

Elena Aleksandrovna Erosheva

Current Position Visiting Professor, International Chair in Data Science
Université Côte d'Azur, *France*

Professor WOT of Statistics and Social Work
Associate Director, Center for Statistics and the Social Sciences
Affiliate Faculty, Center for Studies in Demography and Ecology
University of Washington, *USA*

Contact Information

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Education

CARNEGIE MELLON UNIVERSITY Pittsburgh, PA
Ph.D., Statistics, August 2002
Dissertation title: "Grade of Membership and Latent Structure Models With Application to Disability Survey Data"
Advisor: Stephen E. Fienberg

UTAH STATE UNIVERSITY Logan, UT
M.S., Statistics, June 1998

NOVOSIBIRSK STATE UNIVERSITY Novosibirsk, Russia
B.S., Mathematics and Applied Mathematics,
Honor Diploma, June 1995

Research and Professional Experience

International Chair in Data Science 08/2018-07/2019
UNIVERSITÉ CÔTE D'AZUR France

Professor WOT 07/2017-present
UNIVERSITY OF WASHINGTON Seattle, WA

Affiliate Faculty 04/2017-present
CENTER FOR DEMOGRAPHY AND ECOLOGY, Seattle, WA
UNIVERSITY OF WASHINGTON

Associate Director 09/2016-present
CENTER FOR STATISTICS AND THE SOCIAL Seattle, WA
SCIENCES, UNIVERSITY OF WASHINGTON

Director of Statistical Consulting 09/2007-08/2016
CENTER FOR STATISTICS AND THE SOCIAL Seattle, WA
SCIENCES, UNIVERSITY OF WASHINGTON

Associate Professor WOT 06/2010-present
UNIVERSITY OF WASHINGTON Seattle, WA

Assistant Professor WOT 07/2005-06/2010
UNIVERSITY OF WASHINGTON Seattle, WA

Research Assistant Professor 09/2002-06/2005
UNIVERSITY OF WASHINGTON Seattle, WA

Research Assistant 09/2000-08/2002
CARNEGIE MELLON UNIVERSITY Pittsburgh, PA

	<i>Statistician</i> UNIVERSITY OF PITTSBURGH SCHOOL OF PHARMACY	05/2000-08/2000 Pittsburgh, PA
	<i>Summer Intern</i> VACCINE BIOMETRICS DEPARTMENT MERCK RESEARCH LABORATORIES	05/1999-08/1999 West Point, PA
	<i>Research Assistant</i> DEPARTMENT OF MATHEMATICS AND STATISTICS, UTAH STATE UNIVERSITY	1997-1998 Logan, UT
	<i>Research Assistant</i> THE SOBOLEV INSTITUTE OF MATHEMATICS	1994-1996 Novosibirsk, Russia
Editorial Service	Acting Editor <i>Proceedings of the National Academy of Sciences</i>	2018
	Associate Editor <i>Journal of the American Statistical Association, Theory and Methods</i>	2014-2018
	Associate Editor <i>The Annals of Applied Statistics</i>	2006-present
	Editorial Board <i>Journal of Educational and Behavioral Statistics</i>	2010-2016
	Guest Associate Editor <i>Psychometrika</i>	2006-2007
	National Science Foundation <i>Advisory Panel for the Methodology, Measurement, and Statistics Program</i>	2015-2017
National Committees and Advisory Boards	National Academy of Sciences <i>Institute of Medicine, Board on Special Populations: Committee on Designing an Epidemiologic Study for Multiple Sclerosis and Other Neurologic Disorders in Pre and Post 9-11 Gulf War Veterans</i>	2015-2016
	National Institutes of Health <i>NIH Special Emphasis Panel</i>	2008
Conference Organizing	Program Chair Joint Statistical Meetings, Vancouver, Canada, 2018 <i>Bayesian Statistical Science Section of the American Statistical Association</i>	2018
	Student Paper Competition, Chair Joint Statistical Meetings, Baltimore, MD, 2017 <i>Bayesian Statistical Science Section of the American Statistical Association</i>	2017
	Organizing Committee Invited Session at Joint Statistical Meetings, Seattle, WA <i>"Mixed Membership Models and Their Applications: Past, Present, and Future"</i>	2015
	Organizing Committee <i>Program on Computational Methods in Social Sciences, Statistical and Applied Mathematical Sciences Institute (SAMSI)</i>	2012-2014
	Organizing Committee Invited Session at Joint Statistical Meetings, Montreal, Canada <i>"In honor of 70th birthday of Stephen E. Fienberg and his nearly 50 years of statistical practice"</i>	2013
	Program Committee <i>International Meetings of the Psychometric Society</i>	2008

