Caleb H. Miles

University of California, Berkeley
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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 Measurement Error (In revision for *Statistics in Medicine*). preprint arXiv:1610.05005

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)