

Caleb H. Miles

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Current position

Postdoctoral Fellow, Group in Biostatistics, University of California, Berkeley
Adviser: Mark J. van der Laan

Areas of specialization

Causal Inference; HIV; Interference; Measurement Error; Mediation Analysis; Semiparametric Inference; Targeted Learning

Education

- 2015 Ph.D. in Biostatistics, Harvard University
Dissertation Title: Semiparametric Methods for Causal Mediation Analysis and Measurement Error
Thesis Adviser: Eric J. Tchetgen Tchetgen
Minor Field of Study: Epidemiology of HIV
- 2009 B.S. with Honors in Mathematics, University of Alabama, *magna cum laude*
Minor Field of Study: Engineering

Honors & awards

- 2016 The Biometrics Section of the American Statistical Association's travel award
- 2015 The Health Policy Statistics Section of the American Statistical Association's student paper award
- 2014 Travel scholarship, Summer Institute in Statistics and Modeling in Infectious Diseases. University of Washington, Seattle.
- 2009 Phi Beta Kappa
- 2005-2009 Presidential Scholarship, University of Alabama
- 2004 National Merit Scholar

Research support

- 2017 Preterm Birth Initiative, University of California, San Francisco.
Role: Lead statistician.
Responsibilities: Oversee impact evaluation of two large facility-level implementation projects to improve preterm birth outcomes in East Africa. Supervise doctoral student.

Papers

- Miles, Caleb H.**; Petersen, Maya; van der Laan, Mark J. (2017). Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference (In revision for *Biometrics*). [preprint arXiv:1710.09588](#)
- Miles, Caleb H.**; Shpitser, Ilya; Kanki, Phyllis; Meloni, Seema; and Tchetgen Tchetgen, Eric J. (2017) On semiparametric estimation of a path-specific effect in the presence of mediator-outcome confounding (In revision for *Biometrika*). [preprint arXiv:1710.02011](#)
- Miles, Caleb H.**; Shpitser, Ilya; Kanki, Phyllis; Meloni, Seema; and Tchetgen Tchetgen, Eric J. (2017). Quantifying an Adherence Path-Specific Effect of Antiretroviral Therapy in the Nigeria PEPFAR Program. *Journal of the American Statistical Association*.
- Miles, Caleb H.**; Kanki, Phyllis; Meloni, Seema; and Tchetgen Tchetgen, Eric J. (2017). On Partial Identification of the Natural Indirect Effect. *Journal of Causal Inference*.
- Miles, Caleb H.**; Schwartz, Joel; Tchetgen Tchetgen, Eric J. (2016). A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error (Under review). [preprint arXiv:1610.05005](#)

Presentations

- 2017 “Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference”, Biostatistics Seminar, New York University Division of Biostatistics, New York, NY (Invited)
- 2017 “Partial Identification Bounds and Path-Specific Effects: Two (More) Options When Faced with Exposure-Induced Confounding”, Joint Statistical Meetings, Baltimore, MD (Invited)
- 2017 “A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error”, Eastern North American Region of the International Biometric Society Spring Meeting, Washington, DC (Invited)
- 2016 “A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error”, Joint Statistical Meetings, Chicago, IL (Invited)
- 2016 “A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error”, International Biometric Conference, Victoria, Canada
- 2016 “A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error”, Biostatistics Seminar, University of Washington Department of Biostatistics, Seattle, WA (Invited)
- 2016 “A Class of Semiparametric Tests of Treatment Effect Robust to Measurement Error of a Confounder”, Biostatistics Seminar Series, University of California, Davis Graduate Group in Biostatistics, Davis, CA (Invited)

- 2015 “On Partial Identification of the Pure Direct Effect”, Biostatistics Seminar Series, University of California, Berkeley Division of Biostatistics, Berkeley, CA (Invited)
- 2015 “Quantifying an adherence path-specific effect of antiretroviral therapy in the Nigeria PEPFAR program”, Joint Statistical Meetings, Seattle, WA (Invited)
- 2015 “Partial Identification of the Pure Direct Effect Under Exposure-Induced Confounding”, Eastern North American Region of the International Biometric Society Spring Meeting, Miami, FL (Invited)
- 2015 “Quantifying an adherence path-specific effect of antiretroviral therapy in the Nigeria PEPFAR program”, McGill University Biostatistics Seminar, Montreal, Canada (Invited)
- 2015 “Quantifying an adherence path-specific effect of antiretroviral therapy in the Nigeria PEPFAR program”, Harvard University Department of Biostatistics HIV Working Group Seminar, Boston, MA (Invited)
- 2015 “Quantifying an adherence path-specific effect of antiretroviral therapy in the Nigeria PEPFAR program”, University of North Carolina Causal Inference Research Group, Chapel Hill, NC (Invited)
- 2015 “Quantifying an adherence path-specific effect of antiretroviral therapy in the Nigeria PEPFAR program”, Biostatistics Seminar Series, University of California, Berkeley Division of Biostatistics, Berkeley, CA (Invited)
- 2015 “Quantifying an adherence path-specific effect of antiretroviral therapy in the Nigeria PEPFAR program”, Johns Hopkins University Causal Inference Group, Baltimore, MD (Invited)
- 2014 “Identification of the natural indirect effect under various models”, Joint Statistical Meetings, Boston, MA (Invited)
- 2013 “Semiparametric estimation of path-specific effects in the presence of unmeasured confounding and exposure-induced confounding”, Joint Statistical Meetings, Montreal, Canada.
- 2012 “Background and recent developments in causal mediation analysis”, Joint Statistical Meetings, San Diego, CA (Invited)

Posters

- 2017 “Causal inference for a single group of causally-connected units under stratified interference”, IMS New Researchers Conference, Baltimore, MD
- 2017 “Causal inference for a single group of causally-connected units under stratified interference”, Atlantic Causal Inference Conference, Chapel Hill, NC
- 2013 “Semiparametric estimation of path-specific effects in the presence of unmeasured confounding and exposure-induced confounding”, Atlantic Causal Inference Conference, Boston, MA

Teaching experience

GUEST LECTURES

- 2017 Causal inference with interference. PH 252E (Advanced Topics in Causal Inference), University of California, Berkeley

- 2016 Estimation and inference for a causal effect with i.i.d. and non-i.i.d. data. PH 240A (Introduction to Modern Biostatistical Theory and Practice), University of California, Berkeley
- 2014 Flexible regression methods: The bootstrap, the jackknife, and cross validation. BIST 232 (Methods I), Harvard T.H. Chan School of Public Health

TEACHING ASSISTANT

- 2013-2014 Department of Biostatistics, Harvard School of Public Health
Course: Methods I
Professor: Eric J. Tchetgen Tchetgen
- 2012 Department of Biostatistics, Harvard School of Public Health
Course: Introduction to Statistical Methods
Professor: Bernard Rosner
Note: Head TA & responsible for two recitation sections
- 2011 Department of Biostatistics, Harvard School of Public Health
Course: Introduction to Statistical Methods
Professor: Kimberlee Gauvreau

Departmental service

- 2014 Graduate mentor, Summer Program in Biostatistics & Computational Biology, Department of Biostatistics, Harvard School of Public Health
- 2013-2015 Organizer, HIV Working Group, Department of Biostatistics, Harvard School of Public Health

Professional service

Reviewer for: Biometrical Journal, Biometrika, Journal of Business & Economic Statistics, Journal of Causal Inference, Journal of Educational and Behavioral Statistics, Statistical Methods in Medical Research

Professional societies

- 2015-present Eastern North American Region (ENAR) of the International Biometrics Society (Member)
- 2012-present American Statistical Association (Member)

References

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