	Core faculty <i>Conference on Application of Psychometric Methods to Measurement Issues in Cognitive Aging Research</i>	2007-2010
	Organizing Committee <i>Case Studies in Bayesian Statistics VIII, IX</i>	2004-2008
Grant Reviewer	<i>Academy of Sciences of the Czech Republic National Institutes of Health National Science Foundation Royalty Research Fund and CSSS Seed Grant programs, University of Washington</i>	
Manuscript Reviewer	<i>The American Statistician, Annals of Statistics, Annals of Applied Statistics, Biometrics, British Journal of Mathematical and Statistical Psychology, Clinical Interventions in Aging, Columbia University Press, Computational Statistics and Data Analysis, Criminology, Data Analysis and Classification, Dementia and Geriatric Cognitive Disorders, Demography, Encyclopedia of Social Measurement, Journal of the American Statistical Association, Journal of Educational and Behavioral Statistics, Journal of Health and Social Behavior, Journal of the Royal Statistical Society (Series A), Journal of the Royal Statistical Society (Series B), Nature Human Behavior, Oxford University Press, Proceedings of the National Academy of Sciences, Psychometrika, Social Networks, Springer Publishing Services, and Statistics and Computing.</i>	
Teaching Experience	<i>Professor</i> University of Washington STAT/CS&SS 529 <i>Sample Survey Techniques</i> SocWl/CS&SS 589 <i>Multivariate Data Analysis for the Social Sciences</i> STAT/CS&SS 560 <i>Hierarchical Modeling for the Social Sciences</i> STAT/CS&SS 504 <i>Applied Regression</i> STAT 591 <i>Statistical Modeling with Latent Variables</i> STAT/BIOSTAT/CSSS 529 <i>Sample Survey Techniques</i> CSSS 508 <i>Introduction to R for Social Scientists</i> SOCWL590 <i>Seminar on Longitudinal Data Analysis</i> CSSS 591 <i>Applied Longitudinal Data Analysis</i>	2002-present Seattle, WA
	<i>Teaching Assistant</i> ICPSR (Inter-University Consortium for Political and Social Research) <i>Mixed Models for Categorical Data</i> <i>Longitudinal, Multistrata, and Multilevel Models for Categorical Data</i>	06/2002, 06/2002 Ann Arbor, MI
	<i>Graduate Teaching Assistant</i> Department of Statistics, Carnegie Mellon University	1998-2001 Pittsburgh, PA
	<i>Graduate Teaching Assistant</i> Department of Mathematics and Statistics, Utah State University	1996-1998 Logan, UT
Postdoc and Student Supervision	Postdoc advisor <ul style="list-style-type: none"> • S. McKay Curtis (Statistics, 2008/10) Thesis advisor <ul style="list-style-type: none"> • Jonathan Gruhl (Statistics, PhD 05/2012) • Toby White (Statistics, PhD 08/2008) • David Dailey (Statistics, MS 06/2005) 	

Current research advisor

- Sheridan Grant, “Identifying Commensuration Bias in NIH Grant Review.”

Ph.D. Dissertation Committee Member (UW, unless stated otherwise)

- Wesley Lee (Statistics), Youngjun Choi (Social Work), Yali Wan (Statistics), Michael Fop (School of Mathematics and Statistics, University College Dublin), Chiho Song (Social Work), Partick Denise (Sociology), Abdalla Nimer (Mathematics), Maria Grigoryeva (Sociology), Rosa Avila (Health Services), Ryan Admiraal (Statistics) and Gail Potter (Statistics), Daniel Manrique (Statistics, Carnegie Mellon), Seunghye Hong (Social Work), Sabino Kornich and Kevin Drakulich (Sociology), Elizabeth Sanders (Education), Douglas Downey (Computer Science and Engineering), Andy Krause (Urban Design and Planning).

M.S. Dissertation Committee Member (UW, unless stated otherwise)

- Conglei Zhang, (Business School).

Undergraduate student supervision

- Zhiwei (Cindy) Cai, “Statistical models for developmental trajectories” (2012-2013)

Mentor

Faculty and Graduate Student Mentoring Program, University of Washington.

External evaluator

M.S. and Ph.D. theses, Department of Statistics, Athens University of Economics and Business.

**Research
Projects, Grants,
Contracts**

Principal Investigator 04/01/18-03/31/20
Developing Methodology for Commensuration Bias Detection in Grant Application Peer Review (NSF Program on Science of Science Policy, Co-PI Carole Lee, Department of Philosophy, \$259,982 total costs).

Principal Investigator 16/06/17-15/06/18
Measuring gender-based homophily in scientific collaborations (University of Washington, Royalty Research Fund, Co-PI Carole Lee, Department of Philosophy, \$40,000 total costs).

International collaborator 10/1/17–9/30/20
Methods for the Analysis of Longitudinal Dyadic Data with an Application to Intergenerational Exchanges of Family Support (Economic and Social Research Council (ESRC) and Engineering and Physical Sciences Research Council (EPSRC), UK, PI-Fiona A. Steele, Department of Statistics, London School of Economics, £779,000 total costs).

Principal Investigator 9/30/16–9/29/17
Contract HHSN268201600310A *Identifying Commensuration Bias in NIH/CSR Peer Review* (NIH, Co-PI Carole Lee, Department of Philosophy, UW, \$116,617 total costs).

Co-investigator 1/1/15–12/31/17
Award No. 2014-R2-CX-0018 *Rational Choice, Deterrence, and Identity: Modeling Life Course Transitions and Desistance* (National Institute of Justice, PI-Ross L. Matsueda, Department of Sociology, UW, \$507,942 total costs).

Co-investigator 7/1/2014-12/31/2015
Veteran Health Examination Survey pilot project (Department of Veterans Affairs Cooperative Studies Programming, \$1,748,878 total costs).

Principal investigator 04/2013-03/2015
Award No. R21 1AG042737-01A1 *Respondent-Driven Sampling for Hard-to-Reach Populations with Network Clustering* (NIA, \$412,808 total costs).

Principal investigator 06/2012
Seed grant *Exploring Functional Data Analysis and Model-Based Clustering for Analyzing Behavioral Longitudinal Trajectories* CSSS, UW.

Co-investigator 09/01/09-08/31/11
Award No. 1 R01 20-3246 *Caregiving Dyads in Vulnerable Communities* (NIA, PI-Karen I. Fredriksen-Goldsen, School of Social Work, UW).

Co-investigator 09/01/07-08/31/12
Award No. 1R01 AG029672-01A1 *Improving Cognitive Outcome Precision and Responsiveness with Modern Psychometrics* (NIH, PI-Paul K. Crane, Department of Medicine, UW, \$2,716,365).

Principal Investigator 09/01/07-08/31/09
Award No. 1 R03 AG030605-01 *Operational Definition of Chronic Disability in the National Long-Term Care Survey*, (NIH, \$121,280 total costs).

Co-investigator 9/1/05-8/31/08
Award No. R 01 DA18148-01A1 *Life Course Trajectories of Substance Use and Crime* (NIH, PI-Ross L. Matsueda, Department of Sociology, UW, \$993,535 total costs).

Co-investigator 12/06-09/08
Learning Initiatives Award to the Department of Statistics, College of Arts & Sciences, University of Washington (PI-June Morita, Department of Statistics, UW, \$60,893 total costs).

Co-investigator 1/1/05-12/30/06
Award No. 1R01HD049142-01 *Education and Health Among Racial Groups* (NICHD, PI-David Takeuchi, School of Social Work, UW, \$368,455 total costs).

