

Alan R. Dabney

Department of Statistics
Texas A&M University
Campus Box 3143
College Station, TX 77843-3143

adabney@stat.tamu.edu
979-219-7808
<http://www.stat.tamu.edu/~adabney>

Education

Ph.D. Biostatistics, Univ. of Washington (2006).

M.S. Biostatistics, Univ. of Washington (2002).

B.S. Mathematics, Univ. of Texas at Arlington (1999).

Positions

Associate Head for Teaching Excellence. Department of Statistics, Texas A&M University, College Station, TX. (2020 – present).

Associate Professor. Department of Statistics, Texas A&M University, College Station, TX. (2011 – present).

Assistant Professor. Department of Statistics, Texas A&M University, College Station, TX. (2006 – 2011).

Awards

2021 Presidential Professor for Teaching Excellence.

2018 12th Man Award from TAMU Department of Statistics.

2017 TAMU Distinguished Achievement University-Level Award in Teaching from The Association of Former Students.

2016-2019 TAMU Eppright Professorship in Undergraduate Teaching Excellence.

2011 TAMU Distinguished Achievement College-Level Award in Teaching from The Association of Former Students.

2009-2010 TAMU College of Science Montague-Center for Teaching Excellence Scholar.

Service

2023- Member, Committee for approval of an American Association of Colleges and Universities Institute on Open Educational Resources.

2022- Member, Committee for Biomedical Informatics and Behavioral Sciences (BIBS) Program.

2022- Member, Committee for Creation of B.S. in Bioinformatics, TAMU College of Arts and Sciences.

2022 Member, Committee for Academic Program Review, TAMU Department of Statistics.

2020- Member, Committee for Academics, TAMU Institute for Data Science (TAMIDS).

2020- Chair, Teaching Excellence Committee, TAMU Department of Statistics.

2020- Member, Executive Committee, TAMU Department of Statistics.

2020- Chair, Academic and Professional Track Hiring Committee, TAMU Department of Statistics.

2019- Member, Executive Committee, TAMU Department of Statistics.

2018- Member, Statistical Collaboration Committee, TAMU Department of Statistics.

2017 Member, Association of Former Students Distinguished Achievement Awards Selection Committee, TAMU.

2016 Co-created and directed new B.S. Statistics degree, TAMU Department of Statistics.

2015- Member, Undergraduate Program Committee, TAMU Department of Statistics.

2016-2021 Member, Faculty and Student Advisory Board, TAMU Center for Teaching Excellence.

2016-2018 Member, Undergraduate Curriculum Committee, TAMU College of Science.

2016-2018 Co-Director of Undergraduate Studies, TAMU Department of Statistics.

2016-2017 Member, Planning Committee, Wakonse South Conference on Teaching and Learning in Higher Education.

2017 Facilitator, Annual Student Conference on Latino Affairs (SCOLA), TAMU.

2013-2017 Member, MS Qualification Exam Committee, TAMU Department of Statistics.

2012 Member, Selection Committee, The Association of Former Students' College-Level Teaching Awards.

2012 Member, External Advisory Board, TAMU AgriLife Genomics and Bioinformatic Services

(TAGS) Core.

2011-2014 Member, TAMU Undergraduate Academic Appeals Panel.

Advising Students

Students for whom I was primary advisor:

- Xuan Wang (Ph.D. Statistics, 2011). Statistician II at Baylor Scott & White Health.
- Robyn Ball (Ph.D. Statistics, 2013). Computational Scientist at The Jackson Laboratory.
- Will Boyles (Ph.D. Statistics, 2020-present). Accepted position at Whitman College.
- Yuliya Karpievitch (postdoc 2007-2010). Computational Biologist, Biostatistician & AI Specialist at Telethon Kids Institute.
- Carmen Tekwe (postdoc 2011-2013). Associate Professor, Indiana University Bloomington, Dept. of Biostatistics.

Committee member on 20 Ph.D.s by non-Statistics students.

Primary advisor to about 55 M.S. Statistics students.

Teaching mentor to Statistics junior faculty, postdocs, and graduate students.

Directed many groups of undergraduate Statistics students in self-study and research.

Mentored several undergraduate Statistics majors through the College of Science mentoring program.

Research Publications

Pan S, Zhang L, Dabney AR, and Gregory C. Qbone: an integrated R package for distributional data analysis applied to bone deformation analysis. *Submitted*.

Zhang L, Crippen T, Dabney AR, Tarone AM, and Tomberlin JK. Exogenous bacteria play a role in the ability of blow fly larvae to develop on resources with variable nutrient quality. *Submitted*.

Boyles W and Dabney AR. (2023) Evaluating a university-wide mathematics assessment for use in introductory statistics course performance. *International Journal of Higher Education*. *In press*.

