

## STEVEN MICHAEL GOODREAU

### *Curriculum vitae*

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### 1. PERSONAL DATA

Citizenship: United States  
Birth: 17 May 1972, Providence RI

### 2. EDUCATION

Ph.D.	Anthropology	2001	The Pennsylvania State University, University Park, PA
M.A.	Anthropology	1998	The Pennsylvania State University, University Park, PA
A.B.	Anthropology	1994	Harvard University, Cambridge, MA

### 3. POSITIONS

2010- Associate Professor, Department of Anthropology, University of Washington, Seattle.  
2004-2010 Assistant Professor, Department of Anthropology, University of Washington, Seattle.  
2001-2004 Post-Doctoral Fellow, Center for Studies in Demography and Ecology, Center for AIDS Research, and Center for Statistics and the Social Sciences, University of Washington, Seattle.

### 4. RESEARCH AND TRAINING AFFILIATIONS

Center for Studies in Demography and Ecology, University of Washington.  
Center for AIDS Research, University of Washington.  
Center for Statistics and the Social Sciences, University of Washington.  
Quantitative Ecology and Resource Management, University of Washington.  
IGERT Program in Evolutionary Modeling, University of Washington and Washington State University.

### 5. RESEARCH EXPERIENCE AND TRAINING

*Invited participant.* Wenner-Gren Foundation Symposium 138: Plagues: models and metaphors in the human struggle with disease. Tucson, 2007.

*Participant.* Santa Fe Institute Complex Systems Summer School, Santa Fe, NM. Intensive one-month course in complexity theory and agent-based modeling. 2002.

*Research Assistant,* Department of Anthropology and Program in Genetics, Pennsylvania State University, 1998. *Modeling DNA diversity in cardiovascular health/disease.* NIH Grant 1R01HL58239-01A1.

Research Assistant, Burden of Disease Unit, Harvard Center for Population and Development Studies, 1994-1996. *Global burden of disease and injury project*. Funded by the World Health Organization and the World Bank.

## 6. PUBLICATIONS

Peer-reviewed:

20. Hunter DR, **Goodreau SM**, and Handcock MS. Submitted. ergm.userterms: a template package for extending statnet. *Journal of Statistical Software*.
19. **Goodreau SM**. 2011. A decade of modelling research yields considerable evidence for the importance of concurrency: a response to Sawers and Stillwaggon. *Journal of the International AIDS Society*. 14(12). Published online 2011 March 15. doi: 10.1186/1758-2652-14-12. PMID: PMC3065394
18. Cassels S and **Goodreau SM**. 2011. Interaction of mathematical modeling and social and behavioral HIV/AIDS research. *Current Opinion in HIV and AIDS*. 6(1):119-123. PMC journal - in process.
17. **Goodreau SM**, Cassels S, Kasprzyk D, Montaño DE, Greek A and Morris M. 2010. Concurrent partnerships, Acute Infection and Epidemic Dynamics among Young Adults in Zimbabwe. *AIDS and Behavior*. DOI 10.1007/s10461-010-9858-x. PMC journal - in process.
16. White E, Lumley T, **Goodreau SM**, Goldbaum G, and Hawes S. 2010. Stochastic Models to Demonstrate the Effect of Motivated Testing on HIV Incidence Estimates Using the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS). *Sexually Transmitted Infections*. 86(7): 506-511. PMC journal - in process.
15. White E, Goldbaum G, **Goodreau SM**, Lumley T, and Hawes S. 2010. Inter-population differences in HIV testing promptness introduce bias in HIV incidence estimates using STARHS. *Sexually Transmitted Infections*. 86(4): 254-257. PMC journal - in process.
14. Blas MM, Alva IE, Carcamo CP, Cabello R, **Goodreau SM**, Kimball AM and Kurth AE. 2010. Effect of an online video-based intervention to increase HIV testing in men who have sex with men in Peru. *PLoS One*. 5 (5): e10448. PMID 2862715.
13. Reidy WJ and **Goodreau SM**. 2010. The role of commercial sex venues in the HIV epidemic among men who have sex with men in King County, WA. *Epidemiology*. 21(3): 349-359. PMC journal - in process.
12. Cassels S, Menza TW, **Goodreau SM** and Golden MR. 2009. HIV serosorting as a harm reduction strategy: evidence from Seattle, Washington. *AIDS*. 23(18): 2497-2506. PMID 2886722.
11. **Goodreau SM**, Kitts JA, and Morris M. 2009. Birds of a feather, or friend of a friend? Using exponential random graph models to investigate adolescent social networks. *Demography*. 46(1): 103-126. PMID 2743438.
10. Hunter DR, Handcock MS, Butts CT, **Goodreau SM** and Morris M. 2008. ergm: a package to fit, simulate and diagnose exponential-family models for networks. *Journal of Statistical Software*, 24(3): 1-29. PMID 2447931.
9. Handcock MS, Hunter DR, Butts CT, **Goodreau SM** and Morris M. 2008. statnet: software tools for the representation, visualization, analysis and simulation of social network data. *Journal of Statistical Software*, 24(1): 1-11. PMID 2831261.
8. **Goodreau SM**, Handcock MS, Hunter DR, Butts CT and Morris M. 2008. A statnet tutorial. *Journal of Statistical Software*, 24(9): 1-26. PMID 2443947.

