

Curriculum Vitae

ASHLEY J. PETERSEN
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Education

PhD, University of Washington, Seattle, WA. Biostatistics August 2016
Advisor: Daniela Witten, Noah Simon

BA, *Summa cum laude*, Saint Olaf College, Northfield, May 2011
MN. Mathematics, Statistics

Academic Appointments

University of Minnesota
School of Public Health, Biostatistics: Associate Professor (Contract) June 2023 - Present

School of Public Health, Biostatistics: Assistant Professor (Contract) June 2017 - June 2023

University of Washington
School of Public Health, Biostatistics: Postdoctoral Research Fellow September 2016 - May 2017

School of Public Health, Biostatistics: Research Assistant September 2011 - August 2016

Hope College
Mathematics: Undergraduate Research Assistant June 2010 - August 2011

Saint Olaf College
Center for Interdisciplinary Research: Undergraduate Research Fellow September 2009 - May 2011

Other Professional Positions

Midwest Cardiovascular Research Foundation
Undergraduate Research Assistant June 2009 - August 2009

Current Membership in Professional Organizations

1. Association for Clinical and Translational Science 2021 - Present

2. Association for Clinical and Translational Statisticians 2019 - Present

3. International Biometrics Society, Eastern North American Region 2017 - Present

4. American Statistical Association 2010 - Present

HONORS AND RECOGNITION

External Sources

1. American Statistical Association Teaching of Statistics in the Health Science's Best Contributed Presentation at the Joint Statistical Meetings 2022
2. University of Washington Biostatistics Outstanding Ph.D. Student Award 2016
3. JSM Section on Nonparametric Statistics Student Paper Award 2015
4. University of Washington Graduate School Fund for Excellence and Innovation Travel Award 2014
5. WNAR Student Paper Competition Runner-up 2014
6. University of Washington Biostatistics Donovan J. Thompson Award for Best Combined Performance on Ph.D. Theory and Applied Qualifying Examinations 2013
7. Gertrude M. Cox Award Honorable Mention 2011
8. Phi Beta Kappa Inductee 2011
9. Predoctoral Training Program in Clinical Research on AIDS 2011
10. University of Washington Biostatistics Axio Award 2011
11. University of Washington Biostatistics Student Excellence Award 2011
12. American Statistical Association Hands-On Statistics Gold Medal Prize 2010
13. Genetic Analysis Workshop Travel Award 2010
14. Goldwater Scholar Honorable Mention 2010
15. USPROC Undergraduate Statistical Competition Honorable Mention 2009
16. National Merit Scholar 2007
17. Robert C. Byrd Honors Scholarship 2007
18. St. Olaf College Buntrock Presidential Scholarship, Highest merit scholarship awarded 2007

Internal Sources

1. Delta Omega Honorary Society in Public Health, Pi Chapter Inductee 2023

2. University of Minnesota Center for Educational Innovation
Thank a Teacher Award

2022, 2020, 2018

RESEARCH, SCHOLARSHIP, AND CREATIVE WORK

Publications

Caret(^) - indicates co-senior author

Underline - indicates student author

Peer-Reviewed Journal Article

1. Shaaban, A., **Petersen, A.**, Beckwith, H., Florea, N., Potter, D.A., Yee, D., Vogel, R.I., Duprez, D., & Blaes, A.H. (2024+). Endothelial Dysfunction in Breast Cancer Survivors on Aromatase Inhibitors: Changes over Time. To appear in *Cardio-Oncology*.
2. Block, A.D., Castro, M.R., Hansen, A., Strong, Jr., C., Hanes, E., Schomaker, M.L., Matheson, M.J., Hill, A., **Petersen, A.**, Henderson, J.N., & Mantyh, W.G. (2024). APOE ε4 Allele Frequency Among Cognitively Healthy Members of an Ojibwe Tribal Nation. *Neurology: Genetics*, 10(2), e200130. doi: 10.1212/NXG.0000000000200130
3. Fisher, E.R., Cragun, D., Dedrick, R.F., Lumpkins, C.Y., Ramirez, M., Kaphingst, K.A., **Petersen, A.**, MacFarlane, I.M., Redlinger-Grosse, K., Shire, A., Culhane-Pera, K.A., & Zierhut, H.A. (2024). Linking Genetic Counseling Communication Skills to Patient Outcomes and Experiences Using a Community-Engagement and Provider-Engagement Approach: Research Protocol for the GC-PRO Mixed Methods Sequential Explanatory Study. *BMJ Open*, 14, e085472. doi: 10.1136/bmjopen-2024-085472
4. Jubran, J., **Petersen, A.**, Harrison, K., & Allen, S. (2024). Delay Discounting Demonstrates Lower Impulsivity Linked to a Higher Likelihood of Succeeding at Smoking Cessation. *Addictive Behaviors*, 149, 107900. doi: 10.1016/j.addbeh.2023.107900
5. Katz, S.J., **Petersen, A.**, Cohen, E., & Hatsukami, D. (2023). Tobacco Free Nicotine Vaping Products: A Study of Health Halo Effects Among Middle School Youth. *Journal of Health Communication*, 28(6), 391-400. doi: 10.1080/10810730.2023.2217431
6. Groenke, B. R., Idiyatullin, D., Gaalaas, L., **Petersen, A.**, Law, A., Barsness, B., Royal, M., Ordinola-Zapata, R., Fok, A., Aregawi, W., & Nixdorf, D. R. (2023). Sensitivity and Specificity of MRI Versus CBCT to Detect Vertical Root Fractures Using MicroCT as a Reference Standard. *Journal of Endodontics*. doi: 10.1016/j.joen.2023.03.011
7. Katz, S. J., **Petersen, A.**, Liu, H., Cohen, E., & Hatsukami, D. (2023). Vaping Flavors and Flavor Representation: A Test of Youth Risk Perceptions, Novelty Perceptions, and Susceptibility. *Nicotine and Tobacco Research*, 25(3), 590-595. doi: 10.1093/ntr/ntac192