Principal Investigator 09/30/03-08/31/06
Subaward No. 1090087-145355 to the University of Washington (\$192,000 total costs); grant 1 R01 AG023141-01 *Modeling Longitudinal Disability Survey Data* (NIH, PI-Stephen E. Fienberg, Department of Statistics, Carnegie Mellon University).

Principal Investigator 09/15/04-08/31/05
Subaward No. 148549 to the University of Washington;
grant 1 R43 AG025710-01 *A Stata Module for Grade of Membership (GoM) Analysis* (NIH, PI-Roberto G. Guiterrez, Stata Corporation, \$8,784 total costs).

Principal Investigator 11/1/03-5/31/04
Subaward No. 149928-0505 to the University of Washington; grant U01 MH060220 *Epidemiology: National Comorbidity Survey Replication* (NIH, PI-Ronald C. Kessler, Department of Health Care Policy, Harvard Medical School).

Principal Investigator 09/29/03-05/31/04
Seed Grant *Statistics and Social Work Collaborative Research Initiative* (CSSS, \$37,424).

Awards and Honors

- **First Prize** winner in the category of *Most Creative Idea for Detection of Bias in Peer Review*, 2014 America Competes Act Challenge competition to maximize fairness in NIH peer review for the submission *Identifying Commensuration Bias in Grant Review*, co-authored with C. J. Lee. The Center for Scientific Review, NIH.
- **Mitchell Prize** 2013 for an outstanding paper that describes how a Bayesian analysis has solved an important applied problem, co-authored with D. Telesca, R. Matsueda, and D. Kreager. Jointly sponsored by the Section on Bayesian Statistical Science of the American Statistical Association and the International Society for Bayesian Analysis.
- Travel Award (finalist, Leonard L. Savage dissertation award), American Statistical Association, Section on Bayesian Statistical Science. Joint Statistical Meetings, 2003.
- Conference Travel Grant, Seventh Valencia International Meeting on Bayesian Statistics, 2002.
- Honor Society Phi Kappa Phi, 2001.

- Graduate Presentation Award, 2001, Carnegie Mellon University.
- Graduate Academic Achievement Award, 1998, Utah State University.
- National Dean's List, 1997.
- Honor Diploma, B.S. in Mathematics and Applied Mathematics, Novosibirsk State University, Russia, 1995.

Edited Books and Reports

1. E. M. Airoldi, D. M. Blei, E. A. Erosheva, and S. E. Fienberg (Eds.) *Handbook of Mixed Membership Models and Their Applications*, Chapman & Hall/CRC (2014).
2. National Academies of Sciences, Engineering, and Medicine. 2015. *Considerations for Designing an Epidemiologic Study for Multiple Sclerosis and Other Neurologic Disorders in Pre and Post 9/11 Gulf War Veterans*. Washington, DC: The National Academies Press.

Peer-reviewed Article Publications

1. P. Martinkova, D. Goldhaber, and E. Erosheva "Disparities in Ratings of Internal and External Applicants: A Case for Model-Based Inter-Rater Reliability," *PLoS ONE* (2018), 13(10), e0203002.
2. M. Griffin, K. Gile, K. I. Fredriksen-Goldsen, M. S. Handcock, and E. A. Erosheva. "A Simulation-based Framework for Assessing the Feasibility of Respondent-Driven Sampling for Estimating Characteristics in Populations of Lesbian, Gay and Bisexual Older Adults," *Annals of Applied Statistics* (2018), 12(4): 2252-2278.
3. Y.-C. Chen, Y. S. Wang, and E. A. Erosheva "On the Use of Bootstrap with Variational Inference: Theory, Interpretation, and a Two-Sample Text Example," *Annals of Applied Statistics* (2018), 12(2): 846-876.
4. P. Martinkova, J. Freeman, A. Drabinova, E. Erosheva, D. Cattaneo, J. Jonsdottir, I. Baert, T. Smedal, A. Romberg, P. Feys, J. Alves-Guerreiro, M. Habek, T. Henze, C.S. Medina, V. d'Hebron, A. Beiske, P. Van Asch, D. Bakalidou, Y. Salci, E.N. Dimitrova, M. Pavlikova, and K. Razova. "Physiotherapeutic Interventions in Multiple Sclerosis Across Europe: Regions and Other Factors that Matter", *Multiple Sclerosis and Related Disorders* (2018), 22: 59-67.
5. E. A. Erosheva and S. M. Curtis. "Dealing with rotational invariance in Bayesian confirmatory factor analysis," *Psychometrika* (2017), 82(2):295-307.
6. Y.S. Wang, R. L. Matsueda, and E. A. Erosheva, "A Variational EM Method for Mixed Membership Models for Rank Data: an Analysis of Public Policy Preferences", *Annals of Applied Statistics* (2017), 11(3): 1452-1480.
7. E. A. Erosheva, H.-J. Kim, C. A. Emlet, and K. I. Fredriksen-Goldsen. "Social Networks of Lesbian, Gay, Bisexual and Transgender Older Adults", *Research on Aging* (2015): 1-26, 0164027515581859.
8. E. A. Erosheva and C. Joutard. "Estimating Diagnostic Error without Gold Standard: A Mixed Membership Approach," *Handbook on Mixed-Membership Models* (E.M. Airoldi, D.M. Blei, E.A. Erosheva, and S.E. Fienberg, eds.), Chapman & Hall/CRC (2014).
9. J. Gruhl and E. A. Erosheva "A Tale of Two (Types of) Memberships," *Handbook on Mixed-Membership Models*, (E.M. Airoldi, D.M. Blei, E.A. Erosheva, and S.E. Fienberg, eds.), Chapman & Hall/CRC (2014).
10. E.M. Airoldi, D.M. Blei, E.A. Erosheva, and S.E. Fienberg. "Introduction to Mixed Membership Models and Methods," *Handbook on Mixed-Membership Models*, (E.M. Airoldi, D.M. Blei, E.A. Erosheva, and S.E. Fienberg, eds.), Chapman & Hall/CRC (2014).
11. E. A. Erosheva, R. L. Matsueda, and D. Telesca. "Breaking bad: Two decades of life-course data analysis in criminology, developmental psychology, and beyond." *Annual Review of Statistics and Its Application* (2014), 1:301-332.