Zhang L, Cervantes MD, Pan S, Lindsley J, Dabney AR, and Kapler GM. (2023) Transcriptome analysis of the binucleate ciliate *Tetrahymena thermophila* with asynchronous nuclear cell cycles. *Molecular Biology of the Cell*, **34**:rs1.

Pan S, Cesarek M, Godoy C, Co C, Schindler C, Padilla K, Haskell A, Barreda H, Story C, Poole R, Dabney AR, and Gregory C. (2022) Morpholino-driven transcriptional blockade of Dkk-1 in experimental osteosarcoma inhibits bone damage and tumor expansion by multiple mechanisms. *British Journal of Cancer*, 1-13.

Willis WK, Williamson VM, Chuu E, and Dabney AR. (2022) The relationship between a student's success in first-semester general chemistry and their mathematics fluency, profile, and performance on common questions. *Journal of Science Education and Technology*, **31**:1-15.

Suárez MI, Dabney AR, Waxman HC, Scott TP, and Bentz AO. (2021) Examining factors that predict STEM persistence at a large, public research university. *International Journal of Higher Education*, **10**:4.

El-Hakim Y, Mani KK, Eldouh A, Pandey S, Grimaldo MT, Dabney AR, Pilla R, and Sohrabji F. (2021) Sex differences in stroke outcome correspond to rapid and severe changes in gut permeability in adult Sprague Dawley rats. *Biology of Sex Differences*, **12**:14.

Griffin JA, Byrd S, Morgon GD, Dabney AR, Raper T, Dodds DM, Norton R, Jones AS, Collins GD, Cutts T, Edmisten KL, and Butler S. (2020) Water volume and deposition effects on harvest-aid efficacy. *Journal of Cotton Science*, **24**:1-9.

Xing Y, Dabney AR, Li X, Wang G, Gill CA, and Casola C. (2020) SECNVs: A simulator of copy number variants and whole-exome sequences from reference genomes. *Frontiers of Genetics*, **11**(82).

Williamson VM, Walker DR, Chuu E, Broadway S, Mamiya B, Powell CB, Shelton GR, Weber R, Dabney AR, and Mason D. (2020) Impact of basic arithmetic skills on success in first-semester general chemistry, *Chemistry Education Research and Practice*, **21**:51-61.

Boerman NA, Hlavinka KB, Zhou W, Dabney AR, Hodnett GL, and Rooney WL. (2019) Efficacy of the chemical *trifluoromethanesulfonamide* as a male gametocide in field grown sorghum. *Euphytica*, **215**:96.

Chu CP, Hokamp JA, Cianciolo RE, Dabney AR, Brinkmeyer-Langford C, Lees GE, and Nability MB. (2017) RNA-Seq of serial kidney biopsies obtained during progression of chronic kidney disease from dogs with X-linked hereditary nephropathy. *Scientific Reports*, **7**(1):16776.

Zheng L, Crippen TL, Dabney AR, Gordy A, and Tomberlin JK. (2017) Evaluation of sterilized artificial diets for mass-rearing the *Lucilia sericata*. *Journal of Medical Entomology*, **54**:1122-1128.

Kiser JN, Lawrence TE, Neupane M, Seabury CM, Taylor JF, Womack JE, the Bovine Respira-

