Ashley Petersen

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Minneapolis, MN 55455

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Education

Ph.D. in Biostatistics **August 2016**
University of Washington, Seattle, WA
Advisors: Noah Simon and Daniela Witten
Dissertation: Data-Adaptive Modeling using Convex Regression

B.A., *summa cum laude* with distinction **May 2011**
Saint Olaf College, Northfield, MN
Major: Mathematics; Concentration: Statistics
Advisor: Matthew Richey

Employment

Assistant Professor **June 2017-present**
Division of Biostatistics, University of Minnesota

Postdoctoral Research Fellow **September 2016-May 2017**
Statistical Learning Applied to Biostatistics
Department of Biostatistics, University of Washington
Supervised by Daniela Witten

Research Assistant **September 2013-August 2016**
Statistical Learning Applied to Biostatistics
Department of Biostatistics, University of Washington
Supervised by Noah Simon and Daniela Witten

Research Assistant **September 2011-March 2016**
Clinical Trials Center, Resuscitation Outcomes Consortium
Department of Biostatistics, University of Washington
Supervised by Susanne May

Statistical Genetics Research Assistant **June 2010-August 2011**
Department of Mathematics, Hope College
Collaborated with Nathan Tintle

Undergraduate Research Fellow **September 2010-May 2011**
Center for Interdisciplinary Research, Saint Olaf College
Collaborated with Minda Oriña and Paul Roback

Undergraduate Research Fellow **September 2009-May 2010**
Center for Interdisciplinary Research, Saint Olaf College
Collaborated with Mary Walczak, Kay Smith, and Julie Legler

Undergraduate Research Assistant **June 2009-August 2009**
Midwest Cardiovascular Research Foundation
Collaborated with Michael Giudici

Teaching Experience

Teaching Assistant **July 2016**
University of Washington Summer Institute in Statistics for Big Data
Unsupervised Methods for Statistical Machine Learning (2.5-day short course)
Supervised by Genevera Allen and Yufeng Liu

Teaching Assistant **July 2016**
University of Washington Summer Institute in Statistics for Big Data
Reproducible Research for Big Data (2.5-day short course)
Supervised by Keith Baggerly and Roger Peng

Teaching Assistant **Fall 2015**
Biostatistics 536: Categorical Data Analysis in Epidemiology, University of Washington
Supervised by Barbara McKnight

Guest Lecturer **Summer 2015**
University Conjoint 510: Introductory Laboratory Based Biostatistics, University of Washington
Supervised by Lloyd Mancl

Teaching Assistant **July 2015**
University of Washington Summer Institute in Statistics for Big Data
Reproducible Research for Big Data (2.5-day short course)
Supervised by Keith Baggerly and Roger Peng

Teaching Assistant **Winter 2014**
Biostatistics 571: Advanced Regression Methods for Correlated Data, University of Washington
Supervised by Adam Szpiro

Honors, Awards, and Scholarships

- University of Washington Biostatistics Outstanding Ph.D. Student Award 2016
- JSM Section on Nonparametric Statistics Student Paper Award 2015

- WNAR Student Paper Competition Runner-up 2014
- University of Washington Graduate School Fund for Excellence and Innovation Travel Award 2014
- University of Washington Biostatistics Donovan J. Thompson Award for Best Combined Performance on Ph.D. Theory and Applied Qualifying Examinations 2013
- Predoctoral Training Program in Clinical Research on AIDS 2011-2013
- University of Washington Biostatistics Student Excellence Award 2011
- University of Washington Biostatistics Axio Award 2011
- Gertrude M. Cox Award Honorable Mention 2011
- Phi Beta Kappa Inductee 2011
- Robert C. Byrd Honors Scholarship 2007-2011
- Saint Olaf Buntrock Presidential Scholarship 2007-2011
- Genetic Analysis Workshop Travel Award 2010
- American Statistical Association Hands-On Statistics Gold Medal Prize 2010
- Goldwater Scholar Honorable Mention 2010
- USPROC Undergraduate Statistical Competition Honorable Mention 2009
- National Merit Scholar 2007

Publications

Petersen A, Witten D, and N Simon (2016). "Fused Lasso Additive Model." *Journal of Computational and Graphical Statistics,* 25(4): 1005-1025.

Rizoli S, **Petersen A**, Bulger E, Coimbra R, Kerby JD, Minei J, Morrison L, Nathens A, Schreiber M, and AL de Oliveira Manoel (2016). "Early Prediction of Outcome after Severe Traumatic Brain Injury: A Simple and Practical Model." *BMC Emergency Medicine,* 16(1): 32.

Petersen A, Simon N, and D Witten (2016). "Convex Regression with Interpretable Sharp Partitions." *Journal of Machine Learning Research,* 17(94): 1-31.