12. T. White and E. A. Erosheva. "Using Group-Based Latent Class Transition Models to Analyze Chronic Disability Data from the National Long Term Care Survey 1984-2004" *Statistics in Medicine* (2013), 32(20):3569-89.
13. J. Gruhl, E. A. Erosheva, and P. K. Crane. "A semiparametric approach to mixed outcome latent variable models: Estimating the association between cognition and regional brain volumes," *Annals of Applied Statistics*(2013) 7(4):1837-2457.
14. K. Fredriksen-Goldsen, L. Cook-Daniels, H.-J. Kim, E. A. Erosheva, C. Emlet, C. Hoy-Ellis, J. Goldsen, and A. Muraco. "The Physical and Mental Health of Transgender Older Adults: An At-Risk and Underserved Population" *The Gerontologist* (2013; doi:10.1093/geront/gnt021).
15. D. Telesca, E. A. Erosheva, D. Kreager, and R. Matsueda. "Modeling Criminal Careers as Departures from a Unimodal Age-Crime Curve: The Case of Marijuana Use," *Journal of the American Statistical Association: Applications and Case Studies* (2012), 107(500):1427-1440 (JASA featured article and winner of the 2013 Mitchell Award).
16. K. I. Fredriksen-Goldsen, H.-J. Kim, C. A. Emlet, A. Muraco, E. A. Erosheva, J. Goldsen, "The Physical and Mental Health of Lesbian, Gay Male, and Bisexual (LGB) Older Adults: The Role of Key Health Indicators and Risk and Protective Factors," *The Gerontologist* (2013; doi: 10.1093/geront/gns123).
17. N. H. Stricker, H. H. Dodge, N. M. Dowling, S. D. Han, E. A. Erosheva, W. J. Jagust. "CSF biomarker associations with change in hippocampal volume and precuneus thickness: implications for the Alzheimer's pathological cascade," *Brain Imaging and Behavior* (2012), 6(4):599-609.
18. E. M. Airoidi, E. A. Erosheva, S. E. Fienberg, C. Joutard, T. Love, and S. Shringarpure. "Re-conceptualizing the Classification of PNAS Articles," *Proceedings of the National Academy of Sciences* (2010), 107(49): 20899-20904.
19. P. K. Crane, J. C. Gruhl, E. Erosheva, L. E. Gibbons, S. M. McCurry, K. Rhoads, V. Nguyen, K. Masaki, and L. White. "Use of spoken and written Japanese did not protect from cognitive decline in late life," *The Journal of Gerontology: Psychological Sciences* (2010), 65(6):654-66.
20. E. A. Erosheva and T. A. White. "Issues in two-phase chronic disability measurement: An example of the National Long Term Care Survey," *Journal of Official Statistics*, (2010), 26(2): 317-339.
21. D. A. Kreager, R. L. Matsueda, and E. A. Erosheva. "Motherhood and criminal desistance in disadvantaged neighborhoods," *Criminology* (2010), 48(1), 221-258.
22. E. A. Erosheva, S.E. Fienberg, and C. Joutard. "Describing disability through individual-level mixture models for multivariate binary data" *The Annals of Applied Statistics* (2007), Vol. 1, No. 2, 502-537.
23. E. A. Erosheva, E. C. Walton, and D. T. Takeuchi. "Self-rated health among foreign- and US-Born Asian Americans: A test of comparability." *Medical Care* (2007), 45(1): 80-87.
24. E. A. Erosheva. "Will the market bear your asking price?" *Chance* (2005), 18(3), 23-28 (with discussion).
25. E. A. Erosheva "Comparing latent structures of the Grade of Membership, Rasch, and latent class models," (2005) *Psychometrika*, 70(4), 619-628.
26. E. A. Erosheva and S. E. Fienberg. Book chapter "Bayesian mixed membership models for soft clustering and classification." In Weihs, C. and Gaul, W. (Eds.), *Classification - The Ubiquitous Challenge*, (2005) Springer, Heidelberg, 11-26.
27. E. A. Erosheva. Book chapter "Partial membership models with application to disability survey data." In H. Bozdogan, ed., *Statistical Data Mining and Knowledge Discovery*, (2004) Chapman & Hall/CRC, 117-134.

28. A. Dobra, E. A. Erosheva, and S. E. Fienberg. Book chapter “Disclosure limitation methods based on bounds for large contingency tables with application to disability data.” In H. Bozdogan, ed., *Statistical Data Mining and Knowledge Discovery*, (2004) Chapman & Hall/CRC, 93-116.
29. E. A. Erosheva, S. E. Fienberg, and J. Lafferty. “Mixed-membership models of scientific publications.” *Proceedings of the National Academy of Sciences* (2004), 101 (Suppl.1), 5220-5227.
30. E. A. Erosheva. Book chapter “Bayesian estimation of the Grade of Membership model,” *Bayesian Statistics 7 (J. Bernardo et al., Eds.)*. Oxford University Press, (2003), 501-510.
31. E. A. Erosheva, S. E. Fienberg, and B. J. Junker. “Alternative statistical models and representations for large sparse multi-dimensional contingency tables,” *Annales de la Faculte des Sciences de l’Universite de Toulouse Mathematiques*, (2002), 11(4), 485-505.
32. E. A. Erosheva, J. B. Greenhouse, and P. D. Kroboth. “Characterizing the diurnal rhythm of DHEA,” *The American Statistician*, (2002) 56, No. 4, 273-283.