8. Louwagie, T., Wagner, M., Li, R., Yu, G., Petersen, A., & Hubel, A. (2023). Characterizing Cellular Membrane Partitioning of DMSO Using Low-Temperature Raman Spectroscopy. *Frontiers in Molecular Biosciences*, 10, 1144059. doi: 10.3389/fmolb.2023.1144059
9. Arnold, S., Jeronimo, M., Astrakianakis, G., Kunz, M., Petersen, A., Chambers, C., Malard Johnson, D., Zimdars, E., & Davies, H. W. (2022). Developing Wipe Sampling Strategy Guidance for Assessing Environmental Contamination of Antineoplastic Drugs. *Journal of Oncology Pharmacy Practice*. doi: 10.1177/10781552221118535
10. Groenke, B. R., Idiyatullin, D., Gaalaas, L., Petersen, A., Chew, H. P., Law, A., Barsness, B., Royal, M., Ordinola-Zapata, R., Fok, A., Aregawi, W., & Nixdorf, D. R. (2022). Minimal Detectable Width of Tooth Fractures Using Magnetic Resonance Imaging and Method to Measure. *Journal of Endodontics*, 48(11), 1414-1420. doi: 10.1016/j.joen.2022.08.011
11. Maalouli, W., **Petersen, A.**, Strutt, J., Bergmann, K., Axelrod, A., Lee, G., & Hester, G. (2022). Prediction Model for Croup Admission Need. *Hospital Pediatrics*, 12(8), 711-718. doi: 10.1542/hpeds.2021-006389
12. Martin, A. K., Petersen, A. J., Sesma, H. W., Koolmo, M. B., Ingram, K. M., Slifko, K. B., Nguyen, V. N., Doss, R. C., & Linabery, A. M. (2022). Learning and Attention Deficit/Hyperactivity Disorders as Risk Factors for Prolonged Concussion Recovery in Children and Adolescents. *Journal of the International Neuropsychological Society*, 28(2), 109-122. doi: 10.1017/S1355617721000229
13. **Petersen, A.** (2022). Developing Students' Intuition on the Impact of Correlated Outcomes. *Journal of Statistics and Data Science Education*, 30(2), 154-164. doi: 10.1080/26939169.2022.2074584
14. Boylan, K. L. M., Petersen, A., Starr, T. K., Pu, X., Geller, M. A., Bast, Jr., R. C., Lu, K. H., Cavallaro, U., Connolly, D. C., Elias, K. M., Cramer, D. W., Pejovic, T., & Skubitz, A. P. N. (2022). Development of a Multiprotein Classifier for the Detection of Early Stage Ovarian Cancer. *Cancers*, 14(13), 3077. doi: 10.3390/cancers14133077
15. Reibel, Y., Flynn, D. N., **Petersen, A.**, & Flynn, P. M. (2021). Acceptance of Dental Office Obstructive Sleep Apnea Screening among Minnesota State Fair Attendees. *Journal of Dental Hygiene*, 95(1), 36-42.
16. Allen, S., Thomas, J., Harrison, K., Emery, R. L., **Petersen, A.**, Winickoff, J. P., & Japuntich, S. (2021). Bupropion for Postpartum Smoking Relapse: A Remote Protocol for a Two-Arm, Double-Blind, Placebo-Controlled Randomized Clinical Trial. *Contemporary Clinical Trials*, 105, 106352. doi: 10.1016/j.cct.2021.106352
17. Li, R., Walsh, P., Truong, V., Petersen, A., Dutton, J. R., & Hubel, A. (2021). Differentiation of Human iPS Cells Into Sensory Neurons Exhibits Developmental Stage-Specific Cryopreservation Challenges. *Frontiers in Cell and Developmental Biology*, 9, 796960. doi: 10.3389/fcell.2021.796960
18. Allen, A., **Petersen, A.**, Harrison, K., Nair, U., & Allen, S. (2021). Effect of

