of Public Health. Instructor: Dr. Andrea Bellavia.
  - Updated lab session materials, taught lab sessions, held office hours, performed grading for course with biostatistics master's students and master's and doctoral students from a variety of public health disciplines.
- BIOSTAT 232/BST 232: Methods I, Fall 2018.
  - Same course and responsibilities as Fall 2019.
- BST 216: Introduction to Quantitative Methods for Monitoring and Evaluation, Spring 2018.
  - Harvard T.H. Chan School of Public Health. Instructors: Professor Marcello Pagano and Dr. Bethany Hedt-Gauthier.

- Updated lab session materials, taught lab sessions, held office hours, performed grading for course with global health and health policy master's students.

### *Other Experience*

- Curriculum Development Fellow, Biostatistics Summer Preparatory Course, Summer 2019.
  - Re-designed summer preparatory course to increase the relevance for current department priorities and expectations and to better fit the backgrounds of incoming PhD students.
  - Constructed list of priorities and syllabus. Created materials that are used in biostatistics core courses for PhD and master's students as well as in the summer preparatory course.
  - Supported by a grant from the Harvard T.H. Chan School of Public Health Dean of Education and by the Department of Biostatistics.
- Tutor, BIOSTAT 231: Statistical Inference I, Harvard University Graduate School of Arts and Sciences. Spring 2019.
  - Tutored two students in a core biostatistics PhD course.
- Curriculum Development Fellow, BIOSTAT 232/BST 232: Methods I, Summer 2018.
  - Worked with Professor Brent Coull to re-design the core PhD methods course to fit department priorities and expectations. Designed a new syllabus and created new course material to fit the re-designed course.
  - Supported by the Department of Biostatistics.
- Course Grader, Yale University Department of Mathematics, Fall 2010–Spring 2012
  - Graded assignments for Mathematics Department courses: MATH 250: Vector Analysis; MATH 112: Multivariable Calculus; MATH 230a/b: Vector Calculus and Linear Algebra

## **PUBLICATIONS**

### *Peer-Reviewed Publications*

- **Kennedy-Shaffer, L.** and M. Hughes. Sample size estimation for stratified individual and cluster randomized trials with binary outcomes, *Statistics in Medicine* (forthcoming).
  - R software implementing methods available at <https://github.com/leekshaffer/strat-crt-ss>.
  - R Shiny application to size clinical trials available at <https://leekshaffer.shinyapps.io/stratert/>.
- **Kennedy-Shaffer, L.**, V. De Gruttola, and M. Lipsitch. Novel methods for the analysis of stepped wedge cluster randomized trials, *Statistics in Medicine* (2020). Online version of record available at <https://doi.org/10.1002/sim.8451>.
  - R software implementing methods available at <https://github.com/leekshaffer/SW-CRT-analysis>.
- **Kennedy-Shaffer, L.** Before  $p < 0.05$  to Beyond  $p < 0.05$ : Using History to Contextualize  $p$ -Values and Significance Testing, *The American Statistician*, Volume 73, Issue sup1 (2019): 82–90. Available open access at <https://doi.org/10.1080/00031305.2018.1537891>.
- **Kennedy-Shaffer, L.** When the Alpha is the Omega:  $P$ -Values, “Substantial Evidence,” and the 0.05 Standard at FDA, *Food and Drug Law Journal*, Volume 72, Issue 4 (2017): 595–635. <https://www.fda.gov/2017/12/alpha-omega-p-values-substantial-evidence-0-05-standard-fda/>.
- Charles, Z., M. Farber, C. Johnson, and **L. Kennedy-Shaffer**. Nonpositive eigenvalues of hollow, symmetric, nonnegative matrices, *SIAM Journal of Matrix Analysis & Applications*, Volume 34, Issue 3 (2013): 1384–1400. <https://doi.org/10.1137/130904624>.
- Charles, Z., M. Farber, C. Johnson, and **L. Kennedy-Shaffer**. Nonpositive eigenvalues of the adjacency matrix and lower bounds for Laplacian eigenvalues, *Discrete Mathematics*, Volume 313, Issue 13 (2013): 1441–1451. <https://doi.org/10.1016/j.disc.2013.03.010>.
- Charles, Z., M. Farber, C. Johnson, and **L. Kennedy-Shaffer**. The relation between the diagonal entries and the eigenvalues of a symmetric matrix, based upon the sign pattern of its off-diagonal entries, *Linear Algebra and its Applications*, Volume 438, Issue 3 (2013): 1427–1445. <https://doi.org/10.1016/j.laa.2012.09.014>.

