# David W. Fardo

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| <span style="font-variant:small-caps">Contact Information</span> | University of Kentucky<br>College of Public Health<br>Department of Biostatistics<br>725 Rose Street, Room 201<br>Lexington, KY 40536-0082 | *Phone:*<br>*Fax:*<br>*Email:* | (859) 218-2070<br>(859) 257-4665<br>david.fardo `AT` uky.edu |

<span style="font-variant:small-caps">Research Interests</span>

Statistical genetics, genome-wide association studies, longitudinal data analysis, family-based association testing, statistics education, statistical methodologies relevant to neurodegenerative diseases, aging, and other public health applications

<span style="font-variant:small-caps">Professional Experience</span>

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|---|---|
| Stephen W. Wyatt Endowed Professor of Public Health | July 2020 – present |
| Professor of Biostatistics (with Tenure) | October 2019 – present |
| Associate Professor of Biostatistics (with Tenure) | July 2014 – September 2019 |
| Assistant Director of Graduate Studies (PhD in Epidemiology & Biostatistics) | |
| | September 2018 – June 2020 |

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| Assistant Professor of Biostatistics | August 2008 – July 2014 |

**University of Kentucky**, Lexington, Kentucky USA
   College of Public Health

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| Affiliate Faculty | November 2014 – present |

**Sanders-Brown Center on Aging**, Lexington, Kentucky USA

<span style="font-variant:small-caps">Education</span>

**Harvard University**, Boston, Massachusetts USA

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|---|---|
| Ph.D., Biostatistics | June 2008 |

- Dissertation Topic: "Statistical Issues in Genome-wide Association Studies"
  – Cognate: Genetics
- Advisor: Dr. Christoph Lange

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| A.M., Biostatistics | June 2006 |

**University of Kentucky**, Lexington, Kentucky USA

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| M.S., Statistics | August 2004 |

**Miami University**, Oxford, Ohio USA

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| B.S., Mathematics and Statistics | May 2000 |

- Minors in Economics and Spanish
- Summa Cum Laude

<span style="font-variant:small-caps">Peer-Reviewed Publications</span>

1. Stephen AE, Roth SI, **Fardo DW**, Finkelstein DM, Randolph GW, Gaz RD, Hodin RA. (2007). Predictors of an Accurate Preoperative Sestamibi Scan for Single-Gland Parathyroid Adenomas. *Archives of Surgery* 142: 381–386. PMID: 17441292

2. **Fardo DW**, Celedón JC, Raby BA, Weiss ST, Lange C. (2007). On Dichotomizing Phenotypes in Family-Based Association Tests: Quantitative Phenotypes are not Always the Optimal Choice. *Genetic Epidemiology* 31: 376–382. PMID: 17342772

3. **Fardo DW**, Ionita-Laza I, Lange C. (2009). On quality control measures in genome-wide association studies: A test to assess the genotyping quality of individual probands in family-based association studies and an application to the HapMap data. *PLoS Genetics* 5(7): e1000572. PMC2706974. PMID: 19629167

4. **Fardo DW**, Becker D, Bertram L, Tanzi R, Lange C. (2009). Recovering unused information in genome-wide association studies: the benefit of analyzing SNPs out of Hardy–Weinberg equilibrium. *European Journal of Human Genetics* 17(12): 1676–82.

PMC2796342. PMID: 19491930, NIHMSID: NIHMS160079
{European Journal of Human Genetics TOP TEN list for most downloaded articles}

5. Ghoneima A, Abdel-Fattah E, El-Bedwehi A, Eraso F, Kula K, **Fardo D**, Hartsfield, Jr. J. (2010). Skeletal and dental changes after rapid maxillary expansion: a computed tomography study. *Australian Orthodontic Journal* 26: 141?-148. PMID: 21175023

6. Cejka D, Herberth J, Branscum AJ, **Fardo DW**, Monier-Faugere MC, Diarra D, Haas M, Malluche HH. (2010). Sclerostin and Dickkopf-1 in Renal Osteodystrophy. *Clinical Journal of the American Society of Nephrology*; 6(4):877–82. PMID: 21164019. PMCID: PMC3069382.

7. *Kehl KG, Findeisen HM, **Fardo DW**, Bruemmer D, Mannino DD, Sanderson WT. (2011). Race is an Effect Modifier of the Association between Glycated Hemoglobin and Mortality in U.S. Adults. *European Journal of Endocrinology* 165(2):275–81. PMID: 21622476.

8. *Pratt M, Kluemper GT, Hartsfield, Jr. JK, **Fardo D**, Nash DA. (2011). Evaluation of Retention Protocols Among US Members of the American Association of Orthodontists. *American Journal of Orthodontics and Dentofacial Orthopedics* 140(4): 520–6. PMID: 21967939

9. **Fardo DW**, Druen AR, Liu J, Mirea L, Infante-Rivard C, Breheny P. (2011). An Exploration and Comparison of Methods for Combining Population- and Family-Based Genetic Association using the Genetic Analysis Workshop 17 Mini-Exome. *BMC Proceedings* 5(Suppl 9):S28. PMID: 22373349. PMCID: PMC3287863.

10. *Abner EL, Kryscio RJ, Cooper GE, **Fardo DW**, Jicha GA, Mendiondo MS, Nelson PT, Smith CD, Van Eldik LJ, Wan L, Schmitt FA. (2012). Mild cognitive impairment: Statistical models of transition using longitudinal clinical data. *International Journal of Alzheimer's Disease.* PMID: 22536535. PMCID: PMC3320090.

11. Ling I-F, Bhongsatiern J, **Fardo D**, Simpson J, Estus S. (2012). Genetics of clusterin isoform expression and Alzheimer's disease risk. *PLoS ONE.* 7(4):e33923. PMID: 22506010. PMCID: PMC3323613. Top 10% Most Cited.

12. **Fardo DW**, Charnigo R, Epstein MP. (2012). Families or Unrelateds: The Evolving Debate in Genetic Association Studies. *Journal of Biometrics & Biostatistics.* 3:e108. doi:10.4172/2155-6180.1000e108

13. **Fardo DW**, Liu J, DeMeo DL, Silverman EK, Vansteelandt S. (2012). Gene-environment interaction testing in family-based association studies with phenotypically ascertained samples: A causal inference approach. *Biostatistics* 13 (3): 468–481. PMID:22084302. PMCID: PMC3372944.

14. Hobbs J, Nikiforova M, **Fardo DW**, Cieply K, Hamilton RL, Horbinski C. (2012). Paradoxical relationship between degree of EGFR amplification and outcome in glioblastomas. *American Journal of Surgical Pathology* 36(8): 1186-93. PMID: 22472960. PMCID: PMC3393818.

15. Kryscio RJ, Abner EL, Lin Y, Cooper GE, **Fardo DW**, Jicha GA, Nelson PT, Smith CD, Van Eldik LJ, Wan L, Schmitt FA. (2013). Adjusting for mortality when identifying risk factors for transitions to MCI and dementia. *Journal of Alzheimer's Disease* 35(4): 823-832. PMID: 23507772. PMCID: PMC3703851.

16. *Meyer J, **Fardo D**, Fleming ST, Hopenhayn C, Gokuna Y, Ryan M. (2013). Generic antiepileptic drug prescribing: A cross-sectional study. *Epilepsy & Behavior* 26(1):1–6. PMID: 23182806.

17. Tai LM, Bilousova T, Jungbauer L, Roeske SK, Yu C, Poon WW, Cornwell LB, Miller CA, Vinters HV, Van Eldik L, **Fardo DW**, Estus S, Bu G, Gylys KH, LaDu MJ. (2013). Levels of soluble apolipoprotein E/amyloid-$\beta$ complex are reduced and oligomeric A$\beta$ increased with APOE4 and Alzheimer disease in a transgenic mouse model and human samples. *Journal of Biological Chemistry* 288(8): 5914–26. PMID: 23293020. PMCID: PMC3581407.
{Journal of Biological Chemistry Paper of the Week}

18. Hartsfield, Jr. JK, Morford LA, Otero LM, **<u>Fardo DW</u>**. (2013). Genetics and Non-Syndromic Facial Growth. *Journal of Pediatric Genetics.* 2(1): 9-20. PMID: 27625834. PMCID: PMC5020952.

19. Lutz SM, Fingerlin T, **Fardo DW**. (2013). Statistical Approaches to Combine Genetic Association Data. *Journal of Biometrics & Biostatistics*. (4)3. 1000166. PMID: 24009987. PMCID: PMC3760734.

20. Nelson PT, Pious N, Jicha GA, Wilcox D, **Fardo DW**, Estus S, Rebeck GW. (2013). APOE-$\varepsilon$2 and APOE-$\varepsilon$4 both correlate with increased amyloid accumulation in cerebral vasculature. *Journal of Neuropathology and Experimental Neurology* 72(7): 708–715. PMID: 23771217. PMCID: PMC3715146.

21. Nelson PT, Smith CD, Abner EL, Wilfred BJ, Wang W-X, Neltner JH, Baker M, **Fardo DW**, Kryscio RJ, Scheff SW, Jicha GA, Jellinger KA, Van Eldik LJ, Schmitt FA. (2013). Hippocampal sclerosis of aging, a prevalent and high-morbidity brain disease. *Acta Neuropathologica*. 126(2):161–77. PMID: 23864344. PMCID: PMC3889169.

22. Malik M, Simpson JF, Parikh I, Wilfred BR, **Fardo DW**, Nelson PT, Estus S. (2013). CD33 Alzheimer's risk-altering polymorphism, CD33 expression and exon 2 splicing. *Journal of Neuroscience* 3(33):13320–5. PMID: 23946390. PMCID: PMC3742922.

23. *Estus J, Family Investigation of Nephropathy and Diabetes Research Group, **Fardo DW**. (2013). Combining Genetic Association Study Designs: A GWAS Case Study. *Frontiers in Genetics*. 4(186): 1–9. PMID: 24098305. PMCID: PMC3784826

24. *Vasquez JB, **Fardo DW**, Estus S. (2013). ABCA7 expression is associated with Alzheimer's disease polymorphism and disease status. *Neuroscience Letters*. 556(27): 58–62. PMID: 24141082. PMCID: PMC3863933.

25. Prybil L, Bardach D, **Fardo D**. (2014). Board Oversight of Patient Care Quality In Large Nonprofit Health Systems. *American Journal of Medical Quality*. 29(1):39–43. PMID: 23652335.

26. *Downer B, Zanjani F, **Fardo DW**. (2014). The Relationship between Midlife and Late Life Alcohol Consumption, APOE e4 and the Decline in Learning and Memory Among Older Adults. *Alcohol and Alcoholism*. 49(1):17–22. PMID: 24049153. PMCID: PMC3865814.

27. *Abner E, Nelson PT, Schmitt FA, Browning SR, **Fardo DW**, Wan L, Jicha GA, Cooper GE, Smith CD, Caban-Holt AM, Van Eldik L, Kryscio RJ. (2014). Self-reported head injury and risk of late-life impairment and AD pathology in an AD Center cohort. *Dementia and Geriatric Cognitive Disorders*. 37:294-?306. PMID: 24401791.

