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, MN. Mathematics, Statistics — May 2011

Academic Appointments

University of Minnesota

School of Public Health, Biostatistics and Health Data Science: 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

Academic Administrative Appointments

University of Minnesota

School of Public Health, Biostatistics and Health Data Science: Director of Graduate Studies — August 2025 - Present

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 — 2024, 2022, 2020, 2018

RESEARCH, SCHOLARSHIP, AND CREATIVE WORK

Publications

Caret(^) - indicates co-first author
Underline - indicates student author

Peer-Reviewed Journal Article

1. Bagheri Hosseinabadi, M., Yu, M., **Petersen, A.**, Griffin, L., Durfee, W., & Arnold, S. (2026+). N95 Filtering Facepiece Respirator Fit Test Performance by Gender, Age, Race, and Facial Hair in a Community Population Sample. *Annals of Work Exposures and Health*, to appear.

2. Katz, S. J., **Petersen, A.**, Liu, H., Cohen, E., & Hatsukami, D. (2026). Parental Misperceptions, Communication, and Parent-Child Relational Factors: A Matched Parent-Child Study on Youth Vaping. *Journal of Adolescent Health*, 78(2), 322-331. doi: 10.1016/j.jadohealth.2025.09.027

3. Avachat, C., Long, Y., **Petersen, A.**, Birnbaum, A. K., & Patel, S. I. (2026). Age- and Sex-Associated Variability in Lamotrigine Prescription Patterns and Clearance. *Epilepsia*. doi: 10.1111/epi.70028

4. Labounek, R., Matheson, M. J., **Petersen, A. J.**, Hansen, A., Block, A. D., Strong, C., Hill, A., Kremer, M., Robertson, A. J., Maharaj, V., Lakshminaryan, K., Li, D., Henderson, J. N., Nestrasil, I., Lenglet, C., & Mantyh, W. G. (2025). APOE ε4 and Ischemic Heart Disease in American Indian/Indigenous Tribal Elders. *American Heart Journal Plus: Cardiology Research and Practice*, 60: 100662. doi: 10.1016/j.ahjo.2025.100662

5. Harrison, K., Abdelwahab, N., Allen, A., **Petersen, A.**, & Allen, S. (2025). Association Between Sex Hormones and Mood, Cravings, and Urges in Males and Females Who Smoke Tobacco. *Nicotine & Tobacco Research*, 27(11), 2028–2032. doi: 10.1093/ntr/ntaf021

6. Block, A. D., **Petersen, A.**, Hansen, A., Matheson, M., Nguyen, P. A. T., Tran, V. L., Nguyen, B. T., Nguyen, B. T., Nguyen, B. T. T., Tran, H. T., Nguyen, T-A., Pham, T., Hinton, L., Nguyen, H., & Mantyh, W. G. (2025). *APOE* ε4 and Alzheimer's

Disease Risk in Vietnamese Populations. *Journal of Alzheimer's Disease Reports*, 9, e5134066. doi: 10.1177/25424823251334066

7. Lehman, P., **Petersen, A.**, Harrison, K., & Allen, S. (2025). The Impact of Adverse Childhood Experiences on Nicotine Withdrawal Symptoms. *International Journal of Mental Health and Addiction*, 1-10. doi: 10.1007/s11469-025-01516-z

8. **Petersen, A.** (2024). Teaching Statistics in Health Sciences: Incorporating Inclusive Teaching Practices into (Bio)statistics Courses. *CHANCE, 37*(3), 55–59. doi: 10.1080/09332480.2024.2415843

9. 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. *Cardio-Oncology, 10*(1), Article 27. doi: 10.1186/s40959-024-00227-z

10. Abdelwahab N., Allen A., Harrison K., **Petersen A.**, Allen S. A Protocol for Modifying Progesterone to Increase Postpartum Cigarette Smoking Abstinence and Reduce Secondhand Smoke Exposure in Infants. (2024) *Contemporary Clinical Trials Communications, 42*, 101389. doi: 10.1016/j.conctc.2024.101389

11. Liu L., **Petersen A.** Incorporating Sources of Correlation Between Outcomes: An Introduction to Mixed Models. (2024) *Laboratory Animals, 58*(5), 463 – 469. doi: 10.1177/00236772241259518

12. 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

13. 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

14. 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

15. 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

16. 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
17. 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
18. 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
19. Arnold, S., Jeronimo, M., Astrakianakis, G., Kunz, M., **Petersen, A.**, Chambers, C., Malard Johnson, D., Zimdars, E., & Davies, H. W. (2023). Developing Wipe Sampling Strategy Guidance for Assessing Environmental Contamination of Antineoplastic Drugs. *Journal of Oncology Pharmacy Practice*. doi: 10.1177/10781552221118535
20. 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
21. 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
22. 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
23. **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
24. 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
25. 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.

26. 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
27. 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
28. 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
29. 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
30. 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
31. 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
32. 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
33. 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
34. 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
35. 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

36. 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

37. 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

38. 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 COPDGene Cohort. *Respiratory Research, 21*(1), 203. doi: 10.1186/s12931-020-01469-y

39. 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

40. 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

41. 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.

42. 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

43. 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

44. 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

45. 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

46. 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
47. 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 Neuropatholica Communications, 7*(1), 124. doi: 10.1186/s40478-019-0765-8
48. 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 Neuropatholica Communications, 7*(1), 111. doi: 10.1186/s40478-019-0764-9
49. 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
50. **Petersen, A.**, & Witten, D. (2019). Data-Adaptive Additive Modeling. *Statistics in Medicine, 38*(4), 583-600. doi: 10.1002/sim.7859
51. 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
52. 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
53. 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
54. 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
55. **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
56. **Petersen, A.**, Simon, N., & Witten, D. (2016). Convex Regression with Interpretable Sharp Partitions. *Journal of Machine Learning Research, 17*(94), 1-31.