- tory Disease Complex Coordinated Agricultural Project Research Team, and Neiberghs HL. (2017) Subclinical bovine respiratory disease: Loci and pathogens associated with lung lesions in feedlot cattle. *Journal of Animal Science*, **95**(6):2726–2731.
- Leroux T, Cote M, Kum H-C, Dabney AR, and Wells R. (2017) Transitioning to patient-centered medical homes: Associations with appointment availability. *Military Medicine*, **182**:e1741–e1746.
- Leroux T, Kum H-C, Dabney AR, and Wells R. (2016) Military deployments and mental health utilization among spouses of active duty service members. *Military Medicine*, **181**:1269–1274.
- Turner S, and Dabney AR. (2014) A story-based simulation for teaching sampling distributions. *Teaching Statistics*, **37**:23–25.
- Ball RL, Feiveson AH, Schlegel TT, Starc V, and Dabney AR. (2014) Predicting “heart age” using electrocardiography. *Journal of Personalized Medicine*, **4**:65–78.
- Menon R, Watson S, Thomas L, Allred C, Dabney AR, Azcarate-Peril M, and Sturino J. (2013) Diet complexity and estrogen receptor β -status affect the composition of the murine intestinal microbiota. *Applied and Environmental Microbiology*, **79**:5763–5773.
- Karpievitch YV, Dabney AR, and Smith RD. (2012) Normalization and missing value imputation for label-free LC-MS analysis. *BMC Bioinformatics*, **13**:S5.
- Taverner T, Karpievitch YV, Polpitiya A, Brown J, Dabney AR, Anderson GA, and Smith RD. (2012) DanteR: An extensible R-based tool for quantitative analysis of -omics data. *Bioinformatics*, **28**:2404–2406.
- Tekwe CD, Carroll RJ, and Dabney AR. (2012) Application of survival analysis methodology to the quantitative analysis of LC-MS proteomics data. *Bioinformatics*, **28**:1998–2003.
- Wang X, Anderson GA, Smith RD, and Dabney AR. (2012) A hybrid approach to protein differential expression in mass spectrometry-based proteomics. *Bioinformatics*, **28**:1586–1591.
- Stanley J, Adkins JN, Slys G, Monroe M, Purvine S, Karpievitch YV, Anderson GA, Smith RD, and Dabney AR. (2011) A statistical method for assessing peptide identification confidence in accurate mass and time tag proteomics. *Analytical Chemistry*, **83**:6135–6140.
- Karpievitch YV, Polpitiya A, Adkins JN, Anderson GA, Smith RD, and Dabney AR. (2010) Mass spectrometry-based proteomics: Biological and technological aspects. *Annals of Applied Statistics*, **4**:1797–1823.
- Karpievitch YV, Taverner T, Callister S, Adkins JN, Anderson GA, Smith RD, and Dabney AR.

(2009) Normalization of peak intensities in bottom-up proteomics using singular value decomposition. *Bioinformatics*, **25**:2573–2580.

Karpievitch YV, Stanley J, Taverner T, Huang J, Adkins JN, Ansong C, Heffron F, Metz TO, Qian W-J, Yoon H, Smith RD, and Dabney AR. (2009) A statistical framework for protein quantitation in bottom-up MS-based proteomics. *Bioinformatics*, **25**:2028–2034.

Karpievitch YV, Hill EG, Leclerc AP, Dabney AR, and Almeida JS. (2009) An introspective comparison of Random Forest-based classifiers on the analysis of cluster-correlated data by way of RF++. *PLoS ONE*, **4**(9):e7087.

Petyuk VA, Jaitly N, Moore RJ, Ding J, Metz TO, Tang K, Monroe ME, Tolmachev AV, Adkins JN, Belov ME, Dabney AR, Qian W, Camp II DG, and Smith RD. (2008) Elimination of systematic mass measurement errors in liquid chromatography-mass spectrometry based proteomics using regression models and *a priori* partial knowledge of the sample content. *Analytical Chemistry*, **80**:693–706.

Dabney AR and Storey JD. (2007) Optimality-driven nearest centroid classification for genomic data. *PLoS One*, **2**:e1002.

Dabney AR and Storey JD. (2007) Normalization of two-channel microarrays accounting for experimental design and intensity-dependent relationships. *Genome Biology*, **8**: R44.

Dabney AR and Storey JD. (2007) A new approach to intensity-dependent normalization of two-channel microarrays. *Biostatistics*, **8**:128–139.

Dabney AR and Storey JD. (2006) A reanalysis of a published Affymetrix GeneChip control dataset. *Genome Biology*, **7**:401.

Leek JT, Monsen EC, Dabney AR, and Storey JD. (2006) EDGE: Point-and-click software for the extraction and analysis of differential gene expression. *Bioinformatics*, **22**:507–508.

Dabney AR. (2006) ClaNC: Point-and-click software for classifying microarrays to nearest centroids. *Bioinformatics*, **22**: 122–123.

Dabney AR. (2005) Classification of microarrays to nearest centroids. *Bioinformatics*, **21**: 4148–4154.

Dabney AR and Wakefield JC. (2005) Issues in the mapping of two diseases. *Statistical Methods in Medical Research*, **14**: 83–112.

Abstracts

Frei D, Kellner CP, Dabney AR, Baltan S, Sohrabji F, Pennypacker KR, Nanda A, Woodward K, Rivet DJ, and Fraser JF. (2022) P87 Initial experience with Penumbra RED reperfusion catheters for Acute Stroke Intervention: subset analysis from the prospective, multicentres INSIGHT Registry. *Journal of NeuroInterventional Surgery*, A43-A44.

Fraser J, Dabney AR, Vicari J, Rivet D, Woodward B, Nanda A, Fiorella D, Baltan S, Sohrabji F, Pennypacker K, and Kellner C. (2022) E-096 COVID status is related to clot burden during thrombectomy in acute stroke patients. *Journal of NeuroInterventional Surgery*, A127-A128.