- Exogenous Progesterone Administration on Smoking Topography. *Addictive Behaviors*, 112, 106570. [doi: 10.1016/j.addbeh.2020.106570](https://doi.org/10.1016/j.addbeh.2020.106570)
19. [Hormann, J. C.](#), Blue, C. M., **Petersen, A. J.**, & Drake, M. A. (2021). Psychological Effects of Sharps Injuries on Students, Faculty and Staff in a Dental School Setting. *Journal of Dental Hygiene*, 95(3), 52-58. <https://jdh.adha.org/content/95/3/52>
 20. Jeronimo, M., Arnold, S., Astrakianakis, G., [Lyden, G.](#), Stewart, Q., **Petersen, A.**, Chambers, C., Johnson, D. M., Zimdars, E., [Kaup, H.](#), & Davies, H. W. (2021). Spatial and Temporal Variability in Antineoplastic Drug Surface Contamination in Cancer Care Centers in Alberta and Minnesota. *Annals of Work Exposure and Health*, 65(7), 760-774. [doi: 10.1093/annweh/wxab013](https://doi.org/10.1093/annweh/wxab013)
 21. [Sude, A.](#), Matsumoto, J., Kaimal, S., **Petersen, A.**, & Nixdorf, D. R. (2021). Temporomandibular Disorder-Related Characteristics and Treatment Outcomes in Oromandibular Dystonia Patients in Two Different Clinical Settings: A Cross-Sectional Study. *Journal of Oral Rehabilitation*, 48(5), 542-550. [doi: 10.1111/joor.13162](https://doi.org/10.1111/joor.13162)
 22. Flynn, P. M., **Petersen, A.**, Entinger, J., & Shire, A. (2021). The Association of Social Determinants of Health with Somali Refugee Mother-Child Caries. *Journal of Immigrant and Minority Health*, 23(3), 615-623. [doi: 10.1007/s10903-020-01040-3](https://doi.org/10.1007/s10903-020-01040-3)
 23. Liu, P., Smith, B. R., Montonye, M. L., Kemper, L. J., Leinonen-Wright, K., Nelson, K. M., Higgins, L., Guerrero, C. R., Markowski, T. W., Zhao, X., **Petersen, A. J.**, Knopman, D. S., Petersen, R. C., & Ashe, K. H. (2020). A Soluble Truncated Tau Species Related to Cognitive Dysfunction is Elevated in the Brain of Cognitively Impaired Human Individuals. *Nature Scientific Reports*, 10(1), 3869. [doi: 10.1038/s41598-020-60777-x](https://doi.org/10.1038/s41598-020-60777-x)
 24. [Kelly, J. D.](#), **Petersen, A.**, Lendvay, T. S., & Kowalewski, T. M. (2020). Bidirectional Long Short-Term Memory for Surgical Skill Classification of Temporally Segmented Tasks. *International Journal of Computed Assisted Radiology and Surgery*, 15(12), 2079-2088. [doi: 10.1007/s11548-020-02269-x](https://doi.org/10.1007/s11548-020-02269-x)
 25. [Martin, A. K.](#), **Petersen, A. J.**, Sesma, H. W., Koolmo, M. B., Ingram, K. M., Slifko, K. B., Nguyen, V. N., Doss, R. C., & Linabery, A. M. (2020). Concussion Symptomology and Recovery in Children and Adolescents with Pre-Existing Anxiety. *Journal of Neurology, Neurosurgery and Psychiatry*, 91(10), 1060-1066. [doi: 10.1136/jnnp-2020-323137](https://doi.org/10.1136/jnnp-2020-323137)
 26. Harrison, K., **Petersen, A.**, Tosun, N., Crist, K., Allen, A. M., & Allen, S. (2020). Effect of Exogenous Progesterone Administration on Cigarette Smoking-Related Symptomology in Oral Contraceptive Users Who Smoke. *Addictive Behaviors*, 102, 106148. [doi: 10.1016/j.addbeh.2019.106148](https://doi.org/10.1016/j.addbeh.2019.106148)
 27. [Kolla, B. C.](#), **Petersen, A.**, Chengappa, M., Gummadi, T., Ganesan, C., Gaertner, W. B., & Blaes, A. (2020). Impact of Adjuvant Chemotherapy on Outcomes in Appendiceal Cancer. *Cancer Medicine*, 9(10), 3400-3406. [doi: 10.1002/cam4.3009](https://doi.org/10.1002/cam4.3009)
 28. [Baldomero, A. K.](#), Wendt, C. H., **Petersen, A.**, Gaeckle, N. T., Han, M. K., & Kunisaki, K. M. (2020). Impact of Gastroesophageal Reflux on Longitudinal Lung