28. Wangmo T, Teaster PB, Grace J, Wong W, Mendiondo MS, Blandford C, Fisher S, **Fardo DW**. (2014). An Ecological Systems Examination of Elder Abuse: A Week in the Life of Adult Protective Services. *Journal of Elder Abuse and Neglect*. 26(5):440–57. PMID: 24965803.

29. Bush ML, Bianchi K, Lester C, Shinn JB, Gal TJ, **Fardo DW**, Schoenberg N. Delays in Diagnosis of Congenital Hearing Loss in Rural Children. (2014). *Journal of Pediatrics*. 164(2):393–7. PMID: 24183213 PMCID: PMC3946850

30. Johnston JM, Hu W, **Fardo DW**, Greco SJ, Perry G, Montine TJ, Trojanowski JQ, Shaw LM, Ashford JW, Tezapsidis N. (2014). Low Plasma Leptin in Cognitively Impaired ADNI Subjects: Gender Differences and Diagnostic and Therapeutic Potential. *Current Alzheimer Research*. 11(2): 165–174. PMID: 24359504 PMCID: PMC4040126.

31. *Parikh I, **Fardo DW**, Estus S. (2014). Genetics of PICALM Expression and Alzheimer's Disease. *PLoS ONE*. 9(3): e91242. PMID: 24618820. PMCID: PMC3949918.

32. *Roedig JJ, Phillips BA, Morford LA, Van Sickels JE, Falcao-Alencar G, **Fardo D**, Hartsfield Jr. JK, Ding X, Kluemper GT. (2014). Comparison of BMI, AHI and Apolipoprotein E e4 (APOE e4) Alleles Among Sleep Apnea Patients with Different Skeletal Classifications. *Journal of Clinical Sleep Medicine*. 10(4): 397–402. PMID: 24733985. PMCID: PMC3960382.

33. Nelson PT, Estus S, Abner EL, Parikh I, Malik M, Neltner JH, Ighodaro E, Wang W-X, Wilfred BR, Wang L-S, Kukull WA, Nandakumar K, Farman ML, Kofler JK, Poon WW, Corrada MM, Kawas CH, Cribbs DH, Bennett DA, Schneider JA, Larson EB, Crane PK, Valladares O, Schmitt FA, Kryscio RJ, Jicha GA, Smith CD, Scheff DW, Sonnen JA, Haines JL, Pericak-Vance MA, Mayeux R, Farrer LA, Van Eldik

LJ, Horbinski C, Green RC, Gearing M, Poon LW, Kramer PL, Woltjer RL, Montine TL, Partch AB, Richmire K, Monsell SE, Alzheimer's Disease Genetic Consortium, Schellenberg GD, **Fardo DW**. (2014). ABCC9 gene polymorphism is associated with hippocampal sclerosis of aging pathology. *Acta Neuropathologica.* 127(6):825–43. PMID: 24770881. PMCID: PMC4113197.

34. Bickebôller H, Bailey JN, Beyene J, Cantor RM, Cordell HJ, Culverhouse RC, Engelman CD, **Fardo DW**, Ghosh S, König R, Bermejo JL, Melton PE, Santorico SA, Satten GA, Sun L, Tintle NL, Ziegler A, MacCluer JW, Almasy L. (2014). Genetic Analysis Workshop 18: Methods and strategies for analyzing human sequence and phenotype data in members of extended pedigrees. *BMC Proceedings.* 8(Suppl 1):S1. PMID: 25519310. PMCID: PMC4143625

35. Pilipenko V, He H, Kurowski B, Alexander ES, Zhang X, Ding L, Baye TM, Kottyan L, **Fardo D**, Martin LJ. (2014). Using Mendelian inheritance errors as quality control criteria in whole genome sequencing dataset. *BMC Proceedings.* 8(Suppl 1):S21. PMID: 25519373. PMCID: PMC4144465

36. *Ding X, Su S, Nandakumar K, Wang X, **Fardo DW**. (2014). A Two-Step Penalized Regression Method for Family-based Next Generation Sequencing Association Studies. *BMC Proceedings.* 8(Suppl 1):S25. PMID: 25519315. PMCID: PMC4143756

37. **Fardo DW**, Zhang X, Ding L, He H, Kurowski B, Alexander ES, Baye TM, Pilipenko V, Kottyan L, Nandakumar K, Martin LJ. (2014). On Family-based Genome-wide Association Studies with Large Pedigrees: Observations and Recommendations. *BMC Proceedings.* 8(Suppl 2):S26. PMID: 25519377. PMCID: PMC4143718

38. Ding L, Kurowski BG, He H, Alexander ES, Baye TM, **Fardo DW**, Zhang X, Pilipenko V, Kottyan L, Martin LJ. (2014). Modeling of Multivariate Longitudinal Phenotypes in Family Genetic Studies with Bayesian Multiplicity Adjustment. *BMC Proceedings.* 8(Suppl 1):S69. PMID: 25519340. PMCID: PMC4143665

39. Bush ML, Osetinsky M, Shinn JB, Gal TJ, Ding X, **Fardo DW**, Schoenberg N. (2014). Assessment of Rural Regional Differences in Diagnostic and Therapeutic Timing in Pediatric Cochlear Implant Recipients. *Laryngoscope.* doi: 10.1002/lary.24588. PMID: 24402802 PMCID: PMC4069222.

40. Parikh I, Medway C, Younkin S, **Fardo DW**, Estus S. (2014). An intronic PICALM polymorphism, rs588076, is associated with allelic expression of a PICALM isoform. *Molecular Neurodegeneration.* 9(1):32. PMID: 25169757 PMCID: PMC4150683

41. Li D, Zhou J, Thomas DC, **Fardo DW**. (2014). Complex Pedigrees in the Sequencing Era: To Track Transmissions or Decorrelate? *Genetic Epidemiology.* 38: S29–S36. PMID: 25112185 PMCID: PMC4272198

42. Kryscio RJ, Abner EL, Cooper GE, **Fardo DW**, Jicha GA, Nelson PT, Smith CD, Van Eldik LJ, Wan L, Schmitt FA. (2014). Self-reported memory complaints: implications from a longitudinal cohort with autopsies. *Neurology.* 83(15):1359–65. PMID: 25253756. PMCID: PMC4189103

43. *Downer B, Estus S, Katsumata Y, **Fardo DW**. (2014). Longitudinal Trajectories of Cholesterol from Midlife through Late Life According to Apolipoprotein E Allele Status. *International Journal of Environmental Research and Public Health.* 11(10): 10663–10693. PMID: 25325355. PMCID: PMC4211000.

44. Nelson PT, Wang W-X, Partch AB, Monsell SE, Valladares O, Ellingson SR, Wilfred BR, Naj AC, Wang L-S, Kukull WA, **Fardo DW**. (2015) Reassessment of risk genotypes (GRN, TMEM106B, and ABCC9 variants) associated with hippocampal sclerosis of aging pathology. *Journal of Neuropathology and Experimental Neurology.* 74(1): 75–84. PMID: 25470345. PMCID: PMC4270894.

45. *Katsumata Y, Mathews M, Abner EL, Jicha GA, Caban-Holt A, Smith CD, Nelson PT, Kryscio RJ, Schmitt FA, **Fardo DW**. (2015). Assessing discriminant ability, reliability, and comparability of multiple short forms of the Boston Naming Test in an Alzheimer's Disease Center cohort. *Dementia and Geriatric Cognitive Disorders.* 39: 215–227. PMID: 25613081. PMCID: PMC4374652.

46. Abner EL, Schmitt FA, Nelson PT, Lou W, Wan L, Gauriglia R, Dodge H, Woltjer RL, Yu L, Bennett DA, Schneider JA, Chen R, Masaki K, Katz MJ, Lipton RB, Dickson DW, Lim KO, Hemmy LS, Cairns NJ, Grant E, Tyas SL, Xiong C, **Fardo**

**DW**, Kryscio RJ. (2015). The Statistical Modeling of Aging and Risk of Transitions project: data collection and harmonization across 11 longitudinal cohort studies of aging, and cognition and dementia. *Observational Studies*. 1: 56–73. PMID: 25984574 [PubMed] PMCID: PMC4431579.

47. *Jadhav ED, Holsinger, Jr. J, Mays G, **Fardo D**. (2015). Should they stay or should they go? Leader duration and financial performance in Local Health Departments. *Journal of Public Health Management & Practice*. 21(2): 151–60. PMID: 26389108 PMCID: PMC4554942.

48. Mersha TB, Ding L, He H, Alexander ES, Zhang X, Kurowski BG, Pilipenko V, Kottyan L, Martin LJ, **Fardo DW**. (2015). Impact of population stratification on family-based association in an admixed population. *International Journal of Genomics*. 2015, Article ID 501617. PMID: 26064873. PMCID: PMC4434195.

49. *Downer B, Yang J, Zanjani F, **Fardo DW**. (2015). Effects of Alcohol Consumption on Cognition and Regional Brain Volumes among Older Adults. *American Journal of Alzheimer's Disease and Other Dementias*. 30(4): 364–74. PMID: 25202027. PMCID: PMC4363007.

50. Malik M, Chiles J III, Medway C, Simpson J, Howard D, Liang Y, Paumi CM, Mukherjee S, Crane P, Younkin S, **Fardo DW**, Estus S. (2015). Genetics of CD33 in Alzheimer's Disease and Acute Myeloid Leukemia. *Human Molecular Genetics*. 24(12):3557–70. PMID: 25762156. PMCID: PMC4498153.

51. Nelson PT, Wang W-X, Wilfred BR, TOPMed Neurocognitive Working Group.Wei A, Dimayuga J, Huang Q, Ighodaro E, Artiushin S, **Fardo DW**. (2015). Novel human ABCC9/SUR2 brain expressed transcripts and an eQTL relevant to hippocampal sclerosis of aging. *Journal of Neurochemistry*. 134 (6):1026–39. PMID: 26115089. PMCID: PMC4593479.

52. *Jadhav ED, Holsinger JW, **Fardo DW**. (2015). Openness to change: experiential and demographic components of change in Local Health Department leaders. *Frontiers in Public Health*. 3 (2015): 209. PMID: 26389108. PMCID: PMC4554942.

53. *Downer B, **Fardo DW**, Schmitt FA. (2015). A Summary Score for the Framingham Heart Study Neuropsychological Battery. *Journal of Aging and Health*. 27 (7): 1199–1222. PMID: 25804903. PMCID: PMC4603385.

54. Malik M, Parikh I, Vasquez JB, Smith C, Tai L, Bu G, LaDu MJ, **Fardo DW**, Rebeck GW, Estus S. (2015). Genetics Ignites Inflammation Research in Alzheimer's Disease. *Molecular Neurodegeneration*. 10(1):52. PMID: 26438529 PMCID: PMC4595327

55. Nelson P, Jicha GA, Wang W-X, Ighodaro E, Artiushin SC, Nichols CG, **Fardo DW**. (2015). ABCC9/SUR2 in the brain: implications for hippocampal sclerosis of aging and a potential therapeutic target. *Ageing Research Reviews*. 24(Pt B):111–25. PMID: 26226329. PMCID: PMC4661124.