**Abstract
Publications in
Peer-reviewed
Journals**

1. P. K. Crane, L. E. Gibbons, S. Haneuse, G. van Belle, E. Erosheva, E. B. Larson and D. M. Mungas. “Accounting for measurement precision in a simulated longitudinal study of cognitive functioning dramatically improved the accuracy of estimates of the rate of change,” *Alzheimer’s and Dementia* (2006), 2, No. 3, Supplement 1, S302-S303.
2. E. A. Erosheva, F. S. Salek, R. A. Stone, M. M. Folan, J. Greenhouse, and P. D. Kroboth. “Characterizing the diurnal rhythm of DHEA and effects of an oral dose of Alprazolam” *Biological Psychiatry* (2000), 47, No. 8, Supplement 1, p. S145.

**Non
Peer-reviewed
Articles, Reports,
and Conference
Proceedings**

1. E. A. Erosheva. Book review of “Big Data and Social Science. A practical guide to methods and tools.” (by Foster, Ghani, Jarmin, Kreuter, and Lane, Eds.) to appear in *Biometrics*.
2. Y. S. Wang and E. A. Erosheva. “On the relationship between set-based and network-based measures of gender homophily in scholarly publications.” CSSS Working Paper 157, October 2016, <https://www.csss.washington.edu/research/working-papers/157>
3. Y. S. Wang and E. A. Erosheva. Documentation for R package “MixedMem: Tools for Discrete Multivariate Mixed Membership Models” (2015) <http://cran.rstudio.com/web/packages/mixedMem/index.html>
4. Y. S. Wang and E. A. Erosheva. Vignette for R package “Fitting Mixed Membership Models using mixedMem” (2015). <http://cran.rstudio.com/web/packages/mixedMem/vignettes/mixedMem.pdf>
5. E. A. Erosheva and S. M Curtis (2014) “R code examples for *Analysis of Multivariate Social Science Data (Second Edition)* by Bartholomew et al. (2008)” (available at <http://www.lse.ac.uk/statistics/research/Social-Statistics/Multivariate-Data-Data-and-Syntax.aspx>).
6. K. I. Fredriksen-Goldsen, H.-J. Kim, C. A. Emlet, A. Muraco, E. A. Erosheva, C. P. Hoy-Ellis, J. Goldsen, H. Petry (2011). *The Aging and Health Report: Disparities and Resilience among Lesbian, Gay, Bisexual, and Transgender Older Adults*. Seattle: Institute for Multigenerational Health.
7. E. A. Erosheva and S. E. Fienberg. “Mixed Membership Models.” In M. Lovric (Ed.), *International Encyclopedia of Statistical Science*, to appear (2010).
8. E. A. Erosheva and C. Joutard. “The extended Grade of Membership mixture model.” In C. H. Skiadas (Ed.), *Proceedings of the 12th International Conference on Applied Stochastic Models and Data Analysis* (2007), Chania, Greece (available at http://www.asmda.com//CDasmda2007a/conf_papers.html).

9. J. Connor, E. A. Erosheva, S. E. Fienberg, and T. White. "Toward a restructuring of the National Long Term Care Survey." Technical report commissioned by the National Academy of Sciences for discussion at the *Second Expert Meeting on the Future of the National Long Term Care Survey*, February 16, 2006, Washington DC (available at <http://www.nia.nih.gov/ResearchInformation/ExtramuralPrograms/BehavioralAndSocialResConferencesAndWorkshops.htm>).
10. E. A. Erosheva and S. E. Fienberg. Contribution to the discussion of S. P. Brooks, P. Giudici and G. O. Roberts, "Efficient construction of reversible jump Markov chain Monte Carlo proposal distributions", (2003) *Journal of the Royal Statistical Society, Series B*, **65**, 3-55.

Peer-reviewed Conference Publications

1. P. V. Nikitin, E. A. Erosheva, and D. Stancil "Estimating the Number of Modes in Multimode Waveguide Propagation Environment." *Antennas and Propagation (APSURSI), IEEE International Symposium on Digital Object Identifier*, 2011, 1662 - 1665.

Papers Under Review and in Preparation

1. Y.S. Wang, C. Lee, J. West, C. Bergstrom, E. A. Erosheva "Gender-based homophily in scientific collaborations", to be submitted March 2019.
2. G. Xu, Z. Shang, E. Erosheva. "Partial-mastery Cognitive Diagnosis Models", revise and resubmit, *Psychometrika*, January 2019.
3. A. Koukounari, H. Jamil, E. Erosheva, and I. Moustaki "Evaluating Diagnostic Tests and Quantifying Prevalence for Tropical Infectious Diseases: a Paradigm of Latent Class Modelling Approaches With and Without a Gold Standard for Schistosomiasis Diagnosis", to be submitted March 2019.

Issued Patents

1. P. Maltseff, S. Winter, P. V. Nikitin, K. V. S. Rao, E. A. Erosheva, "Stochastic communication protocol method and system for RFID tags based on coalition formation, such as for tag-to-tag communication", US patent 8,488,510, July 2013.
2. P. Maltseff, S. Winter, P. V. Nikitin, K. V. S. Rao, E. A. Erosheva, "Stochastic communication protocol method and system for RFID tags based on coalition formation, such as for tag-to-tag communication", US patent 8,199,689, June 2012.
3. P. Maltseff, S. Winter, P. V. Nikitin, K. V. S. Rao, E. A. Erosheva, "Stochastic communication protocol method and system for RFID tags based on coalition formation, such as for tag-to-tag communication", European patent EP1938483, July 2015.

Pending Patent Applications

1. P. Maltseff, S. Winter, P. V. Nikitin, K. V. S. Rao, E. A. Erosheva, "Radio frequency identification tags based on coalition formation", WIPO patent application WO/2007/035863.

Invited Talks

- E. A. Erosheva "Analyzing JSTOR corpus of publications: Is there gender homophily in scientific collaborations?", *Barcelona Data Science Workshop*, Barcelona Graduate School of Economics and the Alan Turing Institute, Barcelona, Spain, June 2019.
- E. A. Erosheva "Partial-mastery Cognitive Diagnosis Models", Keynote talk at *International Workshop on Psychometric Computing*, Prague, Czech Republic, February 21-22, 2019.
- E. A. Erosheva "Statistical Models for Life Course Data Analysis", Laboratoire J.A. Dieudonné, Université Côte D'Azur, Nice, France, November 20, 2018.
- E. A. Erosheva, Présentation de la chaire internationale Data Sciences Université Côte D'Azur, conférence *Premières journées du programme structurant "Data Sciences"*, Fréjus, France, October 8-9, 2018.