7. Hunter DR, **Goodreau SM**, and Handcock MS. 2008. Goodness-of-fit of social network models. *Journal of the American Statistical Association*. 103(481): 248-258.
6. **Goodreau SM** and Golden MR. 2007. Biological and demographic causes of high HIV and STD prevalence in men who have sex with men. *Sexually Transmitted Infections*. 83(6):458-62. PMID 2031833.
5. Peinado J, **Goodreau SM**, et al. 2007. Role versatility among men who have sex with men in urban Peru. *Journal of Sex Research*. 44(3):233-239.
4. **Goodreau SM**. 2007. Advances in exponential random graph (p\*) models applied to a large social network. *Social Networks*. 29(2):231-248. PMID 2598698.
3. **Goodreau SM**. 2006. Assessing the effects of human mixing patterns on HIV-1 interhost phylogenetics through social network simulation. *Genetics*. 142(4):2033-2045. PMID 1456410.
2. **Goodreau SM**, Goicochea LP and Sanchez J. 2005. Sexual role and transmission of HIV Type 1 among men who have sex with men, in Peru. *Journal of Infectious Disease*. 191:S147-S158.
1. Koehly L, **Goodreau SM**, and Morris M. 2004. Exponential family models for sampled and census network data. *Sociological Methodology*. 34(1):241-270.

#### *Book chapters*

- Goodreau SM**. 2010. "Accounting for epidemics: mathematical modeling and anthropology." In: Herring A and Swedlund A, eds., "Plagues and Epidemics: Infected Spaces Past and Present." Berg Publishers, Oxford. Pp. 213-230.
- Morris M, **Goodreau SM** and Moody J. 2007. "Sexual networks, concurrency, and STD/HIV." Chapter 7 in *Sexually Transmitted Diseases (4th edition)*, eds. Holmes KK et al. New York, McGraw-Hill.

#### *Reviews and commentaries*

- Cassels S, Menza TW, **Goodreau SM** and Golden MR. 2010. "Available evidence does not support serosorting as an HIV risk reduction strategy: Author's reply" *AIDS* 24(6):936-938.
- Goodreau SM**. 2007. Commentary on Handcock et al., "Model-based clustering for social networks," *Journal of the Royal Statistical Society Series A* 170(2):337-8.
- Goodreau SM** and Weiss KM 2001. Review of "Evolution of HIV," Keith Crandall, ed. *Genetic Epidemiology*.