56. Szekendi M, Prybil L, Cohen DL, Godsey B, **Fardo DW**, Cerese J. (2015). Governance Practices and Performance in US Academic Medical Centers. *American Journal of Medical Quality*. 30(6):520–525. PMID: 25138782.

57. Kryscio RJ, Abner EL, Jicha GA, Nelson PT, Smith CD, Van Eldik LJ, Lou W, **Fardo DW**, Cooper GE, Schmitt FA. (2016). Self-Reported Memory Complaints: A Comparison of Demented and Unimpaired Outcomes. *Journal of Prevention of Alzheimer's Disease*. 3(1):13–19. PMID: 27019842. PMCID: PMC4807968.

58. Mez J, Mukherjee S, Thornton T, **Fardo DW**, Trittschuh E, Sutti S, Sherva R, Kauwe JS, Naj AC, Beecham GW, Gross A, Saykin AJ, Green RC, Crane PK, for Executive Prominent Alzheimer's Disease: Genetics and Risk Factors (EPAD:GRF), the Alzheimer's Disease Neuroimaging Initiative (ADNI1), and the Alzheimer's Disease Genetics Consortium (ADGC). (2016). The executive prominent / memory prominent spectrum in Alzheimer's disease is highly heritable. *Neurobiology of Aging*. 41(2016):115–121. PMID: 27103524 PMCID: PMC4843522

59. Nelson PT, Trojanowski JQ, Abner EL, Al-Janabi O, Jicha GA, Schmitt FA, Smith CD, **Fardo DW**, Wang W-X, Kryscio RJ, Neltner JH, Kukull WA, Cykowski MD, Van Eldik LJ, Ighodaro ET. (2016). "New old pathologies": AD, PART, and Cerebral Age-Related TDP-43 with Sclerosis (CARTS). *Journal of Neuropathology and Experimental Neurology*. 2016 May 21. 75 (6): 482–98. PMID: 27209644

60. Kryscio RJ, Abner EL, Nelson PT, Bennett D, Schneider J, Yu L, Hemmy LS, Lim KO, Masaki K, Cairns N, Xiong C, Woltjer R, Dodge HH, Tyas S, **Fardo DW**, Lou W, Wan L, Schmitt FA. (2016). The Effect of Vascular Neuropathology on Late-life Cognition: Results from the SMART Project. *Journal of Prevention of Alzheimer's Disease.* 3(2):85–91. PMID: 27709107 PMCID: PMC5047285

61. Allen GI, Amoroso N, Anghel C, Balagurusamy V, Bare CJ, Beaton D, Bellotti R, Bennett DA, Boehme K, Boutros PC, Caberlotto L, Caloian C, Campbell F, Neto EC, Chang YC, Chen B, Chen CY, Chien TY, Clark T, Das S, Davatzikos C, Deng J, Dillenberger D, Dobson RJ, Dong Q, Doshi J, Duma D, Errico R, Erus G, Everett E, **Fardo DW**, Friend SH, Frühlich H, Gan J, St George-Hyslop P, Ghosh SS, Glaab E, Green RC, Guan Y, Hong MY, Huang C, Hwang J, Ibrahim J, Inglese P, Jiang Q, Katsumata Y, Kauwe JS, Klein A, Kong D, Krause R, Lalonde E, Lauria M, Lee E, Lin X, Liu Z, Livingstone J, Logsdon BA, Lovestone S, Lyappan A, Ma M, Malhotra A, Mangravite LM, Maxwell TJ, Merrill E, Nagorski J, Namasivayam A, Narayan M, Naz M, Newhouse SJ, Norman TC, Nurtdinov RN, Oyang YJ, Pawitan Y, Peng S, Peters MA, Piccolo SR, Praveen P, Priami C, Sabelnykova VY, Senger P, Shen X, Simmons A, Sotiras A, Stolovitzky G, Tangaro S, Tateo A, Tung YA, Tustison NJ, Varol E, Vradenburg G, Weiner MW, Xiao G, Xie L, Xie Y, Xu J, Yang H, Zhan X, Zhou Y, Zhu F, Zhu H, Zhu S, Alzheimer's Disease Neuroimaging Initiative. (2016). Crowdsourced estimation of cognitive decline and resilience in Alzheimer's disease. *Alzheimer's & Dementia.* 12(6):645–53. PMID: 27079753 PMCID: PMC5474755

62. Ellingson SR and **Fardo DW**. (2016). Automated quality control for genome wide association studies [version 1; referees: 1 approved, 2 approved with reservations]. F1000Research 2016, 5:1889 (doi: 10.12688/f1000research.9271.1). PMID: 27635224 PMCID: PMC5007749

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64. Thompson KL, **Fardo DW**. (2016). Comparing Performance of Non-tree Based and Tree-based Association Mapping Methods. *BMC Proceedings.* 10(Suppl 7):405–410. PMID: 27980669 PMCID: PMC5133494

65. *Katsumata Y, **Fardo DW**. (2016). On combining Family- and Population-based Sequencing Data. *BMC Proceedings.* 10(Suppl 7):175–179. PMID: 27980632 PMCID: PMC5133531

66. Wang C, Liu J, **Fardo DW**. (2016). Causal Effect Estimation in Sequencing Studies: A Bayesian Method to Account for Linkage Disequilibrium. *BMC Proceedings.* 10(Suppl 7):411–415. PMID: 27980670 PMCID: PMC5133506

67. Nelson PT, Katsumata Y, Nho K, Artiushin SC, Jicha GA, Wang W-X, Abner EL, Saykin AJ, Kukull WA, Alzheimer's Disease Neuroimaging Initiative (ADNI), **Fardo DW**. (2016). Genomics and CSF analyses implicate thyroid hormone in hippocampal sclerosis of aging. *Acta Neuropathologica.* 132(6):841–858. PMID: 27815632 PMCID: PMC5154615

68. Ighodaro ET, Abner EL, **Fardo DW**, Lin A-L, Katsumata Y, Schmitt FA, Kryscio RJ, Jicha GA, Neltner JH, Monsell SE, Kukull WA, Moser DK, Appiah F, Bachstetter AD, Van Eldik LJ, the Alzheimer's Disease Neuroimaging Initiative (ADNI), Nelson PT. (2017). Risk factors and global cognitive status related to brain arteriolosclerosis in elderly individuals. *Journal of Cerebral Blood Flow & Metabolism.* 37(1): 201–216. PMID: 26738751 PMCID: PMC5363738.

69. **Fardo DW**, Katsumata Y, Kauwe JSK, Deming Y, Harari O, Cruchaga C, Alzheimer's Disease Neuroimaging Initiative, Nelson PT. (2017). CSF protein changes associated with hippocampal sclerosis risk gene variants highlight impact of GRN/PGRN. *Experimental Gerontology.* 90: 83–89. PMID: 28189700 PMCID: PMC5389672

70. Jiang Y, Lin M, Jicha G, Ding X, McIlwrath X, **Fardo D**, Broster L, Schmitt F, Kryscio R, Lipsky R. (2017). Functional Human *GRIN2B* Promoter Polymorphism and Variation of Mental Processing Speed in Older Adults. *Aging.* 9(4): 1293–1305.

71. Abner EL, Kryscio RJ, Schmitt FA, **Fardo DW**, Moga DC, Ighodaro ET, Jicha GA, Yu L, Dodge HH, Xiong C, Woltjer RL, Schneider JA, Cairns NJ, Bennett DA, Nelson PT. (2017). Outcomes after diagnosis of mild cognitive impairment in a large autopsy series. *Annals of Neurology.* 84(4): 549–559. PMID: 28224671 PMCID: PMC5401633

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111. Katsumata Y, Abner EL, Karanth S, Teylan MA, Mock CN, Cykowski MD, Lee EB, Boehme KL, Mukherjee S, Kauwe JSK, Kryscio RJ, Schmitt FA, **Fardo DW**, Nelson PT. Distinct clinicopathologic clusters of persons with TDP-43 proteinopathy. Acta Neuropathol. 2020 Nov;140(5):659–674. doi: 10.1007/s00401-020-02211-0. Epub 2020 Aug 14. PMID: 32797255. PMCID: PMC7572241.

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118. Uretsky M, Gibbons LE, Mukherjee S, Trittschuh EH, **Fardo DW**, Boyle PA, Keene K, Saykin AJ, Crane PK, Schneider JA, Mez J. Longitudinal cognitive performance of Alzheimer's disease neuropathological subtypes. 2021. *Alzheimer's & Dementia: Translational Research & Clinical Interventions*. Accepted.

119. Shaw BC, Katsumata Y, Simpson J, **Fardo DW**, Estus S. Genetic variants associated with levels of immune modulating proteins are overrepresented as Alzheimer's Disease genetic risk factors. *Genes*

120. Oh G, Brouwer ES, Abner EL, **Fardo DW**, Freeman PR, Delcher C, Moga DC. 2021. Predictors of Chronic Opioid Therapy in Medicaid Beneficiaries with HIV who Initiated Antiretroviral Therapy. *Scientific Reports*. Accepted.

121. Courtney M Kloske, BS, Adam J Dugan, MS, Erica M Weekman, PhD, Zachary Winder, BS, Ela Patel, BS, Peter T Nelson, MD, PhD, **Fardo DW** , PhD, Donna M Wilcock, PhD. 2021. Inflammatory pathways are impaired in Alzheimer's disease and differentially associated with Apolipoprotein E status. *Journal of Neuropathology & Experimental Neurology*

122. Analysis of genes (TMEM106B, GRN, ABCC9, KCNMB2, and APOE) implicated in risk for LATE-NC and hippocampal sclerosis provides pathogenetic insights: a retrospective genetic association study Adam J. Dugan1, Peter T. Nelson2,3, Yuriko Katsumata1,2, Lincoln M. P. Shade1, Kevin L. Boehme4, Merilee A. Teylan5, Matthew D. Cykowski6, Shubhabrata Mukherjee7, John S. K. Kauwe4,7, Timothy J. Hohman8, Julie A. Schneider9 and Alzheimer's Disease Genetics Consortium and David W. Fardo1,2* Acta Neuropathol Commun. 2021 Sep 15;9(1):152. doi: 10.1186/s40478-021-01250-2. PMID: 34526147 DOI: 10.1186/s40478-021-01250-2

– *Senior-author manuscripts indicated by* <u>*underline*</u>
– *First-author students and advisees indicated by asterisk(\*)*

Link to: My NCBI Bibliography

Link to: My Google Scholar Profile

REPORTS

Prybil L, Levey S, Killian R, **Fardo D**, Chait R, Bardach D, Roach W. 2012. Governance in Large Nonprofit Health Systems: Current Profile and Emerging Patterns. Commonwealth Center for Governance Studies, Inc.

Prybil L, Scutchfield FD, Killian R, Kelly A, Mays G, Carman A, Levey S, McGeorge A, **<u>Fardo DW</u>**. 2014. Improving Community Health Through Hospital - Public Health Collaboration: Insights and Lessons Learned from Successful Partnerships. Commonwealth Center for Governance Studies, Inc.