- Function and Quantitative Computed Tomography in the COPD Gene Cohort. *Respiratory Research*, 21(1), 203. [doi: 10.1186/s12931-020-01469-y](https://doi.org/10.1186/s12931-020-01469-y)
29. [Amundson, W. H.](#), Swanson, E. J., **Petersen, A.**, Bell, B. J., Hatt, C., & Wendt, C. H. (2020). Quantification of Perinodular Emphysema in High-risk Patients Offers No Benefit in Lung Nodule Risk-Stratification of Malignancy Potential. *Journal of Thoracic Imaging*, 35(2), 108-114. [doi: 10.1097/RTI.0000000000000465](https://doi.org/10.1097/RTI.0000000000000465)
 30. Tignanelli, C. J., Watarai, B., Fan, Y., **Petersen, A.**, Hemmila, M., Napolitano, L., Jarosek, S., & Charles, A. (2020). Racial Disparities at Mixed-Race and Minority Hospitals: Treatment of African American Males With High-Grade Splenic Injuries. *American Surgeon*, 86(5), 441-449. [doi: 10.1177/0003134820918262](https://doi.org/10.1177/0003134820918262)
 31. Allen, S., **Petersen, A.**, Harrison, K., Tosun, N., & [Cameron, J.](#) (2020). Response to Nicotine Following Overnight Smoking Abstinence During Short-Term Progesterone Treatment in Women. *Experimental and Clinical Psychopharmacology*, 28(3), 306-316.
 32. [VanDeusen, H. R.](#), Ramroop, J. R., Morel, K. L., Bae, S. Y., Sheahan, A. V., Sychev, Z., Lau, N. A., Cheng, L. C., Tan, V. M., Li, Z., **Petersen, A.**, Lee, J. K., Park, J. W., Yang, R., Hwang, J. H., Coleman, I., Witte, O. N., Morrissey, C., Corey, E., Nelson, P. S., Ellis, L., & Drake, J. M. (2020). Targeting RET Kinase in Neuroendocrine Prostate Cancer. *Molecular Cancer Research*, 18(8), 1176-1188. [doi: 10.1158/1541-7786.MCR-19-1245](https://doi.org/10.1158/1541-7786.MCR-19-1245)
 33. [Kelly, J. D.](#), **Petersen, A.**, Lendvay, T. S., & Kowalewski, T. M. (2020). The Effect of Video Playback Speed on Surgeon Technical Skill Perception. *International Journal of Computed Assisted Radiology and Surgery*, 15(5), 739-747. [doi: 10.1007/s11548-020-02134-x](https://doi.org/10.1007/s11548-020-02134-x)
 34. Vaillancourt, C., **Petersen, A.**, Meier, E. N., Christenson, J., Menegazzi, J. J., Aufderheide, T. P., Nichol, G., Berg, R., Callaway, C. W., Idris, A. H., Davis, D., Fowler, R., Egan, D., Andrusiek, D., Buick, J. E., Bishop, T. J., Colella, M. R., Sahni, R., Stiell, I. G., & Cheskes, S. (2020). The Impact of Increased Chest Compression Fraction on Survival for Out-of-Hospital Cardiac Arrest Patients with a Non-Shockable Initial Rhythm. *Resuscitation*, 154, 93-100. [doi: 10.1016/j.resuscitation.2020.06.016](https://doi.org/10.1016/j.resuscitation.2020.06.016)
 35. [Gades, M. S.](#), **Petersen, A.**, Meier, E., Lindgren, B. R., O'Connor, R. J., Shields, P. G., & Hatsukami, D. (2020). The Role of Subjective Responses in Electronic Cigarette Uptake and Substitution in Adult Smokers. *Drug and Alcohol Dependence*, 212, 107999. [doi: 10.1016/j.drugalcdep.2020.107999](https://doi.org/10.1016/j.drugalcdep.2020.107999)
 36. Tignanelli, C. J., Sheetz, K. H., **Petersen, A.**, Park, P. K., Napolitano, L. M., Cooke, C. R., & Cherry-Bukowiec, J. R. (2020). Utilization of Intensive Care Unit Nutrition Consultation Is Associated With Reduced Mortality. *Journal of Parenteral and Enteral Nutrition*, 44(2), 213-219. [doi: 10.1002/jpen.1534](https://doi.org/10.1002/jpen.1534)
 37. Smith, B. R., Nelson, K. M., Kemper, L. J., Leinonen-Wright, K., **Petersen, A.**, Keene, C. D., & Ashe, K. H. (2019). A Soluble Tau Fragment Generated by Caspase-2 is Associated with Dementia in Lewy Body Disease. *Acta Neuropathologica Communications*, 7(1), 124. [doi: 10.1186/s40478-019-0765-8](https://doi.org/10.1186/s40478-019-0765-8)

