

Current Position

NSF Mathematical Sciences Postdoctoral Research Fellow 2011–
Johns Hopkins Bloomberg School of Public Health
Department of Biostatistics
Host Mentor: Prof. Michael Rosenblum

Education

PhD **University of California, Berkeley**
Biostatistics, May 2011
Advisor: Prof. Mark J. van der Laan
Causal Inference for Case-Control Studies
Novel targeted machine learning methods for causal inference in biased sampling designs that permit estimation of parameters not previously available.

MA **University of California, Berkeley**
Biostatistics, May 2007

BS **The George Washington University**
Statistics, May 2005

Honors & Awards

NSF Mathematical Sciences Postdoctoral Research Fellowship (MSPRF) 2011–2013
The purpose of the MSPRF is to support future leaders in the mathematical sciences by facilitating their participation in postdoctoral research environments that will have maximal impact on their future scientific development.

Recent Alumni Achievement Award (RAAA) [The George Washington University] 2011
The Alumni Achievement Awards are the highest honor bestowed by the university on its alumni. The RAAA honors alumni who have graduated in the last ten years and attained notable achievements in their field with proven potential for future influence and leadership.

Evelyn Fix Memorial Medal [UC Berkeley] 2011
Awarded to the Ph.D. student on the Berkeley campus showing the greatest promise in statistical research, with preference for applications to biology and problems of health.

Chin-Long Chiang Biostatistics Student of the Year [UC Berkeley] 2011

Mayhew and Helen Derryberry Fellowship [UC Berkeley] 2010–2011

France-Berkeley Fund Grant (Chambaz/van der Laan) 2010–2011
Roles: Grant co-author, project collaborator, Université Paris Descartes visiting scientist (1 week, 2011).

U.S. Department of Health and Human Services Scholarship (SDS) 2007–2011

Division of Biostatistics Fellowship [UC Berkeley] 2006–2011

Gertrude M. Cox Scholarship in Statistics [ASA] 2010

Statistics in Epidemiology Young Investigator Award [ASA] 2010

Division of Epidemiology Course Development Award [UC Berkeley] 2010

Russell M. Grossman Endowment Award [UC Berkeley] 2009

Statistics in Epidemiology Graduate Student Travel Award [ASA] 2009

Casper Mills Scholarship Foundation Award 2007–2008

Presidential Scholarship [The George Washington University] 2001–2005

Alumni Scholarship [The George Washington University] 2001–2005

Honors Program Scholar [The George Washington University] 2001–2005

Publications

Books

1. M.J. van der Laan, **S. Rose** (2011). *Targeted Learning: Causal Inference for Observational and Experimental Data*. New York, Springer. targetedlearningbook.com.

Refereed Journal Publications

2. H. Wang, **S. Rose**, M.J. van der Laan (2011). Finding quantitative trait loci genes with collaborative targeted maximum likelihood learning. *Stat Probabil Lett* (Special Issue on Statistics in Biological and Medical Sciences), 81(7):792–796. [Featured article in issue editorial.](#)
3. **S. Rose**, J. Snowden, K.M. Mortimer (2011). Rose et al. respond to “G-computation and standardization in epidemiology.” *Am J Epid*, 173(7):743–744.
4. J. Snowden, **S. Rose**, K.M. Mortimer (2011). Implementation of G-Computation on a simulated data set: demonstration of a causal inference technique. *Am J Epid*, 173(7):731–738. [Evaluated by “Faculty of 1000,” placing it in the top 2% of published articles in biology and medicine.](#)
5. **S. Rose**, M.J. van der Laan (2011). A targeted maximum likelihood estimator for two-stage designs. *Int J Biostat*, 7(1):17.
6. H. Li, H. Grigoryan, W. Funk, S. Lu, **S. Rose**, E.R. Williams, S.M. Rappaport (2011). Profiling Cys34 adducts of human serum albumin by fixed-step selected reaction monitoring. *Mol Cell Proteomics*, 10(3):M110.004606.
7. K. Huen, L. Barcellos, K. Beckman, **S. Rose**, B. Eskenazi, N. Holland (2011). Effects of PON polymorphisms and haplotypes on molecular phenotype in Mexican-American mothers and children. *Environ Mol Mutag*, 52(2):105-16. [“Editor’s Choice” article; featured on cover.](#)
8. **S. Rose**, M. J. van der Laan (2009). Why match? Investigating matched case-control study designs with causal effect estimation. *Int J Biostat*, 5(1):1. [Featured article, March 2010.](#)
9. **S. Rose**, M.J. van der Laan (2008). Simple optimal weighting of cases and controls in case-control studies. *Int J Biostat*, 4(1):19.
10. S.J. Cokus, **S. Rose**, D. Haynor, N. Gronbeck-Jensen, M. Pellegrini (2006). Modeling the network of cell cycle transcription factors in the yeast *Saccharomyces cerevisiae*. *BMC Bioinformatics*, 7:381. [“Highly Accessed” designation.](#)
11. V. Berger, **S. Rose** (Weinstein) (2004). Ensuring the comparability of comparison groups: is randomization enough. *Control Clin Trials*, 25(5):515–524.