FUNDING

**Active**

age-related TDP-43 with sclerosis (CARTS) severity and heterogeneity.
Role: PI

R01 AG038651 – Kryscio (PI)                                    09/01/2011-01/31/2024
NIH (NIA) *Role of Impaired Cognitive States and risk factors in conversion to mixed dementias*
Combine data from six centers having longitudinal cohorts assessed for cognitive status annually and followed to dementia with autopsy upon death. Use of innovative Markov model to risk factors to the flow of elderly subjects through impaired cognitive states and correlate with neuropathological assessment of the brain upon autopsy.
Role: Co-I

R56 AG057589 – Estus (PI)                                      09/30/2018-08/31/2019
NIH (NIA) *The surprising impact of APOE alleles on gut microbiome: does altering the microbiome reduce AD risk?*
This will test the hypotheses that the gut microbiome is associated with APOE genotype in a murine model, 2) that the human gut microbiome is associated with APOE genotype, and 3) that the APOE-associated gut microbiomes modulate AD-related phenotypes in a murine model.
Role: Co-I

R01 DA047952 – Havens (PI)                                     09/30/2018 - 07/31/2023
NIH (NIDA) *Increasing Access to Hepatitis C Treatment in Opioid Endemic Rural Areas: the Kentucky Viral Hepatitis Treatment (Key Treat) Study*
The overarching goal of the Kentucky Viral Hepatitis Treatment Project (KeY Treat) is to increase access to treatment for the hepatitis C virus (HCV) in a rural Appalachian community in the midst of the opioid/HCV syndemic.
Role: Co-I

RF1 AG059717 – Estus (PI)                                      09/15/2018-06/30/2023
NIH (NIA) *Translating SHIP1 genetics to generate a novel Alzheimer's pharmacologic agent*
This study brings together an interdisciplinary team to critically test our global hypothesis: Pharmacologic or genetic inhibition of SHIP1 decreases AD risk or progression.
Role: Co-I

RF1 AG057754 – Wilcock (PI)                                    04/01/2018 - 03/31/2023
NIH (NIA) *Therapeutic Targeting of TREM2 for Alzheimer's Disease*
This proposal will test the hypotheses that targeting TREM2 to activate the receptor will modulate the neuroinflammatory response and stimulate microglia to phagocytose and clear the amyloid deposits and that activating the TREM2 receptor to modulate the neuroinflammatory response will ameliorate tau pathology, provide neuroprotection, and avoid cerebrovascular adverse events associated with $A\beta$ targeted therapies.
Role: Co-I

R01 AG057187 – Nelson (PI)                                     07/15/2017 - 03/31/2022
NIH (NIA) *Novel pathogenetic mechanism for hippocampal sclerosis, a common Alzheimers mimic*
This research focuses on thyroid hormone levels and their relevance to hippcampal pathologies.
Role: Co-Investigator

R01 AG054060 – Naj (PI)                                        09/15/2016-04/30/2021
NIH (NIA) *Pleiotropy GWAS of Alzheimer's Disease and Multiple Neurodegenerative Diseases*
The overall goal of this project is to identify genetic loci and variants with effects across multiple neurodegenerative diseases.
Role: Co-I / PI (Subaward)

R01 DA033862 – Havens (PI)                                     05/01/2016 - 02/28/2021
NIH (NIDA) *Effect of Structural Interventions on Substance Use and HIV/HCV Risk Among Rural PWUD*

The overarching goal of this renewal application (R01DA033862) is to determine the influence of structural interventions on engagement in risk reduction and health promotion activities among rural Appalachian drug users.
Role: Co-I

R01 HL091357 – Arnett (PI)                                03/01/2016-02/28/2021
NIH (NHLBI) *Genomewide Association Study of Lipid Response to Fenofibrate and Dietary Fat*
This study identifies genetic variants that influence fat and cholesterol's response to diet and drugs.
Role: Co-Investigator

P30 AG028383 – Van Eldik (PI)                            07/01/2006-06/30/2021
NIH (NIA) *Alzheimer's Disease Center*
An NIA-funded Alzheimer's Disease Center grant to gain an understanding of the pathogenetic mechanisms in AD with the eventual goal of prevention and treatment of the disease. A biostatistics and data management core directed by Dr. Kryscio is funded as part of this center.
Role: Biostatistics and Data Management

**Completed**

R01 AG042437 – Crane (PI)                                09/01/2014-05/31/2020
NIH (NIA) *Genetic architecture of memory and executive functioning in Alzheimer's disease*
The overarching goal of this project is to further our understanding of the spectrum of executive and memory functioning among people with newly-diagnosed late-onset AD.
Role: Co-I / PI (Subaward)

R01 NS093920 – Van Eldik (PI)                            05/01/2015 - 04/30/2020
NIH (NINDS) *Microglia responses to CNS injury: Targeting p38 MAPK signaling*
The project seeks to address mechanistically how to target p38alpha to improve outcomes following a TBI.
Role: Co-I

R01 AG045775 – Estus (PI)                                04/15/2014-11/30/2018
NIH (NIA) *Translating CD33 genetic mechanism into a novel Alzheimer's therapeutic*
This proposal will develop our compelling mechanistic results in CD33 and TREM2, the impact of apoE isoforms on these processes, and begin to translate these changes into an AD-preventive and, possibly therapeutic, agent. If successful, we anticipate that the CD33 antibody will be tested in humans at risk for AD.
Role: Co-I

1R21AG050146-01A1 – Nelson (PI)                          01/01/2016-11/30/2017
NIH (NIA) *Testing a therapeutic strategy for hippocampal sclerosis of aging, a key AD mimic*
In this project, we will generate an animal model of HS-Aging.
Role: Co-I

K25 AG043546 – Fardo (PI)                                08/15/2013-03/31/2017
NIH (NIA) *Statistical Genetics Methods for Mixed Pathologies*
This mentored career development grant application proposes a training program to integrate Dr. Fardo's previous research in biostatistics and statistical genetics into investigations of aging disorders including highly prevalent neurodegenerative diseases. The proposed research program will interrogate genetic associations with neuropathologic features of a large cohort of autopsied brains.
Role: PI

ADDF 20141105 – Nelson (PI)                              11/15/2014-03/15/2016
Alzheimer's Drug Discovery Foundation *First Preclinical Model of Hippocampal Sclerosis of Aging (an AD Mimic)*
This project will examine new agents for preclinical testing of an HS-Aging therapeutic candidate drug.

Role: Co-I

University of Kentucky CPH – Fardo (PI)                    11/01/12-06/30/14
*College of Public Health Pilot Award*
A pilot award supporting analyses of genetic studies of AD-related phenotypes and preparation of a Career Development Award.
Role: PI

P30 AG028383 (Pilot Award) – Fardo (PI)                    07/01/12-06/30/13
NIH (NIA) *Inflammation and Alzheimer's Disease: A Genome-wide Investigation of Interrelated Pathways*
A Center for Clinical and Translational Science Pilot Research Program award funded through the University of Kentucky Alzheimer's Disease Center which builds on a broad based grant to gain an understanding of the pathogenetic mechanisms in AD with the eventual goal of prevention and treatment of the disease. Our project explored the interplay of inflammation genes/pathways and AD predisposition.
Role: PI

P20 GM103436 – Stromberg (PI)                    05/01/09 - 04/30/14
NIH (NIGMS) *KY-IDeA Networks of Biomedical Research Excellence*
The goal of this Kentucky Infrastructure for Biomedical Research excellence (KY-INBRE) proposal is to build on the successes of the existing KY-BRIN, its infrastructure and its network of biomedical researchers, to increase the capacity for research in Kentucky. The research core will be supported through further development of the centralized genomics and bioinformatics facilities at the University of Louisville and the University of Kentucky.
Role: Co-PI

R01 AG019241 – Schmitt (PI)                    09/30/01-02/28/14
NIH (NIA) *Prevention of Alzheimer's Disease by Vitamin E and Selenium*
This is a large clinical trial based on the hypothesis that early treatment with vitamin E and selenium (Se) in the presymptomatic stage of Alzheimer's disease (AD) may delay the onset or prevent AD.
Role: Co-I

ADGC (SAG) – Nelson (PI)                    11/01/11-10/31/12
*GWAS to identify SNPs associated with pathologically-verified hippocampal sclerosis*
The overall goal of this focused research project is to identify disproportionately-represented human single nucleotide polymorphisms in a defined cohort of individuals that have the endophenotype of hippocampal sclerosis (HS) pathology, relative to a control cohort without HS pathology, among autopsied AD patients the ADGC dataset according to NACC Neuropathology Forms.
Role: Co-PI

R03 DE021438 – Morford (PI)                    08/01/11-7/31/14
NIH (NIDCR) *Genetic Markers Associated with Epithelial Ovarian Cancer and Hypodontia*
The goal of this project is to elucidate genetic polymorphisms that, in concert with the presence of a hypondontia phenotype, correlate with an increased risk of ovarian cancer.
Role: Co-I

P20 GM103538 – Ebersole (PI)                    09/23/04 - 07/31/14
NIH (NIGMS) *Center for Biologic Basis of Oral/Systematic Diseases*
This center supports a biostatistics core.
Role: Co-I

R24 MD008018 – Swanson/Schoenberg (PI)                    05/01/13 - 04/30/16
NIH (NIMHD) *Appalachians Together Restoring The Eating Environment (APPAL-TREE)*
In this three year planning grant, our community-academic collaboration will conduct a community needs assessment, facilitate the selection and initiation of an evidence-based pilot intervention to promote better nutrition, and establish an effective, culturally appropriate approach capable of dissemination to other rural, underserved areas that improved dietary intake and, ultimately, reduces pernicious health inequities in Appalachia.

Role: Co-I

R01 DK080770 – Malluche (PI)                                                03/01/09 - 06/30/11
NIH (NIDDK) *Renal Osteodystrophy: A Fresh Approach*
This research project comprised a prospective follow-up of patients with chronic kidney
disease to determine noninvasive detection of abnormalities in bone turnover and prevention
of bone loss.
Role: Co-Investigator

DAMD17-03-1-0007 – Clayton (PI)                                              1/01/09-1/16/10
Research Triangle Institute *Tobacco Initiation and Cessation Among New Soldiers*
This study is a randomized trial of interventions to reduce antimicrobial usage and resistance
in low-income communities. The major objective of this project is to examine the possible
relationship of social, individual-level and environmental-level influences on tobacco use.
Role: Statistician

T32 HL007427 – Weiss (PI)                                                   8/1/06-7/31/08
NIH (NHLBI) *Clinical Epidemiology of Lung Diseases*
The program provides research training in 4 main areas: statistics, epidemiologic risk factors,
genetics, and health policy. These trainees will interact with a pool of 36 faculty members in
the 4 project areas. Each trainee will have the opportunity to become involved in the design,
execution, and analysis of ongoing federally and non-federally funded research projects.
Role: Trainee

T90 DK070078 – Wessling-Resnick (PI)                                        9/1/05-7/31/06
NIH (NIDDK) *Interdisciplinary Training in Genetics and Complex Disease (Roadmap Initiative)*
Our specific focus for trainees is on gene-environment interactions in the broadest possible
sense, and on a generalized set of complex diseases rather than on an individual syndrome,
with the recognition that science today is becoming substantially predicated in several "core"
areas that intersect across disciplines. We will develop integrated coursework, sponsor work-
shops, establish a new seminar series, and foster interactive "cores" to enable our trainees
to undertake the challenges that lie ahead to define the molecular signatures of disease
patterns. Role: Trainee