#### *Software*

- Handcock MS, Hunter DR, Butts CT, **Goodreau SM**, and Morris M. 2008. ergm: a package to fit, simulate and diagnose exponential-family models for networks. Version 2.0-6, URL <http://statnetproject.org>.

#### *Conference presentations/abstracts*

- "The HIV Transmission Network among Men who have Sex with Men in the United States: New Insights from Dynamic Demographic Network Models," Population Association of America, Washington DC, April 2011.
- "HIV Transmission among Men who have Sex with Men in the United States: New Insights from Dynamic Demographic Network Models," Sunbelt XXVII. St. Pete Beach FL, February 2011.

- "Introduction to Exponential-family Random Graph (ERG or  $p^*$ ) modeling with statnet," Half-day tutorial, Sunbelt XXVII. St. Pete Beach FL, February 2011.
- "Estimating the fraction of new HIV infections from acute-stage cases in Zimbabwe through network modeling," HIV Acute Infection Meeting, Boston, MA, September 2009.
- "Advanced social network analysis using R and statnet," Full-day invited workshop. Harvard Political Networks Conference, Cambridge, June 2009.
- "HIV serosorting among men who have sex with men: Population-level impacts of behavior," Epidemics<sup>1</sup>, Asilomar CA, Dec 1-3, 2008. (lead author S. Cassels)
- "Birds of a Feather, or Friend of a Friend? Statistical Models for Social Network Structure," Add Health Users Conference, Plenary session, Bethesda, July 2008.
- "Assessing the Population-Level Impact of the Acute Stage of HIV in Zimbabwe through Network Modeling." Meeting of the International Society for Sexually Transmitted Disease Research. Seattle, July 2007 (lead author, SL Cassels).
- "Inter-population differences in HIV testing promptness introduce bias in HIV incidence estimates using the serologic testing algorithm for recent HIV seroconversion (STARHS)." Meeting of the International Society for Sexually Transmitted Disease Research. Seattle, July 2007 (lead author, EW White).
- "Using exponential random graph modeling to assess the population-level impact of the acute stage of HIV." Sunbelt XXVII. Corfu, May 2007 (lead author, SL Cassels).
- "Introduction to Statnet," Half-day tutorial. Sunbelt XXVII. Corfu, May 2007.
- "Sexual role versatility among MSM in Latin America: its correlates and epidemic effects." XVI International AIDS Conference, Toronto, August 2006.
- "Introduction to Statnet," Half-day tutorial. Sunbelt XXVI. Vancouver, April 2006.
- "Birds of a Feather or Friend of a Friend? The Joint Effects of Homophily and Transitivity on Adolescent Social Networks" Sunbelt XXVI. Vancouver, April 2006.
- "Epidemic impacts of a changing cultural practice: role segregation among Peruvian men who have sex with men," American Association of Physical Anthropologists, Anchorage, March 2006.
- "Statistical modeling of social networks: practical advances and results," Population Association of America, Philadelphia, April 2005.
- "Recent developments in exponential random graph ( $p^*$ ) models: ERG models and AddHealth," Sunbelt XXV, Redondo Beach, CA, February 2005.
- "Social network structure and human/HIV co-evolution," American Association of Physical Anthropologists, Tampa, April 2004.
- "Statistical Models for Complete and Incomplete Network Data," Population Association of America, Boston, April 2004.
- "Behavioral, Biological and Structural Components of MSM STI Morbidity," National STD Prevention Conference, Philadelphia, March 2004.
- "Linking random graph and loglinear models of networks," Joint Statistical Meetings, San Francisco, August 2003. Invited session.

"HIV population genetics in structured human populations – an exponential random graph model approach," HIV Dynamics and Evolution Conference, Lake Arrowhead CA, April 2003.

"HIV-1 population genetics in human populations with structured mixing," XIV International AIDS Conference, Barcelona, July 2002.

"HIV microevolution in sexual/IVDU networks," Sunbelt XXII, New Orleans, LA, February 2002.

"Simulation to aid model selection in random graph models," American Sociological Association Methodology Section, Minneapolis, MN, May 2001.