38. Liu, P., Smith, B. R., Huang, E. S., Mahesh, A., Vonsattel, J. P. G., **Petersen, A. J.**, Gomez-Pastor, R., & Ashe, K. H. (2019). A Soluble Truncated Tau Species Related to Cognitive Dysfunction and Caspase-2 is Elevated in the Brain of Huntington's Disease Patients. *Acta Neuropathologica Communications*, 7(1), 111. [doi: 10.1186/s40478-019-0764-9](https://doi.org/10.1186/s40478-019-0764-9)
39. Flood, D., **Petersen, A.**, Martinez, B., Chary, A., Austad, K., & Rohloff, P. (2019). Associations Between Contraception and Stunting in Guatemala: Secondary Analysis of the 2014-2015 Demographic and Health Survey. *BMJ Paediatrics Open*, 3(1), e000510. [doi: 10.1136/bmjpo-2019-000510](https://doi.org/10.1136/bmjpo-2019-000510)
40. **Petersen, A.**, & Witten, D. (2019). Data-Adaptive Additive Modeling. *Statistics in Medicine*, 38(4), 583-600. [doi: 10.1002/sim.7859](https://doi.org/10.1002/sim.7859)
41. Smith, C., Rao, A., Tompach, P. C., **Petersen, A.**, Lyu, D., & Nadeau, R. A. (2019). Factors Associated With the Mental Health and Satisfaction of Oral and Maxillofacial Surgery Residents in the United States: A Cross-Sectional Study and Analysis. *Journal of Oral and Maxillofacial Surgery*, 77(11), 2196-2204. [doi: 10.1016/j.joms.2019.07.005](https://doi.org/10.1016/j.joms.2019.07.005)
42. Allen, S., Harrison, K., **Petersen, A.**, & Goodson, J. (2019). Smoking-Related Symptomatology in Pregnant Smokers During Ad Libitum Smoking and Following Overnight Smoking Abstinence. *BMC Research Notes*, 12(1), 473. [doi: 10.1186/s13104-019-4503-x](https://doi.org/10.1186/s13104-019-4503-x)
43. Baldomero, A. K., Siddiqui, M., Lo, C.-Y., **Petersen, A.**, Pragman, A. A., Connett, J. E., Kunisaki, K. M., & Wendt, C. H. (2019). The Relationship Between Oral Health and COPD Exacerbations. *International Journal of Chronic Obstructive Pulmonary Disease*, 14, 881-892. [doi: 10.2147/COPD.S194991](https://doi.org/10.2147/COPD.S194991)
44. Pi, C.-H., Yu, G., **Petersen, A.**, & Hubel, A. (2018). Characterizing the “Sweet Spot” for the Preservation of a T-cell Line Using Osmolytes. *Nature Scientific Reports*, 8(1), 16223. [doi: 10.1038/s41598-018-34638-7](https://doi.org/10.1038/s41598-018-34638-7)
45. **Petersen, A.**, Simon, N., & Witten, D. (2018). SCALPEL: Extracting Neurons from Calcium Imaging Data. *Annals of Applied Statistics*, 12(4), 2430-2456. [doi: 10.1214/18-AOAS1159](https://doi.org/10.1214/18-AOAS1159)
46. **Petersen, A.**, Simon, N., & Witten, D. (2016). Convex Regression with Interpretable Sharp Partitions. *Journal of Machine Learning Research*, 17(94), 1-31.
47. Rizoli, S., **Petersen, A.**, Bulger, E., Coimbra, R., Kerby, J. D., Minei, J., Morrison, L., Nathens, A., Schreiber, M., & de Oliveira Manoel, A. L. (2016). Early Prediction of Outcome after Severe Traumatic Brain Injury: A Simple and Practical Model. *BMC Emergency Medicine*, 16(1), 32. [doi: 10.1186/s12873-016-0098-x](https://doi.org/10.1186/s12873-016-0098-x)
48. **Petersen, A.**, Witten, D., & Simon, N. (2016). Fused Lasso Additive Model. *Journal of Computational and Graphical Statistics*, 25(4), 1005-1025. [doi: 10.1080/10618600.2015.1073155](https://doi.org/10.1080/10618600.2015.1073155)
Selected for “Best Papers of JCGS” showcase at the 2018 Symposium on Data Science and Statistics
49. Evans, C. C.D., **Petersen, A.**, Meier, E. N., Buick, J. E., Schreiber, M., Kannas, D., &

- Austin, M. A. (2016). Prehospital Traumatic Cardiac Arrest: Management and Outcomes from the Resuscitation Outcomes Consortium Epistry-Trauma and PROPHET Registries. *Journal of Trauma and Acute Care Surgery*, 81(2), 285-293. [doi: 10.1097/TA.0000000000001070](https://doi.org/10.1097/TA.0000000000001070)
50. **Petersen, A.**, Alvarez, C., DeClaire, S., & Tintle, N. L. (2013). Assessing Methods for Assigning SNPs to Genes in Gene-Based Tests of Association Using Common Variants. *PLOS ONE*, 8(5), e62161. [doi: 10.1371/journal.pone.0062161](https://doi.org/10.1371/journal.pone.0062161)
51. **Petersen[^], A.**, Sitarik[^], A., Luedtke, A., Powers, S., Bekmetjev, A., & Tintle, N. L. (2011). Evaluating Methods for Combining Rare Variant Data in Pathway-Based Tests of Genetic Association. *BMC Proceedings*, 5(9), S48.
52. Luedtke, A., Powers, S., **Petersen, A.**, Sitarik, A., Bekmetjev, A., & Tintle, N. L. (2011). Evaluating Methods for the Analysis of Rare Variants in Sequence Data. *BMC Proceedings*, 5(9), S119.

Book Chapter

1. Tan[^], K. M., **Petersen[^], A.**, & Witten, D. (2014). Classification of RNA-seq Data. *Statistical Analysis of Next Generation Sequencing Data* 219-246. Springer, Frontiers in Probability and the Statistical Sciences series. [doi: 10.1007/978-3-319-07212-8_11](https://doi.org/10.1007/978-3-319-07212-8_11)
2. **Petersen, A.**, Spratt, J., & Tintle, N. L. (2013). Incorporating Prior Knowledge to Increase the Power of Genome-Wide Association Studies. *Genome-Wide Association Studies and Genomic Prediction* 519-541. Springer, Methods in Molecular Biology series. [doi: 10.1007/978-1-62703-447-0_25](https://doi.org/10.1007/978-1-62703-447-0_25)

Software

1. **Petersen, A.** (2020). *scalpel: Processes Calcium Imaging Data*. R package version 1.0.2. <https://CRAN.R-project.org/package=scalpel>
2. **Petersen, A.** (2018). *flam: Fits Piecewise Constant Models with Data-Adaptive Knots*. R package version 3.2. <https://CRAN.R-project.org/package=flam>
3. **Petersen, A.** (2017). *crisp: Fits a Model that Partitions the Covariate Space into Blocks in a Data-Adaptive Way*. R package version 1.0.0. <https://CRAN.R-project.org/package=crisp>