TEACHING
EXPERIENCE

**University of Kentucky College of Public Health** (8/2008–present)
(all with full responsibility)

- CPH 739 **Independent Studies In Biostatistics** (frequently)

- BST 682 **Generalized Linear Models** (Fall 2017, Fall 2018)
  This course covers the generalized linear model framework, multivariate maximum like-
  lihood theory, logistic regression, Poisson regression, and nominal and ordinal logistic
  regression models, as well as approaches for building and checking these models. The
  course also includes the use of computing tools to apply these models to real data.
- CPH 738 **Applied Statistical Genetics** (Fall 2016)
  The course provides students an opportunity to participate in the international Genetic
  Analysis Workshop (GAW) and is offered in conjunction with the biannual. Students
  work on research teams to address cutting-edge topics of interest using novel largescale
  genomics datasets.
- BST 655/STA 655 **Introduction to Statistical Genetics** (Spring 2010, Spring 2011,
  Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017)
  An introduction to the statistical methodologies used today to investigate genetic sus-
  ceptibility to complex diseases. The course focuses on linkage and association analysis
  with applications to real-world data. Commonly used (and freely available) software will
  be presented and used throughout. Because the field is constantly evolving, a focus of
  the material for this course will be recent statistical human genetics literature.
- STA 762/STA 632 **Longitudinal Data Analysis** (Spring 2013, Spring 2017)
  This course presents statistical techniques for analyzing longitudinal studies and repeated
  measures experiments that occur frequently in public health, clinical trials, and outcomes
  research. This course will cover linear mixed models, generalized linear mixed models

and an introduction to nonlinear models as they apply to the analysis of correlated data.

- BST 675 **Biometrics I** (Fall 2012)
  This course, the first of a two-semester sequence in biometrics, introduces probability, discrete random variables, continuous random variables, joint distributions, and sampling distributions.
- CPH 930 **Advanced Topics in Biostatistics** (Spring 2011, Spring 2012)
  Addresses advance topics in biostatistics for the public health professional. Content emphasizes biostatistical concepts over methodology to prepare students for generalist public health positions. Course topics will address public health problem solving using study design, vital statistics, data, large health surveys, and an overview of multivariate statistics including multiple regression, logistic regression, longitudinal data, survival analysis, and recursive partitioning.
- CPH 630/STA 681 **Biostatistics II** (Spring 2009, Fall 2009, Spring 2011, Spring 2012)
  Students will learn statistical methods used in public health studies. This includes receiver operator curves, multiple regression logistic regression, confounding and stratification, the Mantel-Haenzel procedure, and the Cox proportional hazardous model.

  **Guest Lectures**
  - Power/sample size for two sample t-tests & non-parametric analogs for STA580 (Biostatistics I), Fall 2014
  - Current Trends in Large-Scale Human Genetics Study: A Survey of Technologies, Projects and Methodological Advances and Challenges for GEN300/ASC782 (Equine Infectious Diseases in the Genomic Era), Spring 2014
  - Current Trends in Large-Scale Human Genetics Study: A Survey of Technologies, Projects and Methodological Advances and Challenges for CPH738 (Bioinformatics), Spring 2013, Fall 2013, Spring 2014
  - Genetic Epidemiology of Cancer for CPH 718 (Cancer Epidemiology), Fall 2012, Fall 2013
  - Bioinformatics for CPH738 (Tools and Applications in Biomedical Informatics), Summer 2012
  - Genome-wide association, single nucleotide polymorphisms and application to nicotine dependence for PHS663 (Molecular NeuroBiol of Abused Drugs), Spring 2012, Spring 2014, Spring 2016, Spring 2019
  - Multi-level Modeling for CPH 718 (Social Epidemiology), Spring 2010
  - Understanding Data Analysis and Data Management for CDS 660 (Special Topics: Research Design, Methodology, and Dissemination), Fall 2009
  - Genome-wide Association Studies for CPH 613 (Molecular Epidemiology, Cancer Prevention & Control), Fall 2009
  - Logistic Regression and Variable Selection for CPH 712 (Advanced Epidemiology), Fall 2008
  - What is a P-value? for the UK Hospital Dietetic Internship Program, Fall 2008

**Harvard University** (8/2004–5/2008)

  **Harvard School of Public Health**

  Instructor (full responsibility)

  - Summer 2006 – Summer Preparatory Training Program (Probability & Operational Math)

  Teaching Assistant (lab/grading responsibilities)

  - Fall 2007 – BIO 232 (Methods I)
  - Fall 2006 – BIO 226 (Applied Longitudinal Analysis)
  - Winter 2006 – BIO 111 (Introduction to Programming in SAS)
  - Fall 2005 – BIO 222 (Basics of Statistical Inference)
  - Spring 2005 – BIO 211 (Regression and Analysis of Variance in Experimental Research)

  **Derek Bok Center for Teaching and Learning**

  Teaching Consultant, Biostatistics (2007-08)

**University of Kentucky** (8/2002-5/2004)

Instructor (full responsibility)
- Spring 2004 – STA 200 (Statistics: A Force in Human Judgement)
- Fall 2003 – STA 200
- Summer 2003 – STA 200

Teaching Assistant (lab/grading responsibilities)
- Summer 2004 – STA 570 (Basic Statistical Analysis)
- Spring 2003 – STA 200
- Fall 2002 – STA 570

ADVISING

**Current Advisees**

**Current Students**
1. Dissertation Committee Co-chair for Adam Dugan, Ph.D. Candidate (Epidemiology & Biostatistics)
2. Dissertation Committee member for Ximena Andrea Qyarzun Gonzalez, Ph.D. Candidate (Epidemiology & Biostatistics)
3. Dissertation Committee member for Shama Karanth, Ph.D. Candidate (Epidemiology & Biostatistics)
4. Dissertation Committee Chair for Lincoln Shade, Ph.D. Candidate (Epidemiology & Biostatistics)
5. Dissertation Committee member for Ya Qi, Ph.D. Candidate (Statistics)
6. Dissertation Committee member for Courtney Kloske, Ph.D. Candidate (Physiology)
7. Dissertation Committee member for Nan Lin, Ph.D. Candidate (Pharmacy)
8. Dissertation Committee member for Taylor Estepp, Ph.D. Candidate (Biostatistics)

**Former Advisees**
9. CCTS Clinical and Translational Science Mentor/Chair for Aleksander Lenert, M.D. (Rheumatology), Defended M.S. Medical Sciences, Spring 2017
10. Dean's Clinical Scholars Award Advisor for Stephanie Rose, M.D, M.P.H. (Internal Medicine)
11. CCTS KL2 Career Development Scholar Advisor for Matthew L. Bush, M.D. (Otolaryngology)

**Former Students**
12. Capstone Committee member for Marilyn Campbell (M.P.H., PRM, December 2020)
13. Dissertation Committee member for Kedai Cheng (Ph.D. Statistics, August 2020)
14. Dissertation Committee Co-chair for G Yeon Oh (Ph.D. Epidemiology & Biostatistics, August 2020)
15. Outside Examiner for Ashley Martinez (Ph.D. Pharmacy, May 2020)
16. Dissertation Committee member for Yan Huang (Ph.D. Computer Science, May 2020)
17. Dissertation Committee member for Weihang Ren (Ph.D., Statistics, May 2020)
18. Dissertation Committee member for Zaid Al-Khaledi (Ph.D., Statistics, May 2019)
19. Dissertation Committee member for Jiaying Weng (Ph.D., Statistics, May 2019)
20. Capstone Committee member for Samantha Kennedy (M.P.H., Biostatistics, May 2019)
21. Capstone Committee member for Zimu Li (M.P.H., Biostatistics, May 2019)
22. Capstone Committee member for Nathaniel Wilson (M.P.H., Biostatistics, May 2019)
23. External Examiner for Bedilu Alamirie Ejigu (Ph.D., Statistics at Addis Ababa University, Ethiopia, May 2019)
24. Outside Examiner for Xiaoqiong Fang (Ph.D., Statistics, December 2018)
25. Dissertation committee member for Ye Li (Ph.D., Statistics, December 2018)
26. Dissertation Committee Co-chair for Whitney Ford (Ph.D., Epidemiology & Biostatistics, December 2018)
27. External Member of PhD Oral Defense for Sahir Bhatnagar (Ph.D., Biostatistics, McGill University, December 2018)
28. Dissertation Committee Co-chair for I-Chen Chen (Ph.D., Epidemiology & Biostatistics, May 2018)
29. Dissertation Committee member for Xiaoli Kong, (Ph.D., Statistics, May 2018)
30. Dissertation Committee Chair for Yuriko Katsumata (Ph.D., Epidemiology & Biostatistics, December 2017)
31. Dissertation committee member for Sarah Janse (Ph.D., Statistics, December 2017)

32. Dissertation Committee Co-chair for Frank Appiah, (Ph.D., Epidemiology & Biostatistics, May 2017)
33. Capstone Committee member for Fei Yang (M.P.H., Biostatistics, May 2017)
34. Capstone Committee member for Christina Munson (M.P.H., Biostatistics, May 2017)
35. Capstone Committee member for Suzanne Segerstrom (M.P.H., Biostatistics, May 2017)
36. Outside Examiner for Qingcong Yuan (Ph.D., Statistics, May 2017)
37. Outside Examiner for Hongyuan Wang (Ph.D., Statistics, December 2016)
38. Dissertation Committee member for Rebecca Crouch (Ph.D., Statistics, December 2016)
39. Outside Examiner for Wenjie Lou (Ph.D., Statistics, August 2016)
40. Dissertation Committee member for Zhiheng Xie (Ph.D., Statistics, August 2016)
41. Dissertation committee member for Kristen McQuerry (Ph.D., Statistics, August 2016)
42. Independent evaluator for Maria Kabisch (Ph.D., Biomathematics – Medical Faculty of Heidelberg, May 2016)
43. Dissertation Committee member for Meng Qi (Ph.D., Statistics, May 2016)
44. Outside Examiner for Edward Roualdes (Ph.D., Statistics, August 2015)
45. Capstone Committee member for Rachel Van Atta (M.P.H., Biostatistics, May 2015)
46. Capstone Committee member for Jing Wei (M.P.H., Biostatistics, May 2015)
47. Dissertation Committee member for Shaoceng Wei (Ph.D., Statistics, May 2015)
48. Dissertation Committee member for Shihong Zhu (Ph.D., Statistics, May 2015)
49. Dissertation Committee member for Feng Zhou (Ph.D., Statistics, December 2014)
50. Dissertation Committee member for Qian Fan (Ph.D., Statistics, December 2014)
51. Thesis Committee member for Kristen Tekin (M.S., Medical Sciences, December 2014)
52. Dissertation Committee member for Yinglei Li (Ph.D., Statistics, October 2014)
53. Outside Examiner for Ishita Parikh (Ph.D., Physiology, October 2014)
54. Dissertation Committee member for Dustin Stephens (MD/Ph.D., Clinical & Translational Science, July 2014)
55. Dissertation Committee member for Jennifer Janes (Ph.D., Veterinary Science, May 2014)
56. Capstone Committee member for Lingni Li (M.P.H., Biostatistics, May 2014)
57. Capstone Committee member for Scott Secamiglio (M.P.H., Biostatistics, May 2014)
58. Dissertation Co-chair for Brian Downer (Ph.D., Gerontology, April 2014)
    - First Place in 2013 CPH Research Day – "The Differential Effects of Midlife and Late Life Alcohol Consumption on Regional Brain Volumes and Cognitive Functioning among Older Adults"
    - Second Place in 2012 CPH Research Day – "Alcohol Consumption, APOE Genotypes and Longitudinal Change in Memory Among Older Adults"
    - The Everett and Anne Lee Student Gerontology Award in 2011
59. Capstone Committee member for Terrence Lester (M.P.H., Epidemiology, April 2014)
60. Capstone Committee member for Dyron Stephens (Dr.P.H., Health Services Management, April 2014)
61. Capstone Committee member for Emmanuel Jadhav (Dr.P.H., Health Services Management, December 2013)
62. Outside Examiner for Tracy Davis (Ph.D., Gerontology, August 2013)
63. Capstone Committee member for Qishan (Shelley) Wu (M.P.H., Biostatistics, July 2013)
64. Dissertation Committee member for Erin Abner (Ph.D., Biostatistics & Epidemiology, May 2013)
65. Thesis Committee member for Rema Henry (M.S., Medical Sciences, May 2013)
66. Thesis Committee member for Jason Roedig (M.S., Dentistry, May 2013)
67. Thesis Committee member for Paul DiFranco (M.S., Dentistry, May 2013)
68. Capstone Committee member for Joshua Tyler Smith (M.P.H., Biostatistics, May 2013)
69. Capstone Committee member for Katherine Reemelin (M.P.H., Biostatistics, May 2013)
70. Capstone Committee member for Noel Dickens (M.P.H., Biostatistics, May 2013)
71. Capstone Committee member for Hannah Oglesby Keeler (M.P.H., Health Services Management, May 2013)
72. Thesis Committee member for Jerrod Dempsey (M.S., Dentistry, May 2012)
73. Thesis Committee member for Anna Vu (M.S., Dentistry, May 2012)