## Technical Reports

- **Kennedy-Shaffer, L.** and C. Shearer. *Understanding Medicaid Utilization for Children in New York State: A Chartbook*. New York: Medicaid Institute at United Hospital Fund, July 2016. <http://uhfnyc.org/publications/881143>.
- **Kennedy-Shaffer, L.** and C. Shearer. *Understanding Medicaid Utilization for Children in New York State: A Data Brief*. New York: Medicaid Institute at United Hospital Fund, July 2016. <http://uhfnyc.org/publications/881143>.
- Shearer, C., **L. Kennedy-Shaffer**, and N. Myers. *Performing Provider Systems: Tackling the Health Needs of Communities*. New York: Medicaid Institute at United Hospital Fund, January 2015. <http://uhfnyc.org/publications/881032>.
- **Kennedy-Shaffer, L.** and C. Shearer. *Medicaid Regional Data Compendium, 2014*. New York: Medicaid Institute at United Hospital Fund, November 2014. <http://uhfnyc.org/publications/881021>.

## PRESENTATIONS

### Conference Presentations

- “Two Novel Non-Parametric Methods for the Analysis of Stepped-Wedge Cluster Randomized Trials,” Contributed Paper, Joint Statistical Meetings, Denver, CO, July 2019.
- “Sample Size Estimation for Stratified Individual and Cluster Randomized Trials with Binary Outcomes,” Chalmers Scholarship Finalist Presentations, Society for Clinical Trials Annual Meeting, New Orleans, LA, May 2019.
- “Sample Size Estimation for Stratified Individual and Cluster Randomized Trials with Binary Outcomes,” Contributed Paper, ENAR Spring Meeting, Philadelphia, PA, March 2019.
- “Sample Size Estimation for Stratified Cluster Randomized Trials with Binary Outcomes,” Contributed Speed Talk and Poster Presentation, Joint Statistical Meetings, Vancouver, BC, August 2018.

### University Seminars and Working Group Presentations

- “Sample Size Estimation for Stratified Individual and Cluster Randomized Trials with Binary Outcomes,” Harvard University Department of Biostatistics HIV Working Group, Boston, MA, March 2019.
- “50 Years of ORT,” Panel Moderator, Harvard T.H. Chan School of Public Health, Boston, MA, November 2018.
- “The Effects of Stratification on Sample Size Requirements for Cluster Randomized Trials,” Harvard University Department of Biostatistics, PhD Student Summer Presentations, Boston, MA, August 2017.

## GRANTS

### Principal Investigator

- National Institute of Allergy and Infectious Diseases, F31 Kirchstein Predoctoral Individual National Research Service Award, September 2019–present.
  - Award Number: 1F31 AI147745. Award Title: Biostatistical Methods for Infectious Disease Study Design.
  - Annual Funding: \$36,506.

### Training Grant Fellow

- National Institute of Allergy and Infectious Diseases, T32 Kirchstein National Research Service Award Institutional Research Training Grant, August 2016–July 2019.
  - Award Number: 5T32 AI007358-28. Award Title: Biostatistics/Epidemiology Training Grant in AIDS. PI: Professor Marcello Pagano.

## HONORS

- Finalist, Society for Clinical Trials Thomas C. Chalmers Student Scholarship, May 2019.
- Third Place, JSM Biopharmaceutical Section Contributed Presentation Award, Summer 2018.
- Certificate of Distinction in Teaching, Harvard T.H. Chan School of Public Health Department of Biostatistics, Spring 2018.
- University of Washington Summer Institute in Statistics and Modeling in Infectious Diseases Scholarship, Summer 2017.
- Yale University, Summa Cum Laude, Spring 2013.
- Yale University, Phi Beta Kappa, Admitted Fall 2012.
- United States Presidential Scholar, 2009.
- National Merit Scholar, 2009.

## **SERVICE AND PROFESSIONAL INVOLVEMENT**

### *Professional Society Membership and Leadership*

- Program Chair-Elect, American Statistical Association History of Statistics Interest Group, January 2019–present
- Member, International Biometrics Society Eastern North American Region, September 2018–present
- Member, Institute for Mathematical Statistics, September 2018–present
- Member, Society for Clinical Trials, October 2017–present
- Member, American Statistical Association, February 2017–present

### *University and Department Service*

- Bargaining Committee Member, Harvard Graduate Students Union—United Auto Workers Local 5118, September 2019–present
- Graduate Student Representative, Harvard University Department of Biostatistics Curriculum Committee, February 2019–present
- Coordinator, Harvard University Department of Biostatistics HIV Working Group, June 2018–June 2019
- Moderator, Harvard University Department of Biostatistics Faculty Lightning Talks, October 2017
- Graduate Student Representative, Harvard University Faculty of Arts and Sciences Standing Committee on the Library, September 2017–present
- Department Representative, Harvard Graduate Student Council, September 2017–present
- Moderator, Harvard University Department of Biostatistics PhD Student Summer Presentations, August 2017
- Member, Harvard University Department of Biostatistics HIV Working Group, August 2016–present

## **PREVIOUS EMPLOYMENT**

*United Hospital Fund*, Research Assistant, Medicaid Institute, June 2014–June 2016;  
Consultant, Medicaid Institute, July–December 2016

*Cornerstone Research*, Analyst, August 2013–June 2014;  
Summer Analyst, June–August 2012

*Yale University Mathematics Department*, Course Grader, September 2010–May 2012

*College of William and Mary REU*, Mathematics Researcher, June–August 2011

*Himes for Congress Campaign*, Field Organizer, June–August 2010