- E. A. Erosheva, “Gender Homophily in Scientific Collaborations”, Distinguished Speaker Seminar, *Department of Statistics, University of Oxford*, Oxford, UK, September 14, 2018.
- E. A. Erosheva “On the Use of Bootstrap with Variational Inference”, invited AOAS session, *Joint Statistical Meetings, Vancouver, CA*, 8/2018.
- E. A. Erosheva “Modern statistical challenges in criminology: An overview”, invited introductory overview lecture, *Joint Statistical Meetings, Vancouver, CA*, 8/2018.
- E.A. Erosheva “Partial-mastery cognitive diagnosis models”, *Summer Working Group on Model-Based Clustering*, Ann Arbor, 7/2018.
- E. A. Erosheva “Gender Homophily in Scientific Collaborations”, *Carnegie Mellon, Department of Statistics and Data Science*, 11/2017.
- E. A. Erosheva, Carolina Consortium on Human Development Proseminar Series, “Modeling Heterogeneous Patterns and Pathways in Development: What Have We Learned?”, *Center for Developmental Science, University of North Carolina at Chapel Hill*, 03/2017.
- E. A. Erosheva “Mixed membership modeling of population heterogeneity”, *School of Statistics, University of Minnesota*, 9/2016.
- E. A. Erosheva “Hierarchical Bayesian approaches for modeling population heterogeneity with survey data.” *International Society for Bayesian Analysis 2016 World Meeting, Cagliari, Italy*, 6/2016.
- E. A. Erosheva and S. E. Fienberg. “An overview of mixed membership models: Some history and a general formulation,” *Joint Statistical Meetings, Seattle, WA*, 8/2015.
- E. A. Erosheva. “Life-Course Data Analysis: A Generalized Hierarchical Unimodal Curve Registration Approach,” *London School of Economics and Political Science*, 4/2015.
- E. A. Erosheva, K. J. Gile, M. S. Handcock, K.I. Fredriksen-Goldsen, “Feasibility analysis framework for Respondent-Driven Sampling based on egocentric social network data and chain-referral attitudes,” *Joint Statistical Meetings, Boston, MA*, 8/2014.
- E. A. Erosheva. “Life-course data analysis,” *Duke University Department of Statistics*, April 4, 2014.
- E. A. Erosheva. “Life-course data analysis methods in criminology and beyond,” *Measuring Justice and Violence Indicators for the Post-2015 Development Agenda*, a meeting jointly organized by United Nations and Organization of American States, Rio de Janeiro, Brazil, January, 2014.
- E. A. Erosheva. “Asking questions about numbers: Practical considerations in RDS degree measurement,” *Social Network Data: Collection and Analysis*, SAMSI Program on Computational Methods in Social Sciences, Research Triangle, NC, 10/2013.
- E. A. Erosheva and J. Gruhl. “Soft Clustering for Continuous Outcomes.” *Working Group on Model-based Clustering*, Guelph, CA, July 18, 2012.
- E. A. Erosheva. “A Bayesian Hierarchical Curve Registration Method for Modeling Longitudinal Counts of Marijuana Smoking,” *Department of Psychology, University of Amsterdam*, 5/14/2012.
- E. A. Erosheva. “Modeling Criminal Careers: The Case of Marijuana Smoking,” *University of Massachusetts*, 3/30/2012.
- E. A. Erosheva. “A case study in mixed membership modeling with a focus on model selection.” *Interface 2010: Computational Statistics and Human Behavior, Computational Social Science session*, Seattle, WA, June 16-19, 2010.
- E. A. Erosheva. “Recent developments in mixed membership modeling.” *Invited State of the Art talk at International Meeting of the Psychometric Society*, Cambridge, England, July 20-24, 2009.
- E. A. Erosheva and T. White. “Using 2004 NLTCSS survey to explore issues in chronic disability measurement”. *NIH Research Meeting “2004 Wave of National Long Term Care Survey: New Research Directions”*, Bethesda, MD, May 28-29, 2009.

- T. White and E. A. Erosheva. "Using Group-Based Latent Class Transition Models to Analyze Trends in NLTC Chronic Disability Data 1984-2004". *NIH Research Meeting "2004 Wave of National Long Term Care Survey: New Research Directions"*, Bethesda, MD, May 28-29, 2009.
- E. A. Erosheva "Analyzing longitudinal crime patterns" *Department of Statistics, Pennsylvania State University*, April 16, 2009.
- E. A. Erosheva, D. Telesca, R. Matsueda, and D. Kreager. "Unimodal Hierarchical Curve Registration: Analyzing Longitudinal Crime Patterns" *International Meeting of the Psychometric Society*, Durham, NH, June 30, 2008.
- E. A. Erosheva. "Extended Grade of Membership mixture model" *Department of Mathematics & Statistics, Portland State University*, March 14, 2008.
- E. A. Erosheva. "Combining analysis of square tables and propensity score matching: Do two groups of assessors differ in their usage of the categories?" *Case Studies in Bayesian Statistics Workshop 9, Special Session in Honor of Stephen E. Fienberg's 65-th Birthday*, Pittsburgh, PA, October 19, 2007.
- E. A. Erosheva "An Extension of hierarchical Bayesian mixed-membership models" *Department of Statistics, Athens University of Economics and Business*, Athens, Greece, June 1, 2007.
- E. A. Erosheva "A Bayesian analysis of multivariate binary response data using basic and compartmental Grade of Membership models", *Department of Statistics and Actuarial Science, University of Waterloo*, November 16, 2006.
- E. A. Erosheva and S. E. Fienberg. "Bayesian mixed-membership models", Plenary Lecture at the *Annual Conference of the German Classification Society*, University of Dortmund, March 10, 2004.
- E. A. Erosheva. "Grade of Membership and latent structure models with applications to disability survey data", *Joint Statistical Meetings, Savage Award (Application Methodology) Section*, San Francisco, CA, August 5, 2003.
- E. A. Erosheva, S. E. Fienberg, and J. Lafferty. "Mixed membership models of scientific publications" *Arthur M. Sackler Colloquium on Mapping Knowledge Domains*, Beckman Center for National Academy of Sciences, Irvine, CA, May 10, 2003.
- E. A. Erosheva. "Mixed membership models", *Warren Neel Conference on the New Frontiers of Statistical Data Mining, Knowledge Discovery, and E-Business*, Knoxville, Tennessee, June, 2002.