- American Association of Women Dentists (AAWD)/ Proctor and Gamble Research Scholarship Award Winner – "Hypodontia and Epithelial Ovarian Cancer (Study SNP in MSX1, RUNX2, RUNX3)"
- Council on Scientific Affairs (COSA) Thomas M. Graber Award of Special Merit

74. Thesis Committee member for Kristen George (M.S., Dentistry, May 2012)
75. Capstone Committee member for Jennifer Meyer (M.P.H., Epidemiology, May 2012)
    - First Place in 2012 CPH Research Day – "Generic Antiepileptic Prescribing: A Cross-Sectional Study"
76. Capstone Committee member for Reny De Leeuw (M.P.H., Biostatistics, May 2012)
77. Capstone Committee member for Atwood Raphael (M.P.H., Biostatistics, May 2012)

    - Second Place in 2011 PHSSR Keeneland Conference Poster Competition – "Predicting Diagnostic Accuracy of Epilepsy: A Study of a Haitian Epileptic Care (CLIDEP)"
78. Capstone Committee member for Peter Shores (M.P.H., Biostatistics, May 2012)
79. Capstone Committee member for Deepa Valvi (Dr.P.H., Epidemiology, May 2012)
80. Capstone Committee member for Maria del Mar Landron (Dr.P.H., Health Services Management, May 2012)
81. Capstone Committee member for Lina Gu (M.P.H., Biostatistics, December 2011)
82. Capstone Committee member for Kyoung Suk Lee (M.P.H., Biostatistics, December 2011)
    - Biostatistics Departmental Award Winner
83. Capstone Committee member for Bhumika Tandel (M.P.H., Epidemiology, August 2011)
84. Capstone Committee member for Frances Chester, (Dr.P.H., Health Behavior, July 2011)
85. Capstone Advisor for Janice Estus, M.D. (M.P.H., Biostatistics, June 2011)
    - Biostatistics Departmental Award Winner
86. Thesis Committee member for Dave Kujak (M.S., Dentistry, March 2011)
    - SAO Graduate Student Research Grant Winner – "Single Nucleotide Polymorphism (SNP)-based Analysis of Genes Associated with Hypodontia and Epithelial Ovarian Cancer: A Pathway to Improved Cancer Detection?"
87. Thesis Committee member for John Turner (M.S., Dentistry, March 2011)
88. Capstone Committee member for Katharina Kehl (M.P.H., Epidemiology, November 2010)
89. Capstone Committee member for Sohail Mohammed (M.P.H., Epidemiology, July 2010)
90. Capstone Committee member for Ashley Comiford (M.P.H., Epidemiology, July 2010)
91. Capstone Committee member for Kara Michels (M.P.H., Epidemiology, July 2010)
92. Capstone Committee member for Mariana Montes (M.P.H., Epidemiology, June 2010)

    - Epidemiology Departmental Award Winner
93. Capstone Committee member for Leah Casanave (M.P.H., Epidemiology, May 2010)
94. Thesis Committee member for Thomamiso Moremi (M.S., Dentistry, March 2010)
    - SAO Graduate Student Research Grant Winner – "Analysis of the Occurrence of P2RX7 Polymorphisms and External Apical Root Resorption during Orthodontic Treatment"
95. Thesis Committee member for Michael Pratt (M.S., Dentistry, March 2010)

SERVICE

**University of Kentucky**
- Dean's Summative Review Committee (2021)
- MD/PhD Internal Advisory Committee (2019–)
- Interviewer, MD/PhD program admissions (2019, 2020)
- Markey Cancer Center Biostatistics and Bioinformatics SRF Scientific Advisory Committee (2018–)
- CCTS Pilot Committee (2017)
- Research Data Advisory Group (2016–2018)
- Fulbright Seminar – Faculty Workshop Facilitator (Feb 2016)
- UK Senate Council – Teacher Course Evaluation (TCE) Implementation Committee (2016)
- Faculty Advisor, Mu Sigma Rho (2015–)
- Faculty Advisor, Red Shoe Crew (2015–)

- UK Senate Council – Teacher Course Evaluation Ad-Hoc Committee (2014)
- elearning Innovation Initiative (eLII) proposal reviewer (Fall 2014)
- Markey Cancer Center Research Day Judge (2014)
- Search Committee for Gerontology Faculty (2013–2014)
- Learning Management System (LMS) Selection Committee (2013–2014)
- Markesbery Symposium Poster Judge (2013, 2014, 2015, 2018, 2019, 2020)
- CCTS Spring Conference Mentor (2011, 2012, 2015, 2016)
- Interim General Education Oversight Committee (IGEOC) Reviewer for Statistical Inferential Reasoning (SIR) (2011)
- Faculty Judge for UK Graduate Student Interdisciplinary Conference: Collaboration, Translation, and Outreach (2010)
- Search Committee for Director of the Division of Biomedical Informatics (2010)
- Markey Cancer Center, Cancer Prevention and Control Program Scientific Advisory Committee (2010–)
- General Education Reform Faculty Curricular Team: Statistical Inferential Reasoning (2009)
- Planning Committee for Cyberinfrastructure Days Workshop sponsored by Provost Subbaswamy, Vice President for Research, Jim Tracy and the Center for Computational Sciences (2009–10)
- Center for Biomedical Informatics (2008–2011)
- Mentor/Instructor for UK Chandler Medical Center Multicultural & Academic Affairs Office Pre-Entry Program (2004)

**UK College of Public Health**
- College of Public Health Faculty Council (2018–present)
  - Chair (2020–2021)
- Chair, College of Public Health Task Force for the Strategic Plan (2019–2020)
- Search Committee for Epidemiology Faculty (2019–2020)
- CPH Employee of the Year Selection Committee (2018)
- Ad Hoc College of Public Health Hiring Committee (2018)
- Chair, Epidemiology and Biostatistics PhD Curriculum Committee (2016–2017)
- College of Public Health Strategic Planning Committee (2016–2017)
- College of Public Health Research Day Judge (2016)
- Appointments, Promotion and Tenure Committee (2015–2019)
  - Chair (2017–2018)
- Health Care Colleges Council, CPH Representative (2014–2016)
- Search Committee for the Department of Gerontology (2013–2014)
- MPH 10 Year Review Task Group (2013)
- Alumni Relations Committee (2012–2014)
- Assessment and Evaluation Committee (2011–2012)
- Admissions and Student Affairs Committee (2008–2011)
- Ad Hoc Lead IT Hiring Committee (2009)
- Search Committee for the Division of Biomedical Informatics (2010-2012)
- Task Force on Organizational Structure (2012)
- Undergraduate Education Work Group (2012)
- CPH IT Infrastructure Work Group (2012)

**UK Department of Biostatistics**
- EPI/BIO Ph.D. Admissions Committee (2011–2014)
- EPI/BIO Ph.D. Qualifying Examination Committee (2010–2011)
- Dr.P.H. Qualifying Examination Committee (2009–2013)
    Chair (2011, 2012)

**Editorial Service**
- Statistical Editor, Journal of Pediatric Genetics, 2010–
- Review Editor, Frontiers in Genetics: Applied Genetic Epidemiology, 2011–
- Special Issue Editor, BMC Proceedings, 2013
- Editorial Board, PLoS ONE, 2014–
- Special Issue Editor, BMC Genetics, 2017–2018

**Grant Reviews**

- Molecular Neurogenetics Study Section

    Emerging Technologies and Training Neurosciences Integrated Review Group, October, 2020
- Center for Scientific Review Special Emphasis Panel: ZRG1 RPHB-W (56)

    Research on Topics in Alzheimer's Disease and Related Dementias, July, 2020
- Center for Scientific Review Special Emphasis Panel: ZRG1 F08-M (20) L

    F08 Fellowships: Genes, Genomes and Genetics, June, 2020
- National Institute of Mental Health (NIMH) Special Emphasis Panel: ZMH1-ERB-C-06

    Novel Mechanism Research on Neuropsychiatric Symptoms (NPS) in Alzheimer's Dementia, July, 2019
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Special Emphasis Panel: ZDK1 GRB-3 (M4)

    High Impact, Interdisciplinary Science in NIDDK Research Areas (RC2), March, 2019
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Special Emphasis Panel: ZDK1 GRB-3 (O1) 1

    George M. O'Brien Urology Cooperative Research Centers Program (U54), July, 2018
- ACS IRG Review Panel, Lexington, KY, November, 2017
- National Institute (NINDS) Special Emphasis Panel: ZNS1 SRB-A(10)

    Frontotemporal Degeneration (FTD) Sequencing Consortium: Discovery, Replication and Validation (UG3/UH3), May, 2017
- ACS IRG Review Panel, Lexington, KY, November, 2016
- National Institute of Aging (NIA) Special Emphasis Panel: PAR 15-356

    Major Opportunities for Research in Epidemiology of Alzheimer's Disease and Cognitive Resilience (R01), October, 2016
- National Institute of Aging (NIA) Special Emphasis Panel: ZAG1 ZIJ-1 (O1)

    Alzheimer's Disease Cores, July, 2016
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Special Emphasis Panel: ZDK1 GRB-3 (O2) 1