Evans CC, **Petersen A**, Meier EN, Buick J, Schreiber M, Kannas D, and M Austin (2016). "Prehospital Traumatic Cardiac Arrest: Management and Outcomes from the Resuscitation Outcomes Consortium Epistry-Trauma and PROPHET Registries." *The Journal of Trauma and Acute Care Surgery,* 81(2): 285-293.

Tan KM*, **Petersen A***, and D Witten (2014). "Classification of RNA-seq Data." Chapter 11 in Statistical Analysis of Next Generation Sequencing Data (eds. Somnath Datta and Dan Nettleton). Springer, Frontiers in Probability and the Statistical Sciences series. (* denotes equal contribution)

Petersen A, Spratt J, and NL Tintle (2013). "Incorporating Prior Knowledge to Increase the Power of Genome-Wide Association Studies." Chapter 25 in Genome-Wide Association Studies and Genomic Prediction (eds. Cedric Gondro, Julius van der Werf, and Ben Hayes). Springer, Methods in Molecular Biology series.

Petersen A, Alvarez C, DeClaire S, and NL Tintle (2013). "Assessing Methods for Assigning SNPs to Genes in Gene-Based Tests of Association Using Common Variants." *PLoS One,* 8(5): e62161.

Petersen A*, Sitarik A*, Luedtke A, Powers S, Bekmetjev A, and NL Tintle (2011). "Evaluating Methods for Combining Rare Variant Data in Pathway-Based Tests of Genetic Association." *BMC Proceedings*, 5(9): S48. (* denotes equal contribution)

Luedtke A, Powers S, **Petersen A**, Sitarik A, Bekmetjev A, and NL Tintle (2011). "Evaluating Methods for the Analysis of Rare Variants in Sequence Data." *BMC Proceedings*, 5(9): S119.

Oral Presentations

"Extracting Neurons from Calcium Imaging Data." Invited seminar at University of Minnesota, Division of Biostatistics. February 2017, Minneapolis, Minnesota.

"Fused Lasso Additive Model." Contributed presentation at Joint Statistical Meetings. August 2015, Seattle, Washington.

"Fused Lasso Additive Model." Invited presentation at Eastern North American Region (ENAR) of the International Biometric Society Conference. March 2015, Miami, Florida.

"Fused Lasso Additive Model." Contributed presentation at Western North American Region (WNAR) of the International Biometric Society Conference. June 2014, Honolulu, Hawaii.

"Evaluating Methods for Combining Rare Variant Data in Pathway-Based Tests of Genetic Association." Contributed presentation at Genetic Analysis Workshop 17. September 2010, Boston, Massachusetts.

"Analysis of Gene Set Statistic Methods Through Gene Set Simulation." Presented to University of Michigan Department of Biostatistics. July 2010, Ann Arbor, Michigan.

"Shifting Attitudes, Stagnant Resources: The Maternal Health Context of a Rural Bangladeshi Village." Presented to professors at Independent University Bangladesh. January 2010, Dhaka, Bangladesh.

"Investigating Vaccine Target Group Size: An Assessment of Data Quality." Presented to World Health Organization Immunization, Vaccines, and Biologicals group. January 2009, Geneva, Switzerland.

Poster Presentations

"Fused Lasso Additive Model." Presented at University of Washington Biostatistics Department Retreat. September 2014, Blaine, Washington.

"Signal Detection in Networks." Presented at University of Washington Biostatistics Department Retreat. September 2012, Leavenworth, Washington.

"The Influence of Attachment on Relationship Satisfaction and Closeness." Presented at Saint Olaf Science Symposium and Minnesota Undergraduate Psychology Conference. April and May 2011, Northfield, Minnesota.

"Evaluating Methods for Combining Rare Variant Data in Pathway-Based Tests of Genetic Association." Presented at Genetic Analysis Workshop 17. September 2010, Boston, Massachusetts.

"Are Saint Olaf Placement Exams Working? An Analysis of Chemistry Placement Data." Presented at Saint Olaf Science Symposium. May 2010, Northfield, Minnesota. Presented at 24th National Conference on Undergraduate Research. April 2010, Missoula, Montana.

Service

Reviewer, *Journal of the American Statistical Association: Theory and Methods*	2015-present
Reviewer, *Journal of Computational and Graphical Statistics*	2015-present
Consultant, UW STATCOM	2015-2016
Board Member, Seattle Expanding Your Horizons	2015-2016
Member, Alumni Relations Committee, UW Biostatistics	2014-2016
Session Chair, Joint Statistical Meetings	2015
Member, Educational Policy and Teaching Evaluation Committee (EPTEC), UW Biostatistics	2013-2014

Professional Membership

American Statistical Association	2010-present