Invited Presentations, Posters, and Exhibits

Underline - indicates student presenter

Presentation/Talk

1. **Petersen, A. J.** "Incorporating Inclusive Teaching Practices into a Graduate Biostatistics Course," University of Louisville, Department of Biostatistics, Virtual. (February 2024). *Invited.*
2. **Petersen, A. J.** "How to Work Successfully with Your Biostatistician," University of Minnesota Center for Women's Health Research and the Building Interdisciplinary Research Careers in Women's Health Program, Virtual. (April 2023). *Invited.*

3. **Petersen, A. J.** "The Evolution of Data-Adaptive Additive Regression Modeling," University of Colorado Anschutz, Department of Biostatistics & Informatics, Virtual. (April 2023). *Invited.*
4. **Petersen, A. J.** "Data-Adaptive Regression Modeling in High Dimensions," University of North Carolina, Department of Biostatistics, Virtual (due to Covid-19). (February 2021). *Invited.*
5. **Petersen, A. J.** "Data-Adaptive Regression Modeling in High Dimensions," University of Waterloo, Department of Statistics and Actuarial Science, Virtual (due to Covid-19). (October 2020). *Invited.*
6. **Petersen, A. J.** "Data-Adaptive Additive Modeling," Joint Statistical Meetings, Denver, Colorado. (July 2019). *Invited.*
7. **Petersen, A. J.** "Data-Adaptive Regression Modeling in High Dimensions," University of Rochester Medical Center, Department of Biostatistics and Computational Biology, Rochester, New York. (April 2019). *Invited.*
8. **Petersen, A. J.** "Fused Lasso Additive Model," Symposium on Data Science and Statistics, Reston, Virginia. (May 2018). *Invited.*
9. **Petersen, A. J.** "Using Statistics to Identify Neurons," Saint Olaf College, Department of Mathematics, Statistics, and Computer Science, Northfield, Minnesota. (May 2018). *Invited.*
10. **Petersen, A. J.** "Extracting Neurons from Calcium Imaging Data," University of Minnesota, Department of Statistics, Minneapolis, Minnesota. (April 2018). *Invited.*
11. **Petersen, A. J.** "Flexible and Interpretable Regression in High Dimensions," Eastern North American Region (ENAR) of the International Biometric Society Conference, Atlanta, Georgia. (March 2018). *Invited.*
12. **Petersen, A. J.** "Flexible and Interpretable Regression in High Dimensions," University of Minnesota, Division of Biostatistics, Minneapolis, Minnesota. (February 2018). *Invited.*
13. **Petersen, A. J.** "Using Statistics to Identify Neurons," Gustavus Adolphus College, Department of Mathematics, Computer Science, and Statistics, Saint Peter, Minnesota. (February 2018). *Invited.*
14. **Petersen, A. J.** "Extracting Neurons from Calcium Imaging Data," Institute for Research in Statistics and Its Applications (IRSA) Neuro-Statistics Workshop, Minneapolis, Minnesota. (September 2017). *Invited.*
15. **Petersen, A. J.** "Extracting Neurons from Calcium Imaging Data," Western North American Region (WNAR) of the International Biometric Society Conference, Santa Fe, New Mexico. (June 2017). *Invited.*
16. **Petersen, A. J.** "Extracting Neurons from Calcium Imaging Data," University of Minnesota, Division of Biostatistics, Minneapolis, Minnesota. (February 2017). *Invited.*
17. **Petersen, A. J.** "Fused Lasso Additive Model," Eastern North American Region (ENAR) of the International Biometric Society Conference, Miami, Florida. (March 2015). *Invited.*

Contributed Presentations, Posters, and Exhibits

Underline - indicates student presenter

Poster

1. **Petersen, A. J.** "Best Practices for Imputation with Planned Missingness," Translational Science, Chicago, Illinois. (April 2022).
2. **Petersen, A. J.** "Constructing Multi-Protein Classifiers for Early-Stage Ovarian Cancer Screening," Association of Clinical and Translational Statisticians Conference, Denver, Colorado. (July 2019).
3. **Petersen, A. J.** "Fused Lasso Additive Model," University of Washington Biostatistics Department Retreat, Blaine, Washington. (September 2014).
4. **Petersen, A. J.** "Signal Detection in Networks," University of Washington Biostatistics Department Retreat, Leavenworth, Washington. (September 2012).
5. **Petersen, A. J.** "The Influence of Attachment on Relationship Satisfaction and Closeness," Saint Olaf Science Symposium, Northfield, Minnesota. (May 2011).
6. **Petersen, A. J.** "The Influence of Attachment on Relationship Satisfaction and Closeness," Minnesota Undergraduate Psychology Conference, Northfield, Minnesota. (April 2011).
7. **Petersen, A. J.** "Evaluating Methods for Combining Rare Variant Data in Pathway-Based Tests of Genetic Association," Genetic Analysis Workshop 17, Boston, Massachusetts. (September 2010).
8. **Petersen, A. J.** "Are Saint Olaf Placement Exams Working? An Analysis of Chemistry Placement Data," Saint Olaf Science Symposium, Northfield, Minnesota. (May 2010).
9. **Petersen, A. J.** "Are Saint Olaf Placement Exams Working? An Analysis of Chemistry Placement Data," National Conference on Undergraduate Research, Missoula, Montana. (April 2010).