Popular Press

12. M.J. van der Laan, **S. Rose** (2010). Statistics Ready for a Revolution: Next Generation of Statisticians Must Build Tools for Massive Data Sets. *Amstat News*, 399:38-39.

Selected Technical Reports

13. H. Wang, **S. Rose**, M.J. van der Laan. Targeted Methods for Finding Quantitative Trait Loci. *UC Berkeley Division of Biostatistics Working Paper Series, Technical Report 285, 2011.*
14. M.J. van der Laan, **S. Rose**, S. Gruber, eds. Readings in Targeted Maximum Likelihood Estimation. *UC Berkeley Division of Biostatistics Working Paper Series, Technical Report 254, 2009.*
15. **S. Rose**, M.J. van der Laan. A Note on Risk Prediction for Case-Control Studies. *UC Berkeley Division of Biostatistics Working Paper Series, Technical Report 241, 2008.*

Invited Presentations

1. International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, NC, Oct 2012.
2. Joint Statistical Meetings, San Diego, CA, Aug 2012.

3. Johns Hopkins University Causal Inference Group, Baltimore, MD, Feb 2012.
4. WNAR/IMS Annual Meeting, Cal Poly San Luis Obispo, CA, 22 June 2011.
Causal Inference for Case-Control Studies and Two-Stage Designs.
5. Université Paris Descartes, Applied Mathematics Department, Paris, France, 6 Jan 2011.
On the Probability of Success of an IVF Program and the DAIFI Study.
6. UC Berkeley Causal Inference Group, Berkeley, CA, 30 Sept 2010.
Risk Score Prediction Using Super Learning.
7. The George Washington University Statistics Department 75th Anniversary Symposium, Washington, DC, 25 Sept 2010.
Learning from Data: Super Learning and Targeted MLE.
8. Genentech, South San Francisco, CA, 30 Jul 2009.
Improving Phase I Decision-Making Using Alternative Dose-Escalation Strategies.
9. Genentech, South San Francisco, CA, 8 Jun 2009.
Causal Inference for Case-Control Studies using Targeted MLE.
10. UC Berkeley Causal Inference Reading Group, Berkeley, CA, 9 Apr 2009.
Targeted Maximum Likelihood Estimation.
11. UC Berkeley Statistics Graduate Student Seminar, Berkeley, CA, 20 Aug 2008.
Causal Inference in Case-Control Studies.
12. International Society for Behavioral Nutrition and Physical Activity Annual Meeting, Oslo, Norway, 23 Jun 2007.
Childhood Overweight in Asian Populations.
13. San Francisco Dept of Public Health Seminar Series, San Francisco, CA, 9 Mar 2006.
Fighting Liver Cancer.
14. The Jade Ribbon Campaign at UC Berkeley, Berkeley, CA, 5 Mar 2006.
Fighting Liver Cancer.