Other Presentations and Conference Talks

- E. A. Erosheva "Gender Homophily in Scientific Collaborations", *CSSS Seminar Series*, University of Washington, 2/2018.
- E. A. Erosheva, B. Martin, R. Matsueda. "Trajectory Models Revisited", *Joint Statistical Meetings, Baltimore, MD*, 8/2017.
- E. A. Erosheva (with M. Griffin, K. Gile, K. I. Fredriksen-Goldsen, and M. Handcock). "Estimating the proportion depressed among lesbian, gay, and bisexual older adults: Lessons learned from a Respondent-Driven Sampling feasibility case study", *Sunbelt Conference of the International Network on Social Network Analysis*, Newport Beach, CA, April 7, 2016.
- E. A. Erosheva and Y. S. Wang. "Fast approximate mixed membership inference with rank data," *International Meeting of the Psychometric Society*, Beijing, China, July 12-16, 2015.
- E. A. Erosheva, H.-J. Kim, C. A. Emlet, and K. I. Fredriksen-Goldsen. "Using egocentric data to explore size and diversity of social networks among lesbian, gay, bisexual, and transgender (LGBT) older adults," *Joint Statistical Meetings, Montreal, CA*, 8/2013.

- E. A. Erosheva and S. M. Curtis. "A relabeling procedure for dealing with rotational invariance in Bayesian confirmatory factor analysis." *Joint Statistical Meetings*, San Diego, CA, August 1, 2012.
- E. A. Erosheva. "Survey measurement of complex latent constructs: An example from the National Long Term Care Survey (NLTS)." *Joint Statistical Meetings*, Vancouver, Canada, August 3, 2010.
- E. A. Erosheva, D. Telesca, R. Matsueda, and D. Kreager. "Analyzing longitudinal crime patterns", *CSSS Seminar*, University of Washington, Seattle, January 28, 2009; *Working Group on Model-Based Clustering and Bayesian Model Selection*, University of Washington, Seattle, October 30, 2008.
- E. A. Erosheva. "On the operational definition of chronic disability in the National Long Term Care Survey, 1982-2004" (poster) *University of Washington Geriatric Research Forum*, Seattle, WA, September 9, 2008.
- E. A. Erosheva. "Re-conceptualizing the classification of PNAS articles: Some first steps" *Working Group on Model-Based Clustering and Bayesian Model Selection*, University of Washington, Seattle, July 25, 2008.
- E. A. Erosheva, D. Telesca, R. Matsueda, and D. Kreager. "Hierarchical Bayesian modeling of marijuana use trajectories in young adults and adolescents" (poster) *Case Studies in Bayesian Statistics Workshop 9*, Pittsburgh, PA, October 19, 2007.
- T. White and E. A. Erosheva. "Latent class transition models for the elderly U.S. chronically disabled population" (poster) *University of Washington Geriatric Research Forum*, Seattle, WA, September 20, 2007.
- E. A. Erosheva and C. Joutard. "The extended Grade of Membership mixture model" *The 12th International Conference on Applied Stochastic Models and Data Analysis*, Chania, Greece, May 28-June 1, 2007.
- E. A. Erosheva, E. C. Walton, and D. T. Takeuchi. "Testing for group biases in a multiple category scale: A case-study on self-rated health among foreign- and native-born individuals," *Joint Statistical Meetings*, Seattle, WA, August 6-10, 2006.
- D. Dailey and E. A. Erosheva. "Sensitivity of latent trait analysis to highly skewed ability distributions," *Joint Statistical Meetings*, Seattle, WA, August 6-10, 2006.
- E. A. Erosheva. "Missing data: What can we do about it?" *Psychometrics Workshop*, Friday Harbor, San Juan Island, WA, August 27-31, 2006.
- E. A. Erosheva, E. C. Walton, and D. T. Takeuchi. "Using propensity score matching to investigate differential item functioning" *International Meeting of the Psychometric Society*, Montreal, June 14-17, 2006.
- C. Joutard, E. A. Erosheva, and S. E. Fienberg "Grade of membership analysis of a subset of functional disability data" *Eight Valencia International Meeting on Bayesian Statistics*, Alicante, Spain, June, 2006.
- E. A. Erosheva, E. C. Walton, and D. T. Takeuchi "Self-rated health among foreign- and US-born individuals: A test of comparability." *International Conference on Health Policy Research*, October 28 - November 1, 2005; *CSSS Seminar*, University of Washington, Seattle, February 8, 2006.
- E. A. Erosheva. "Dimensions of functional disability in the elderly: Analyzing basic and instrumental activities of daily living." *Society of Social Work and Research Annual Conference*, Miami, Florida, January 15, 2005.
- E. A. Erosheva. "Bayesian estimation of a latent trait model with bounded continuous latent variables." *International Meeting of the Psychometric Society*, Pacific Grove, CA, June 14, 2004.
- E. A. Erosheva. "Functional disability dimensions: Overview", *First Pacific Northwest Health and Medical Psychometrics Meeting*, University of British Columbia, Vancouver, Canada, May 1, 2004.