    George M. O'Brien Urology Cooperative Research Centers Program (U54), July, 2016
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Special Emphasis Panel: ZDK1-GRB-D-J1

    UroEDIC III (R01), November, 2015
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Special Emphasis Panel: ZDK1-GRB-3-O1

    George M. O'Brien Urology Cooperative Research Centers Program (U54), Bethesda, MD, July, 2015
- National Institute of Dental and Craniofacial Research (NIDCR) Special Emphasis Panel: ZDE1 VH- (07)

    Targeting Co-dependent Molecular Pathways in Oral Cancer, Silver Springs, MD, December, 2014
- Kentucky Lung Cancer Research Program Review Panel, University of Kentucky Markey Cancer Center, December, 2014
- ACS IRG Review Panel, Lexington, KY, December, 2013
- National Alzheimer's Coordinating Center (NACC) Scientific Review, 2013–2015

    Chicago, IL, 2013
- UK CCTS Pilot Application Reviewer, Lexington, KY, August, 2010
- National Heart, Lung, and Blood Institute Special Emphasis Panel: ZHL1 CSR-R (O4)

    NHLBI Grand Opportunities in Building Upon GWAS (ARRA), Arlington, VA, July, 2009

**Conference Service**
- Educational Advisory Committee, 2021 ENAR, Baltimore, MD
- Chair, Methods for Risk Prediction – Contributed Papers, 2015 Joint Statistical Meetings, Seattle, Washington, August 2015
- Moderator, Computer Science, National Conferences on Undergraduate Research (NCUR), Lexington, KY, April 2014
- Chair, Statistical Genetics Session, 2nd International Conference on Biometrics & Biostatistics, Northbrook, IL, June 2013
- Chair, Causal Inference – Contributed Papers, 2013 Joint Statistical Meetings, Montreal, Canada, August 2013

**Journal Referee**
- Advances in Medical Sciences
- Alzheimer's & Dementia
- American Journal of Medical Genetics – Part B: Neuropsychiatric Genetics
- Annals of Human Genetics
- Biological Psychiatry
- Biometrics
- BMC Bioinformatics
- BMC Medical Genetics
- BMC Proceedings
- Briefings in Bioinformatics
- Circulation: Cardiovascular Quality and Outcomes
- Communications in Statistics – Theory and Methods
- Computational Statistics
- European Journal of Human Genetics
- Frontiers in Genetics
- Frontiers in Molecular Neuroscience
- Genes, Brain and Behavior
- Genetics
- Human Heredity
- Immunological Investigations
- JAMA Network Open
- Journal of Alzheimer's Disease
- Journal of Biometrics and Biostatistics
- Journal of Molecular Neurodegeneration
- Journal of Rural Health
- Mammalian Genome
- Microarrays
- Neuroscience Letters
- PLoS ONE
- PLoS Genetics
- PLoS Medicine
- Molecular Psychiatry
- Source Code for Biology and Medicine
- Statistics in Medicine
- The Angle Orthodontist
- Trends in Genetics

**Outside Promotion and Tenure Reviews**
- The University of Texas Health Science Center – 2015
- North Dakota State University – 2015
- Cincinnati Children's Hospital Medical Center – 2016
- University of Alabama at Birmingham – 2017
- Augusta University – 2017
- Brigham Young University – 2018
- University of Alabama at Birmingham – 2020
- Ohio State University – 2021

**Community Service**
- Board of Directors, Ronald McDonald Charities of the Bluegrass, 2016–present
  - Co-chair, Programs Committee, 2019–
  - Board Development and Governance Committee, 2019–

CURRENT AND FORMER MEMBERSHIPS
- Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART)
- Alzheimer's Disease Centers – Endophenotyping Genetics Group
- Alzheimer's Disease Genetics Consortium
- American Society of Human Genetics
- American Statistical Association
  - Program Committee, Boston Chapter, 2006–2008
  - Vice-President, Kentucky Chapter, 2012–2014

- Council of Chapters Representative, Kentucky Chapter, 2014–2016
- Vice Chair (Region 1, District 2) of the Council of Chapters Governing Board, 2018–2020 (elected, could not serve)
- Eastern North American Region, International Biometric Society
- Genetic Analysis Workshop
  - Advisory Committee, 2016–
- International Genetic Epidemiology Society
  - Membership Committee, 2013–2015
  - Communications Committee, 2016–2018
- Phi Beta Kappa
- Phi Kappa Phi

**Miscellany**

Student Representative, Disciplinary Board, Harvard School of Public Health

Mentor, Summer Program in Quantitative Sciences, Harvard School of Public Health

Biostatistics Representative, Harvard School of Public Health Student Government

Student Committee Representative & Chair, Department of Biostatistics

Biostatistics Tutor, Office for Student Affairs, Harvard School of Public Health

Graduate Student Representative, University of Kentucky, Department of Statistics

Student Advisory Board, Miami University, Department of Mathematics & Statistics

HONORS AND AWARDS

Nominated for University of Kentucky Outstanding Teaching Award, 2017

Delta Omega Honorary Society in Public Health, 2016

Omicron Delta Kappa National Leadership Honor Society, 2016

Asao Hirano Prize (American Association of Neuropathologists award for the best paper presented on neurodegenerative diseases), 2014

NISBRE 2014 Highlighted Poster, 2014

CPH Final 4 Faculty, 2014

Wethington Award, 2012–2021

CCTS Grant Workshop Scholar, 2012

Elected to NACC Scientific Review Committee, 2012

NIGMS/UAB Bursary Awards (2 separate awards), 2012

Dean's Innovative Teaching Award, 2012

Ellison Medical Foundation New Scholar Award in Aging Nominee, 2010

Elected to Mu Sigma Rho, 2007

Channing Laboratory / Brigham & Women's Hospital Fellow
  - Clinical Epidemiology of Lung Diseases Trainee, 2004–2008

NIH Roadmap Fellow – Interdisciplinary Training Program in Genetics and Complex Diseases, Harvard University, 2005–2006

Ruth L. Kirschstein National Research Service Award, 2005

Certificate of Distinction in Teaching, Harvard University, 2005

AAAS/Science Program for Excellence in Science Award, 2006

R. L. Anderson Teaching Award, University of Kentucky Department of Statistics, 2004

First Year Teaching Scholar (completed six-week program sponsored by the Teaching and

Learning Center covering issues of first year students), University of Kentucky

Daniel R. Reedy Quality Achievement Fellowship, 2002–2004

William N. and Marjorie Liggett Presidential Scholarship, Miami University

McFarland Prize, Miami University

Mary Jeanette and Clifford Harvey Scholarship, Miami University

Comer-Reynolds Award in Statistics, Miami University

Corwin Smith Prize, Miami University

J. Paul and John P. Albert Scholarship, Miami University

Koehler Prize, Miami University

Major General Benjamin T. Butler Scholarship Award

U.S. Achievement Academy National College Scholarship Grant

Henry J. Reilly Memorial Scholarship

National College Mathematics Award

PRESENTATIONS
- Genetics of Alzheimer's Disease: Novel Statistical Methods
  – Addis Ababa University. May 2019, Addis Ababa, Ethiopia. (**INVITED**)
- Finding clusters of AD rare variants in ADSP using scan statistics
  – Alzheimer's Disease Genetics Consortium (ADGC) Annual Meeting. February 2019, Miami, Florida. (**INVITED**)
- Power and Heritability.
  – Advanced Psychometrics Methods in Cognitive Aging Research. September 2017, Friday Harbor, Washington. (**INVITED**)
- From Genetics to Genome-wide Association Study.
  – Advanced Psychometrics Methods in Cognitive Aging Research. September 2017, Friday Harbor, Washington. (**INVITED**)
- Cerebrospinal Fluid Biomarker Signature in Alzheimer's Disease Genetic Association Landscape By Functional Linear Models.
  – Alzheimer's Association International Conference. July 2017, London, England.
- Longitudinal data methods for evaluating genome by epigenome interactions in families.
  – Genetic Analysis Workshop 20. March 2017, San Diego, California.
- Impact of home visit capacity on genetic association studies of late-onset Alzheimer's disease.
  – Alzheimer's Association International Conference. July 2016, Toronto, Canada.
- From Math Nerd to Actuary to Statistical Geneticist: One Scientist's Story.
  – Georgetown College – Science Careers Seminar. November 2015, Georgetown, Kentucky. (**INVITED**)
- From GWAS to therapeutic: the story of a prevalent neurodegenerative disease.
  – Joint Statistical Meetings. August 2015, Seattle, Washington.
- Statistical genetics and neurodegenerative disease
  – Eastern Kentucky University – Mu Sigma Rho Induction. May 2015, Richmond, Kentucky (**INVITED**)
- From mixed pathology SAG to a possible therapeutic: Harnessing the rich endophenotypes in the ADGC data and update on other SAGs
  – Alzheimer's Disease Genetics Consortium (ADGC) Annual Meeting. February 2015, Philadelphia, Pennsylvania (**INVITED**)
- Alzheimer's Disease and Inflammation: Identifying Important Pathways
  – University of Louisville KBRIN Bioinformatics Journal Club. December 2014, Louisville, Kentucky (**INVITED**)
- Are there too many ways to skin this cat? A look at genomic pathway analysis
  – Systems Biology and Omics Integration Journal Club and Seminar Series. November 2014, Lexington, Kentucky
- Causal Effect Estimation in Sequencing Studies: A Bayesian Method to Account for

Linkage Disequilibrium
  – Genetic Analysis Workshop 19. August 2014, Vienna, Austria
- ABCC9 gene polymorphism is associated with HS-Aging pathology
  – 5th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE) Meeting. June 2014, Washington, DC (**Highlighted Poster Award**)
- Inflammation and Alzheimer's Disease
  – Markesbery Symposium on Aging and Dementia. November 2013, Lexington, Kentucky (**INVITED**)
- Combining Rare Variants from Families and Unrelateds
  – Joint Statistical Meetings. August 2013, Montreal, Canada. (**INVITED**)
- Targeting genetic pathways of Alzheimer's disease: A case study in inflammation
  – Western North American Region - International Biometric Society Spring Meeting. June 2013, Los Angeles, California (**INVITED**)
- Aggregating disparate study designs in genetic sequencing studies
  – 2nd International Conference & Exhibition on Biometrics & Biostatistics. June 2013, Northbrook, Illinois (**INVITED**)
- Current Trends in Large-scale Human Genetics Study: A Survey of Technologies, Projects and Methodological Advances and Challenges
  – Gluck Center Departmental Seminar. November 2012, Lexington, Kentucky (**INVITED**)
- On Family-based Genome-wide Association Studies with Large Pedigrees: Observations and Recommendations
  – Genetic Analysis Workshop 18. October 2012, Stevenson, Washington
- Efficiently combining family- and population-based genetic association metrics in the GoKinD study
  – UT-ORNL-KBRIN Bioinformatics Summit. April 2012, Louisville, Kentucky
- A genome-wide association study of pathologically-confirmed hippocampal sclerosis of aging
  – Clinical and Translational Science Spring Conference. March 2012, Lexington, Kentucky
- Statistical Genetics in Practice
  – Applied Statistics Lab Lecture Series. February 2012, Lexington, Kentucky (**INVITED**)
- Large-scale genetic association studies in complex disease: An introduction to a current problem and a novel solution
  – Center for Drug Abuse Research Translation Seminar. November 2011, Lexington, Kentucky (**INVITED**)
- Combining family- and population-based genetic association with rare variants
  – 12th International Congress of Human Genetics. October 2011, Montreal, Canada
  – UT-ORNL-KBRIN Bioinformatics Summit. April 2011, Memphis, Tennessee
  – Eastern North American Region - International Biometric Society Spring Meeting. March 2011, Miami, Florida
- An Exploration and Comparison of Methods for Combining Population- and Family-Based Genetic Association using the Genetic Analysis Workshop 17
  – Genetic Analysis Workshop 17. October 2010, Boston, Massachusetts
- Testing Gene-Environment Interactions in Family-Based Genetic Association Studies: A Causal Inference Approach to Adjustment for Ascertainment-induced Bias
  – Indiana University Division of Biostatistics Seminar. February 2011, Indianapolis, Indiana (**INVITED**)
  – UL Department of Bioinformatics & Biostatistics Seminar. September 2010, Louisville, Kentucky (**INVITED**)
  – UT-ORNL-KBRIN Bioinformatics Summit. March 2010, Cadiz, Kentucky
  – BYU Department of Statistics Seminar. February 2010, Provo, Utah (**INVITED**)
  – HSR Methods Conference. January 2010, Lexington, Kentucky (**INVITED**)
- Gene-environment interaction testing in family-based association studies with phenotypically ascertained samples: A causal inference approach
  – American Society of Human Genetics Annual Meeting. October 2009, Honolulu, Hawaii

