

Caleb H. Miles

University of California, Berkeley
Group in Biostatistics
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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

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| 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, <i>magna cum laude</i>
Minor Field of Study: Engineering |

Honors & awards

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| 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.; Schwartz, Joel; Tchetgen Tchetgen, Eric J. (2018). A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Measurement Error. *Statistics in Medicine* (In press). [preprint arXiv:1610.05005](#)
- 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*.

Presentations

- 2018 “Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference”, Levin Lecture Series, Columbia University, New York, NY (Invited)
- 2018 “Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference”, Biostatistics Seminar, Vanderbilt University, Nashville, TN (Invited)
- 2018 “Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference”, Statistics Seminar, Colorado State University, Fort Collins, CO (Invited)
- 2018 “Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference”, Biostatistics Seminar, MD Anderson Cancer Center, Houston, TX (Invited)
- 2018 “Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference”, Biostatistics Seminar, University of Pennsylvania, Philadelphia, PA (Invited)
- 2018 “Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference”, Biostatistics Seminar, Kaiser Permanente Washington Health Research Institute, Seattle, WA (Invited)
- 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: American Journal of Epidemiology, Biometrical Journal, Biometrika, Biostatistics, Computational Learning Theory, 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)