- E. A. Erosheva, S. E. Fienberg, and J. Lafferty. “Major, minor, and internal categories of PNAS research reports”, *CSSS Seminar*, University of Washington, Seattle, October 15, 2003; *Working Group on Model-Based Clustering and Bayesian Model Selection*, University of Washington, Seattle, October 31, 2003.
- E. A. Erosheva, S. E. Fienberg, and J. Lafferty. “Exploring internal structure of PNAS publications: A hierarchical model for text and references” (poster), *Case Studies in Bayesian Statistics 7*, Carnegie Mellon University, Pittsburgh, PA, September 12, 2003.
- E. A. Erosheva. “Analyzing hormone concentrations with linear mixed-effects models”, *Social Development Research Group*, School of Social Work, University of Washington, Seattle, WA, March 20, 2003.
- E. A. Erosheva. “Partial membership models”, *Working Group on Model-Based Clustering and Bayesian Model Selection*, University of Washington, Seattle, WA, January 24, 2003.
- E. A. Erosheva. “Latent class and Grade of Membership models”, *Working group on Model-Based Clustering and Bayesian Model Selection*, University of Washington, Seattle, WA, July 26, 2002.
- E. A. Erosheva. “Bayesian estimation of the Grade of Membership model” (contributed paper), *Seventh Valencia International Meeting on Bayesian Statistics*, Tenerife, Spain, June, 2002.
- E. A. Erosheva. “Using statistical models to understand functional disability among the elderly”, *Department of Health Care Policy, Harvard Medical School*, Boston, MA, February 2002; *School of Social Work, University of Washington*, Seattle, WA, February 2002.
- E. A. Erosheva. “The GoM model: latent class representation and implications for Bayesian estimation”, *Department of Statistics, University of Washington*, Seattle, WA, February 2002; *Faculteit Psychologie, Katholieke Universiteit Leuven*, Belgium, December 2001.
- E. A. Erosheva. “Heterogeneity representations of log-linear, latent class, Rasch, and Grade of Membership models” (contributed paper), *International Meetings of Psychometrics Society*, Osaka, Japan, July 2001.
- E. A. Erosheva, F. S. Salek, R. A. Stone, M. M. Folan, J. Greenhouse, and P. D. Kroboth. “Characterizing the diurnal rhythm of DHEA and effects of an oral dose of Alprazolam” *Society of Biological Psychiatry*, Chicago, IL, May 2000.
- E. A. Erosheva, P. D. Kroboth, and J. Greenhouse. “Characterizing the diurnal rhythm of Dehydroepiandrosterone and effects of an oral dose of Alprazolam” (poster) *Eastern North American Region of International Biometrics Society*, Chicago, IL, March 2000.

UW Committees

and Other Duties

Search Committee for Tenure Track Assistant or Associate Professor, Statistics (chair)	2017-2018
Diversity Committee, Statistics (Ex-officio member)	
Ph.D. Steering Committee, Social Work (member)	
Executive Committee, CSSS (member)	
Graduate Committee, CSSS (member)	
Search Committee for Full-time Lecturer, Statistics (chair)	2016-2017
PhD Admissions Committee, Statistics (member)	
Research Prelim Exam Committee, Statistics (mentor)	
Diversity Committee, Statistics (Ex-officio member)	
Ph.D. Steering Committee, Social Work (member)	
Executive Committee, CSSS (member)	
Graduate Committee, CSSS (member)	
PhD Admissions Committee, Statistics (member)	2015-2016
Curriculum Committee, Statistics (member)	
Research Prelim Exam Committee, Statistics (member)	
Ph.D. Steering Committee, Social Work (member)	
Graduate Committee, CSSS (member)	

<p>PhD Admissions Committee, Statistics (member) Curriculum Committee, Statistics (member) M.S. Applied Exam Committee, Statistics (member) Ph.D. Steering Committee, Social Work (member) Graduate Committee, CSSS (member)</p>	2014-2015
<p>CSSS Director Selection Committee, College of Arts and Sciences (internal member) Center for Social Science Computation and Research Review Committee, College of Arts and Sciences (member) PhD Admissions Committee, Statistics (member) M.S. Applied Exam Committee, Statistics (member) Ph.D. Steering Committee, Social Work (member) Executive Committee, CSSS (member) Graduate Committee, CSSS (member)</p>	2013-2014
<p>Teaching and Curriculum Committee, Statistics (member) Ph.D. Methodology Prelim Committee, Statistics (member) Ph.D. Steering Committee, Social Work (member) Executive Committee, CSSS (member) Graduate Committee, CSSS (member)</p>	2012-2013
<p>Teaching and Curriculum Committee, Statistics (chair) Statistics Track Committee, Social Work (chair) Ph.D. Steering Committee, Social Work (member) Executive Committee, CSSS (member) Graduate Committee, CSSS (member)</p>	2010-2011
<p>Statistics Track Committee, Social Work (chair) Ph.D. Steering Committee, Social Work (member) Graduate Committee, CSSS (member)</p>	2009-2010
<p>Pedagogy Committee, Statistics (chair) Statistics Track Committee, Social Work (chair) Ph.D. Steering Committee, Social Work (member) Curriculum Methods Committee, Social Work (member) Graduate Committee, CSSS (member)</p>	2008-2009
<p>Statistics Track Committee, Social Work (chair) Ph.D. Steering Committee, Social Work (member) Graduate Committee, CSSS (member)</p>	2007-2008
<p>Pedagogy Committee, Statistics (chair) Statistics Track Committee, Social Work (chair) Ph.D. Applied Exam Committee, Statistics (member) Ph.D. Steering Committee, Social Work (member) Graduate Committee, CSSS (member)</p>	2006-2007
<p>Pedagogy Committee, Statistics (member) M.S. Applied Exam Committee, Statistics (member) Ph.D. Steering Committee, Social Work (member) Graduate Committee, CSSS (member)</p>	2005-2006
<p>Pedagogy Committee, Statistics (chair) Graduate Committee, CSSS (chair) Editor of CSSS Working Paper Series</p>	2004-2005

Luncheon Series Planning Committee, Social Work (member)
Applied Ph.D. Exam Committee, Statistics (member)

2003-2004

Pedagogy Committee, Statistics (member)
M.S. Applied Exam Committee, Statistics (member)
Graduate Committee, CSSS (chair)
Editor of CSSS Working Paper Series
Luncheon Series Planning Committee, Social Work (member)

2002-2003

Events and Seminars Committee, Statistics (member)
Editor of CSSS Working Paper Series