Presentation/Talk

1. **Petersen, A. J.** "What Got You Here Won't Get You There: Building Students' Intuition About Correlated Data," Joint Statistical Meetings, Washington, D.C. (August 2022).
Awarded the Teaching of Statistics in the Health Science's Best Contributed Presentation
2. **Petersen, A. J.** "Fused Lasso Additive Model," Joint Statistical Meetings, Seattle, Washington. (August 2015).
3. **Petersen, A. J.** "Fused Lasso Additive Model," Western North American Region (WNAR) of the International Biometric Society Conference, Honolulu, Hawaii. (June 2014).
4. **Petersen, A. J.** "Evaluating Methods for Combining Rare Variant Data in Pathway-Based Tests of Genetic Association," Genetic Analysis Workshop 17, Boston, Massachusetts. (September 2010).

TEACHING

Scheduled Teaching

PubH 7430 Statistical Methods for Correlated Data

Fall 2018, Fall 2020, Fall 2022, Fall 2024

Instructional Activity

University of Minnesota

Guest Lecturer, Summer Institute in Biostatistics July 2018

Guest Lecturer, PubH 8492: Richly Parameterized Models April 2018

Saint Olaf College

Guest Lecturer, Statistics 284: Biostatistics, Saint Olaf College January 2019

University of Washington

1. Teaching Assistant, Summer Institute in Statistics for Big Data: Reproducible Research for Big Data July 2016
2. Teaching Assistant, Summer Institute in Statistics for Big Data: Unsupervised Methods for Statistical Machine Learning July 2016
3. Teaching Assistant, BIOST 536: Categorical Data Analysis in Epidemiology Sept 2015 - Dec 2015
4. Guest Lecturer, BIOST 536: Categorical Data Analysis in Epidemiology November 2015
5. Guest Lecturer, UCONJ 510: Introductory Laboratory Based Biostatistics July 2015
6. Teaching Assistant, Summer Institute in Statistics for Big Data: Reproducible Research for Big Data July 2015
7. Teaching Assistant, BIOST 571: Advanced Regression Methods for Correlated Data January 2014 - March 2014

ADVISING AND MENTORING

Undergraduate Students Activities

Other Advising Activities

University of Minnesota

Jessica Nhan, Undergraduate Honors Thesis

2018

Graduate Student Activities

Academic Advisees

1. David McGowan, Biostatistics MS 2024 - Present
2. Leif Verace, Biostatistics PhD 2023 - Present
3. Jialing Liu, Biostatistics PhD 2023 - Present
4. Wyatt Singh, Biostatistics PhD 2022 - Present
5. Ashley Farnum, Public Health Data Science MPH 2022 - Present
6. Maria Godinez, Biostatistics MS 2023
7. Seth Bergstedt, Biostatistics MS 2022 - 2023
8. Ziren Jiang, Biostatistics MS 2021 - 2023
9. Solvejg Wastvedt, Biostatistics PhD 2019 - 2022
10. Annika Fredrickson, Biostatistics MS 2020 - 2022
11. Andres Arguedas Leiva, Biostatistics MS 2022
12. Jennifer Proper, Biostatistics PhD 2018 - 2021
13. Xiang He, Biostatistics MS 2018 - 2020
14. Ella Chrenka, Biostatistics MS 2019

Committee Advising

Doctoral Final Committee: Committee Chair

- Elise Palzer, Biostatistics PhD 2022
- Chuyu Deng, Biostatistics PhD 2021 - 2022

Doctoral Final Committee: Committee Reviewer

- Charul Avachat, Exp & Clin Pharmacology PhD 2023-2024
- Leah Johnson, Rehabilitation Science PhD 2021 - 2022
- Shen Cheng, Exp & Clin Pharmacology PhD 2021

Doctoral Preliminary Committee: Committee Member

1. Leah Johnson, Rehabilitation Science PhD 2018 - 2022
2. Chuyu Deng, Biostatistics PhD 2020 - 2022
3. Shen Cheng, Exp & Clin Pharmacology PhD 2019 - 2021
4. Charul Avachat, Exp & Clin Pharmacology PhD 2021 - 2024

5. Sara Lammert, Epidemiology PhD 2021 - 2023
6. Elise Palzer, Biostatistics PhD 2020 - 2022

Master's Thesis/Research Committee: Committee Chair (Supervised MS Project)

1. David McGowan, Biostatistics MS 2023 - Present
An Interactive Shiny Application to Build Intuition for Statistical Modeling with Interaction Terms
2. Emma Billmyer, Biostatistics MS 2023 - Present
Differential Impact of School Start Times: Exploring Heterogeneous Treatment Effects of Delaying School Start Times on Sleep and BMI via GLMM-Trees in the START Study
3. Maria Godinez, Biostatistics MS 2023
Novelty Scale Validation for E-Cigarettes Messaging Analysis in Middle Schoolers: A Factor Analysis Application
4. Jialing Liu, Biostatistics MS 2023
Penalized Regression Approaches to Predict Persistent Pain in Patients Following Non-Surgical Root Canal Treatment
5. Seth Bergstedt, Biostatistics MS 2023
Modeling Postoperative Root Canal Therapy Pain using the PREDICT Study: The Predictive Use of Group LASSO Penalized Regression in a Clinical Setting
6. Andres Arguedas Leiva, Biostatistics MS 2022
Use of Penalized Regression Techniques for Biomarker Discovery with Applications to Ovarian Cancer Screening
7. Xiang He, Biostatistics MS 2020
Performance of Stabilizing Lasso Against Cross-Validation Variability
8. Xuan Pu, Biostatistics MS 2019
Constructing One-Stage and Two-Stage Multi-Protein Classifiers for Early-Stage Ovarian Cancer Screening
9. Ella Chrenka, Biostatistics MS 2019
Performance of Imputation in Data with Planned Missingness