Fraser J, Dabney AR, Vicary J, Rivet D, Woodward B, Nanda A, Fiorella D, Baltan S, Sohrabji F, Pennypacker K, and Kellner C. (2022) E-147 Ephrin receptor beta 1 single nucleotide polymorphisms in association with age in acute stroke patients undergoing thrombectomy. *Journal of NeuroInterventional Surgery*, A155-A155.

Kellner C, Dabney AR, Baltan S, Sohrabji F, Pennypacker K, Nanda A, Woodward K, Rivet D, and Fraser J. (2022) E-173 Initial experience with penumbra red reperfusion catheters for acute stroke intervention: subset analysis from the prospective, multicenter insight registry. *Journal of NeuroInterventional Surgery*, A169-A171.

Fraser J, Dabney AR, Vicari J, Rivet D, Woodward B, Nanda A, Fiorella D, Baltan S, Sohrabji F, Pennypacker K, and Kellner C. (2022) Clot length correlates with presenting NIH stroke scale in mechanical thrombectomy patients. *Journal of Cerebral Blood Flow and Metabolism*, **42**:208.

Fraser J, Dabney AR, Vicari J, Rivet D, Woodward B, Nanda A, Fiorella D, Baltan S, Sohrabji F, Pennypacker K, and Kellner C. (2022) Covid status is related to clot burden during thrombectomy in acute stroke patients. *Journal of Cerebral Blood Flow and Metabolism*, **42**:322-323.

Fraser J, Dabney AR, Vicari J, Rivet D, Woodward B, Nanda A, Fiorella D, Baltan S, Sohrabji F, Pennypacker K, Kellner C. (2022) Ephrin-Receptor-Beta-1 single nucleotide polymorphism in association with age in acute stroke patients undergoing thrombectomy. *Journal of Cerebral Blood Flow and Metabolism*, **42**: 323-324.

Conference Proceedings

Suarez M, Dabney AR, Waxman HC, Scott TP, and Bentz AO. (2019) Examining factors that predict STEM persistence at a large, public research university. *Proceedings of the American Educational Research Association Annual Meeting*.

Books, Software and Other Publications

Klein G and Dabney AR. *Cartoon Introduction to Statistics*. Farrar, Straus & Giroux. 2013.

Dabney AR, Storey JD, and Warnes GR. R package `qvalue`: Q-value estimation for false discovery rate control. 2010.

Featured in Stat-Clips series of 30 statistical education videos, provided by W.H. Freeman publishing.

Recent Funding for Scholarship and Research (Last 5 Years)

[*Pending*] Agency: DOD; PI: Shapiro; Period: 2023-2025; Role: Co-I.

[*Pending*] Agency: NIH, National Institute on Aging; PI: Farida Sohrabji; Period: 2023 - 2027; Program Project Grant; Role: Co-I.

Agency: DOD, AZ210101; PI: Shapiro; Period: Mar. 2022-Feb. 2025; Title: Role of B Cells and Adaptive Immunity in Exacerbated Alzheimer's Disease After Traumatic Brain Injury; Role: Co-I. Percent effort: 5%.

Agency: DOD, AZ210104; PI: Iannucci; Period: Mar. 2022-Feb. 2024; Title: Contribution of Thrombin Signaling to Alzheimer's Disease Pathology Following Traumatic Brain Injury (TBI); Role: Co-I. Percent effort: 5%.

TAMU Office of Diversity *Diversity Matters Seed Grant*; PI: Mary Meagher; Period: 2017 - 2018; Title: Enhancing Resilience and Retention: A Scalable Flipped Classroom Model for Underrepresented Undergraduates; Role: Co-I. Percent Effort: 0% (no compensation).

TAMU College of Science *Diversity and Equity Innovation Grant*; PI: Derya Akleman; Period: Oct. 2016 - Sep. 2017; Title: Symposium for Junior Faculty, Graduate Students and Post Docs in the Sciences: Insights and Strategies for Professional Success, Personal Well-Being, and Getting Along with Others; Role: Co-PI. Percent Effort: 0% (no compensation).

Agency: NIH, National Institute on Aging, 1R01AG042189-01; PI: Farida Sohrabji; Period: Oct. 2011 - Sep. 2017; Title: Epigenetics of the Aging Astrocyte: Implications for Stroke; Role: Co-I. Percent Effort: 6%.

Agency: USDA-NIFA, 2011-68004-30367; PI: James Womack; Period: Apr. 2011 - Mar. 2017; Title: Integrated Program for Reducing Bovine Respiratory Disease Complex in Beef and Dairy Cattle; Role: Co-I; Percent Effort: 6%.

Research - Other

SAB member - INSIGHT registry conducted by Penumbra Inc. Period: Sep. 2021 - present.