57. 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

58. **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
    Selected for "Best Papers of JCGS" showcase at the 2018 Symposium on Data Science and Statistics

59. 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

60. **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

61. **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.

62. 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

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

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.** "Partnering Approaches for Community-Based Participatory K-12 Biostatistics Education," Joint Statistical Meetings, Portland, Oregon. (August 2024). *Invited*.
2. **Petersen, A. J.** "Incorporating Inclusive Teaching Practices into a Graduate Biostatistics Course," University of Louisville, Department of Biostatistics, Virtual. (February 2024). *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. Jiaying Wu, Biostatistics MS — 2025 - Present
2. Aswin Jayaraaman Chandrasekaran, Biostatistics MS — 2025 - Present
3. Katrina Nguyen, Biostatistics MS — 2025 - Present
4. Abigail Alwin, Public Health Data Science MPH — 2024 - Present
5. Lei Xuan, Biostatistics MS — 2024 - 2025
6. Shika Rai, Biostatistics MS — 2024 - Present
7. Elizabeth Nicholas, Biostatistics MS — 2024 - 2025
8. Leif Verace, Biostatistics PhD — 2023 - 2025
9. Jialing Liu, Biostatistics PhD — 2023 - 2025
10. Wyatt Singh, Biostatistics PhD — 2022 - 2024
11. Ashley Farnum, Public Health Data Science MPH — 2022 - Present
12. David McGowan, Biostatistics MS — 2024
13. Maria Godinez, Biostatistics MS — 2023
14. Seth Bergstedt, Biostatistics MS — 2022 - 2023
15. Ziren Jiang, Biostatistics MS — 2021 - 2023
16. Solvejg Wastvedt, Biostatistics PhD — 2019 - 2022
17. Annika Fredrickson, Biostatistics MS — 2020 - 2022
18. Andres Arguedas Leiva, Biostatistics MS — 2022
19. Jennifer Proper, Biostatistics PhD — 2018 - 2021
20. Xiang He, Biostatistics MS — 2018 - 2020

21. 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. Tiffany Chang, Exp & Clin Pharmacology PhD 2025 - Present
2. Bovornpat Suriyapakorn, Exp & Clin Pharmacology PhD 2025 - Present
3. Andres Arguedas Leiva, Biostatistics PhD 2025 - Present
4. Kyle Underwood, Environmental Health Sciences PhD 2024 - Present
5. Leah Johnson, Rehabilitation Science PhD 2018 - 2022
6. Chuyu Deng, Biostatistics PhD 2020 - 2022
7. Shen Cheng, Exp & Clin Pharmacology PhD 2019 - 2021
8. Charul Avachat, Exp & Clin Pharmacology PhD 2021 - 2024
9. Sara Lammert, Epidemiology PhD 2021 - 2023
10. Elise Palzer, Biostatistics PhD 2020 - 2022

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

1. David McGowan, Biostatistics MS 2024
   An Interactive Shiny Application to Build Intuition for Statistical Modeling with Interaction Terms
2. Emma Billmyer, Biostatistics MS 2024
   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. Elizabeth Nicholas, Biostatistics MS 2025
2. Olivia Plamann, Public Health Data Science MPH 2025
3. Mili Meredith, Molec, Cell, Dev Bio, and Genetics MS 2025
4. Ziren Jiang, Biostatistics MS 2023
5. Anas Al-Taee, Dentistry MS 2022
6. Simon Bergford, Statistics MS 2021
7. Scott Luisi, Exp & Clin Pharmacology MS 2020
8. Amanda Kramer, Environmental Health MS 2020
9. Asha Sude, Dentistry MS 2020
10. Weijie Zhang, Biostatistics MS 2020
11. Sarah Sernaker, Statistics MS 2019
12. Alexia Martin, Epidemiology MPH 2019
13. Xing Bai, Biostatistics MS 2019
14. Chenyu Liu, Statistics MS 2019
15. Chen Zhao, Statistics MS 2019

16. Meghana Bhimarao, Biostatistics MS 2019
17. Yanxin Jin, Statistics MS 2019
18. Matthew Galloway, Statistics MS 2019
19. Victoria Wang, Statistics MS 2019
20. Rachel Holstein, Epidemiology MPH 2019
21. 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 - 2024
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 - 2025
6. American Statistical Association's Statistical Learning and Data Science (SLDS) Student Paper Award Committee	2021 - Present

Session Chair

1. Association of Clinical and Translational Statisticians Conference	2022, 2024, 2025
2. Joint Statistical Meetings	2015, 2022

Service to the University/College/Department

University of Minnesota

College

Member, SPH Associate Dean for Education Search Committee	2025 - Present
Vice Chair, Educational Policy Committee	2025 - Present
Member, Digital Accessibility Committee	2025 - Present
Member, Appointment, Promotion, and Tenure Committee	2024 - Present
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. Co-chair, Student Experience Committee	2025 - Present
2. Member, Biostatistics Community Outreach and Engagement Committee	2023 - Present
3. Member, Education Committee	2020 - Present
4. Member, Masonic Cancer Center Biostatistics Staff Search Committee	2026
5. Member, Artificial Intelligence Task Force	2025 - 2026
6. Academic Advisor, Equitable Data Science in Adolescent Development REU	2024
7. Chair, Recruiting Committee	2021 - 2024
8. Member, Masonic Cancer Center Biostatistics Director Search Committee	2021 - 2022
9. Member, Recruiting Committee	2018 - 2021
10. Member, Masonic Cancer Center Contract Assistant Professor Search Committee	2019 - 2020
11. 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