- International Genetic Epidemiology Society Annual Meeting. October 2009, Kahuku, Hawaii

- A novel test for quality control in family-based genome-wide association studies
  - Eastern North American Region - International Biometric Society Spring Meeting. March 2009, San Antonio, Texas

- Quality Control Issues in Genome-wide Association Studies (**INVITED**)
  - American Statistical Association – Kentucky Chapter Meeting. November 2008, Frankfort, Kentucky

- On quality control measures in genome-wide association studies: a test to assess the genotyping quality of individual probands in family-based association studies
  - Joint Statistical Meetings. August 2009, Washington, DC
  - UT-ORNL-KBRIN Bioinformatics Summit. March 2009, Pikeville, Tennessee
  - American Society of Human Genetics Annual Meeting. November 2008, Philadelphia, Pennsylvania

- On the magnitude of undetected genotyping error in genome-wide association studies: Using transmission rates in family data to estimate the amount of undiscovered genotyping error after quality control filtering
  - Genetic Association Information Network (GAIN) Analysis Workshop III. November 2008, Philadelphia, Pennsylvania

- SNPs and MOMI: Future Statistical Genetics Applications
  - Clinical and Translational Science Fall Conference. October 2008, Lexington, Kentucky

- Recovering Unused Information in Genomewide Association Studies: A Revision of Quality Control Convention
  - American Society of Human Genetics Annual Meeting. October 2007, San Diego, California
  - NIH National Graduate Student Research Festival. October 2007, Bethesda, Maryland

- Why family-based association makes sense in a genome-wide world: A comparison of study power
  - Joint Statistical Meetings. August 2007, Salt Lake City, Utah

- Genome-Wide Family-Based Association (**INVITED**)
  - Harvard Bioinformatics Journal Club. November 2006, Boston, Massachusetts

- About Dichotomized Continuous Traits in family-based association tests: Do you really need quantitative traits?
  - Eastern North American Region - International Biometric Society Spring Meeting. March 2007, Atlanta, Georgia
  - 11th International Congress of Human Genetics. August 2006, Brisbane, Australia

- Incorporating linkage information in testing strategies for genome-wide association studies in family-based designs
  - Mathematical and Statistical Aspects of Molecular Biology. April 2006, Dublin, Ireland

- Power Implications of the Dichotomized Continuous Trait FBAT
  - American Society of Human Genetics Annual Meeting. October 2005, Salt Lake City, Utah
  - International Genetic Epidemiology Society Annual Meeting. October 2005, Park City, Utah
  - Research Students' Conference. April 2005, Cambridge, England
  - Channing Laboratory Family-Based Association Analysis Working Group Meeting (**INVITED**). March 2005, Boston, Massachusetts

Selected Collaborative Presentations

(*stopped tracking in 2014*)

*Jennifer G. Janes, David Fardo, Ernest Bailey, Cole McQueen, Scott Dindot, Stephen M. Reed, James N. MacLeod. Genomic Analyses of Equine Cervical Stenotic Myelopathy. Plant and Animal Genome XXII. San Diego, CA. January 2014.

Gregory Jicha, Peter Nelson, **David Fardo**, Richard J. Kryscio, Frederick Schmitt, Charles

Smith, Janna H Neltner, Linda Van Eldik, Walter Kukull, Erin L. Abner. Vascular neuropathology in dementia patients receiving antipsychotic therapy. Alzheimer's Association International Conference. Boston, MA. July 2013.

Paul Crane, Shubhabrata Mukherjee, Timothy Thornton, Adam C Naj, Sungeun Kim, John Kauwe, **David Fardo**, Otto Valladares, Ellen Wijsman, Gerard D. Schellenberg. GWAS of the joint ADGC data set identifies novel common variants associated with late-onset Alzheimer?s disease. Alzheimer's Association International Conference. Boston, MA. July 2013.

Emily Trittschuh, Paul Crane, Shubhabrata Mukherjee, Timothy Thornton, **David Fardo**, Leo Waterston, Jesse Mez, Richard Sherva, John Kauwe, Adam C Naj, Gary Beecham, Alden Gross, Andrew J Saykin, Robert Green. Genome-wide SNP analysis finds executive-prominent late-onset Alzheimer's disease is highly heritable. Alzheimer's Association International Conference. Boston, MA. July 2013.

Richard Kryscio, Erin L. Abner, **David Fardo**, Peter Nelson, Gregory A Jicha, Charles D Smith, Gregory E Cooper, Allison Caban-Holt, Linda Van Eldik, Frederick Schmitt. Self reported memory decline predicts mild cognitive impairment and dementia. Alzheimer's Association International Conference. Boston, MA. July 2013.

Peter T Nelson, Erin L. Abner, Charles Smith, Gregory A Jicha, Richard J. Kryscio, **David W Fardo**, Janna H Neltner, Linda J Van Eldik, Frederick Schmitt. Clinical correlates of hippocampal sclerosis of aging: the U. Kentucky experience. Alzheimer's Association International Conference. Boston, MA. July 2013.

*Erin L. Abner, Frederick A. Schmitt, Richard J. Kryscio, Gregory A. Jicha, Gregory E. Cooper, Charles D. Smith, **David W. Fardo**, Linda J. Van Eldik, Lori Gooding. Early to mid-life formal training in music is associated with improved late-life semantic and episodic memory among cognitively normal older adults. Alzheimer's Association International Conference. Boston, MA. July 2013.

Manasi Malik, James Simpson, Ishita Parikh, Bernard Wilfred, **David Fardo**, Peter T Nelson. Alzheimer?s risk-altering polymorphism modulates CD33 exon 2 splicing efficiency. Alzheimer's Association International Conference. Boston, MA. July 2013.

Paul Crane, Shubhabrata Mukherjee, Stefan Walter, Hyuna Yang, Gail Jarvik, David Crosslin, Su-In Lee, **David Fardo**, Robert Green, Richard Sherva, Rod Walker, Eric Berg Larson, Gerard D. Schellenberg, Maria Glymour. Vascular disease, vascular risk factors, and risk of late-onset Alzheimer?s disease: Mendelian randomization analyses in the combined ADGC dataset. Alzheimer's Association International Conference. Boston, MA. July 2013.

*Erin L. Abner, Peter T. Nelson, Frederick A. Schmitt, Steven R. Browning, **David W. Fardo**, Lijie Wan, Gregory A Jicha, Gregory E. Cooper, Charles D. Smith, Allison M. Caban-Holt, Linda J. Van Eldik, Richard J. Kryscio. Self-reported head injury and risk of cognitive impairment and Alzheimer?s-type pathology in a longitudinal AD Center cohort. Alzheimer's Association International Conference. Boston, MA. July 2013.

Matthew L. Bush, Kristin Bianchi, Cathy Lester, Jennifer B. Shinn, TJ Gal, **David Fardo**, Nancy Schoenberg. Diagnostic Disparities of Pediatric Congenital Hearing Loss in Appalachia. Washington, D.C. April 2013. (*won Scholars Abstract Award)

Lorri Ann Morford, Song Chen, Jing Zhou, Shushu He, Kristen E. George, **David W. Fardo** and James K. Hartsfield, Jr. Influence of CYP19A1 SNPs in Sagittal Facial Growth. San Francisco, CA. November 2012.

*Ding X, Su S, Nandakumar K, Wang X and **Fardo DW**. A Two-Step Penalized Regression Method for Family-based Next Generation Sequencing Association Studies. Genetic Analysis Workshop 18. Stevenson, WA. October 2012. (*won Travel Award)

*Downer B, Zanjani F, **Fardo D**. The Effect of Gene-Environment Interactions Between APOE-e4 and Lifetime Alcohol Consumption on Cognition In Older Adults. Alzheimer?s Association International Conference. Vancouver, British Columbia, Canada. July 2012.

*Meyer J, **Fardo D**, Ryan M. Trends in Generic Antiepileptic Prescribing: A Cross-sectional Study. 46th ASHP Midyear Clinical Meeting & Exhibition. New Orleans, LA. December 2011.

Hobbs J, Chen L, Nikiforova M, Bortoluzzi S, **Fardo DW**, Cieply K, Dacic S, Hamilton RL, Horbinski C. Paradoxical relationship between degree of EGFR amplification and response to temozolomide in glioblastomas. 2011 Society for NeuroOncology 16th Annual Scientific

Meeting. Orange County, California.

Falcao-Alencar G, Yalla NM, **Fardo DW**, Morford LA, Hartsfield JK, Ain KB. Lack Of Evidence For Alterations In Relative Telomere Length And Telomerase Gene Number In Familial Nonmedullary Thyroid Carcinoma Patients In Kentucky. 81st Annual Meeting of the American Thyroid Association. Indian Wells, CA.

*Estus J, **Fardo DW**. Comparison of Statistical Analyses of Genome-Wide Association Studies between Population and Family Based Designs with an Application to Chronic Kidney Disease. 2011 Public Health Systems & Services Research (PHSSR) Keeneland Conference. Lexington, KY.

*Raphael A, Fils MS, Elie A, **Fardo D**. Predicting Diagnostic Accuracy of Epilepsy: A Study of a Haitian Epileptic Care (CLIDEP). 2011 Public Health Systems & Services Research (PHSSR) Keeneland Conference. Lexington, KY. (*won second place prize)

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*Hudson NL, DM Mannino, D Fardo, J TempranoAtopy as a Predictor of Mortality: From the Third National Health and Nutrition Examination Survey (NHANES III). American Academy of Allergy, Asthma & Immunology (AAAAI) 2009 Annual Meeting. Washington, DC.

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*(First-author students and advisees indicated by asterisk\*)*