"Social networks and the evolution of HIV-1," Sunbelt XIX, Charleston, SC, February 1999.

## **7. INVITED TALKS (OUTSIDE HOME INSTITUTION)**

"Methods and Data Required for Model-Based Bridging of Results," NIH Workshop on Quantitative Methods to Advance Combination Biomedical HIV Prevention Research, Rockville MD, September 2011.

"Modeling Strategies: PUMA," Methods for Prevention Packages Program Workshop, National Institutes of Health, Rockville MD, September 2011.

"Epidemic Modeling and Combination Intervention Formulation," Combination Biomedical HIV Prevention Modalities Workshop: Research Design and Ethical Considerations, National Institutes of Health, Rockville MD. June 2010.

"Biological and Demographic Causes of High HIV Prevalence among Gay Men," Yale University Center for Interdisciplinary Research on AIDS. March 2010.

"Introduction to Epidemic Modeling," three lecture series, joint with Martina Morris, Bill and Melinda Gates Foundation. December 2009.

"Birds of a Feather, or Friend of a Friend? Statistical models of network structure in the Add Health study," Center for Statistical Sciences, Brown University. April 2008.

"Birds of a Feather, or Friend of a Friend? Statistical models of network structure in the Add Health study," Center for Demography and Ecology, University of Wisconsin. February 2008.

"Biological and Demographic Causes of High HIV Prevalence Among Gay Men," Stanford University. Co-sponsored by Aplera Charitable Foundation. February 2007.

"Social Network Analysis: An Introduction for Demographers," Stanford Course in Formal Demography, August 2005, 2006.

"Men's sexual role and HIV transmission in Urban Peru," Dept. of Anthropology, Binghamton University – SUNY, March 2004.

"Social networks and HIV transmission," Working Group on Complex Networked Social Systems, University of Melbourne, February 2004.

"Modeling HIV transmission and evolution in an urban social network," Dept. of Anthropology, University of Massachusetts - Boston, February 2003.

"Network measures for HIV/STD epidemiology," CDC special meeting on network epidemiology, Washington DC, April 2002.

“Dependency graphs and contact graphs,” Erasmus University Dept. of Public Health, Rotterdam, Netherlands, October 1999.

“Generating standardized epidemiological estimates using DisMod and BDAP,” Workshop on the Burden of Disease in Hungary, Budapest, October 1995.

## 8. TEACHING EXPERIENCE

### *Upper-level undergraduate courses*

Social Networks and Health  
Human Genetics, Culture and Disease  
Human Population Genetics  
Human Population Biology

### *Graduate-level courses*

Graduate Readings in Social Network Analysis  
Methods and Modeling in Biocultural Anthropology  
Research Methods and Study Design

## 9. CURRENT GRANTS

*Prevention Umbrella for MSM in the Americas.* NIAID, R01-AI083060. University of Washington Subcontract PI, Head of Epidemiology Section (Overall PI: S Buchbinder), 4/1/2009 – 3/31/2013. UW annual direct costs: \$86,011.

*Transmission Behavior in Partnerships of Newly HIV Infected Southern Californians.* NIDA, R01 - DA02211. University of Washington Subcontract PI (Overall PI: PM Gorbach), 6/10/2007 – 5/31/2012. UW annual direct costs: \$82,382.

*A Kenya Free of AIDS: Harnessing interdisciplinary science for HIV prevention.* NICHD, R24 - HD056799. Key Personnel (PI: WM Morris), 09/30/2007 – 07/31/2012.

## 10. RECENT GRANTS (PI)

*Assessing the population-level impact of recency on the African HIV epidemic.* Puget Sound Partners for Global Health, Principal Investigator, 10/01/05 – 09/30/06. \$42,717.

*Evaluating the role of circular migration on population-level HIV prevalence.* University of Washington Royalty Research Fund, Principal Investigator, 3/16/2007-3/15/2008. \$26,572.