Master's Thesis/Research Committee: Committee Member

1. Ziren Jiang, Biostatistics MS 2023
2. Anas Al-Tae, Dentistry MS 2022

3. Simon Bergford, Statistics MS 2021
4. Scott Luisi, Exp & Clin Pharmacology MS 2020
5. Amanda Kramer, Environmental Health MS 2020
6. Asha Sude, Dentistry MS 2020
7. Weijie Zhang, Biostatistics MS 2020
8. Sarah Sernaker, Statistics MS 2019
9. Alexia Martin, Epidemiology MPH 2019
10. Xing Bai, Biostatistics MS 2019
11. Chenyu Liu, Statistics MS 2019
12. Chen Zhao, Statistics MS 2019
13. Meghana Bhimarao, Biostatistics MS 2019
14. Yanxin Jin, Statistics MS 2019
15. Matthew Galloway, Statistics MS 2019
16. Victoria Wang, Statistics MS 2019
17. Rachel Holstein, Epidemiology MPH 2019
18. Rebecca Freese, Biostatistics MS 2018

MENTORING/CAREER ADVISING

Glenn Simmons, Jr., UMN CTSI-Ed Pre-K Discovery Scholar and K01 Scholar 2019 - Present

SERVICE

Service to the Discipline/Profession/Interdisciplinary Area(s)

Ad Hoc Reviewer

1. Addiction Biology
2. Addictive Behaviors
3. Alcohol and Alcoholism
4. Annals of Applied Statistics
5. BMC Health Services Research
6. Drug and Alcohol Dependence Reports
7. Experimental and Clinical Psychopharmacology
8. IEEE/ACM Transactions on Computational Biology and Bioinformatics
9. International Journal of Computer Assisted Radiology and Surgery

10. Journal of Computational and Graphical Statistics
11. Journal of Multivariate Analysis
12. Journal of Statistics and Data Science Education
13. Journal of the American Statistical Association: Theory and Methods
14. Journal of the Royal Statistical Society: Series C (Applied Statistics)
15. Metrika
16. Nature Scientific Reports
17. Neurons, Behavior, Data Analysis, and Theory
18. Nicotine and Tobacco Research
19. PLOS ONE
20. Statistics in Medicine
21. Women's Health Issues
22. Stat

Member

1. Association of Clinical and Translational Statisticians
Conference Planning Committee 2021 - Present
2. Association of Clinical and Translational Statisticians
Student Award Committee 2022 - Present
3. Data and Safety Monitoring Board for "Clinical Trial of
Watercress in Detoxification of Environmental
Toxicants and Carcinogens" 2020 - Present
4. Data and Safety Monitoring Board for "Evaluating
Vitamin C and Septic Shock: A Randomized Double-
Blind Control Trial" 2018 - 2020
5. Data and Safety Monitoring Board for "Optimizing
Benefits While Reducing the Risk of Iron in Malaria-
Endemic Areas: The Optim Study" 2018 - Present
6. American Statistical Association's Statistical Learning
and Data Science (SLDS) Student Paper Award
Committee 2021 - 2024

Session Chair

1. Association of Clinical and Translational Statisticians
Conference 2022
2. Joint Statistical Meetings 2022
3. Joint Statistical Meetings 2015

Service to the University/College/Department

University of Minnesota

College

- | | |
|-------------------------------|-------------|
| Member, Scholarship Committee | 2021 - 2023 |
| Reviewer, Research Day | 2018 |

University

- | | |
|---|----------------|
| 1. Member, Masonic Cancer Center Data and Safety Monitoring Council | 2018 - Present |
| 2. Member, Masonic Cancer Center Cancer Protocol Review Committee | 2017 - 2020 |
| 3. Reviewer, CTSI Annual Poster Session | 2019 |

Department

- | | |
|--|----------------|
| 1. Member, Biostatistics Community Outreach and Engagement Committee | 2023 - Present |
| 2. Chair, Recruiting Committee | 2021 - Present |
| 3. Member, Education Committee | 2020 - Present |
| 4. Member, Masonic Cancer Center Biostatistics Director Search Committee | 2021 - 2022 |
| 5. Member, Recruiting Committee | 2018 - 2021 |
| 6. Member, Masonic Cancer Center Contract Assistant Professor Search Committee | 2019 - 2020 |
| 7. Member, Student Awards Committee | 2017 - 2018 |

University of Washington

Department

- | | |
|--|-------------|
| Member, Alumni Relations Committee | 2014 - 2016 |
| Member, Educational Policy and Teaching Evaluation Committee | 2013 - 2014 |

Public and External Service

- | | |
|--|-------------|
| Board Member, Seattle Expanding Your Horizons | 2015 - 2016 |
| Member, University of Washington Statistics in the Community (STATCOM) | 2015 - 2016 |