Contributed Presentations

1. ENAR Annual Meeting, Washington, DC, 1–4 April 2012.
Topic-Contributed Oral Presentation: *Predicting mortality in an elderly population using machine learning.*
2. Joint Statistical Meetings, Vancouver, BC, 4 Aug 2010.
Contributed Oral Presentation: *Variable Importance in a Kaiser Permanente Database.*
3. Society for Epidemiologic Research, Seattle, WA, 25 Jun 2010.
Poster: A. Weber, **S. Rose**, L.C.H. Fernald. *Causal Inferences from Longitudinal MSMs.*
4. American Society for Mass Spectrometry, Salt Lake City, UT, 23 May 2010.
Poster: H. Li, W. Funk, H. Grigoryan, M. Demireva, E.R. Williams, A.T. Iavarone, J. Riby, S. Lu, **S. Rose**, M.J. van der Laan, S.M. Rappaport. *Measuring Adducts of Human Serum Albumin as Biomarkers of Exposure to Toxic Substances.*
5. UC Berkeley School of Public Health Student Poster Session, 8 Mar 2010.
Poster: **S. Rose**, M.J. van der Laan. *Following the Causal Inference Roadmap.*
6. Joint Statistical Meetings, Washington, DC, 5 Aug 2009.
Contributed Oral Presentation: *Causal Inference in Nested Case-Control Studies.*
7. UC Berkeley School of Public Health Student Poster Session, 16 Mar 2009.
Poster: **S. Rose**, M.J. van der Laan. *Optimal Weighting for Case-Control Studies.*
8. UC Berkeley School of Public Health Student Poster Session, 21 Apr 2008.
Poster: K. Huen, K. Harley, **S. Rose**, A. Bradman, C. Furlong, B. Eskenazi, N. Holland. *Human PON1 During Development: Effects of Age and Genetic Variability.*

9. American Society of Human Genetics, San Diego, CA, 24 Oct 2007.
Poster: K. Huen, K. Harley, **S. Rose**, A. Bradman, C. Furlong, B. Eskenazi, N. Holland.
Human PON1 During Development: Effects of Age and Genetic Variability.
10. UC Berkeley School of Public Health Student Poster Session, 24 Apr 2007.
Poster: **S. Rose**, M.C. Wang. *Understanding Obesity in California: Factors Associated with BMI and Obesity in Children and Adolescents.*
11. California Childhood Obesity Conference, Anaheim, CA, 23 Jan 2007.
Poster: D.E. Gerstein, **S. Rose**, L.D. Ritchie, P.B. Crawford, C. Chase, H. Reed, N. Crocker, M. Elfant, K. Frinzell. *Evaluation of California WIC Learner-Centered Education.*

Short Course Development and Instruction

Statistical Methods for Causal Inference in Observational and Randomized Studies.

The Forum for Collaborative HIV Research · www.hivforum.org, Washington, DC, 26–28 Sept 2011.
(with Maya L. Petersen and Mark J. van der Laan)

Teaching

Instructor

Introduction to Marginal Structural Models Fall 2009

Guest Lecturer

Introduction to Causal Inference Spring 2010, Fall 2010

Censored Longitudinal Data and Causality Spring 2009

Teaching Assistant

Statistical Analysis of Continuous Outcome Data Spring 2006

Probability and Statistics in Biology and Public Health Fall 2005

Introduction to Biology I & II Fall 2004–Spring 2005

Honors Introductory Statistics Fall 2002

Professional Memberships and Service

American Statistical Association

Member

Invited Session Organizer, Joint Statistical Meetings, 2012

Session Chair, Joint Statistical Meetings, 2009, 2010

The Institute for Mathematical Statistics

Member, ENAR

Session Chair, WNAR/IMS Annual Meeting, 2011

Atlantic Causal Inference Conference

Conference Organizer, 2012

University of California, Berkeley

Chair of Graduate Recruitment, Biostatistics Graduate Student Association, 2010–2011

Elected Representative, School of Public Health Student Government, 2010–2011

Student Ambassador, School of Public Health Recruitment & Diversity Services, 2008–2011

Founder & President, Biostatistics Graduate Student Association, 2007–2010

The George Washington University

Alumni Admissions Interviewer, Office of Undergraduate Admissions, 2007–

Blue Faery: The Adrienne Wilson Liver Cancer Association (www.bluefaery.org)

Advisory Member, Medical Research Committee, 2010–

President, 2011

Board of Directors, 2002–2011

Vice-President, 2005–2010

Chair, Medical Research Committee, 2002–2010