

January 2026

Johanna S. Hardin

Professor

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610 N. College Ave.  
Department of Mathematics  
Claremont, CA 91711  
(909) 607-8717

jo.hardin@pomona.edu

### EDUCATION

<b>Ph.D. Statistics</b> , University of California, Davis	2000
Dissertation: <b>Multivariate Outlier Detection and Robust Clustering with Minimum Covariance Determinant Estimation and S-Estimation.</b>	
Adviser: Dr. David M. Rocke.	
<b>M.S. Statistics</b> , University of California, Davis	1997
<b>B.A. Mathematics</b> , Pomona College, Claremont, California	1995
Adviser: Dr. Donald Bentley.	

### EMPLOYMENT

<b>Hardison Chair of Analytical Thinking</b> , Pomona College	2025 - present
<b>Professor of Mathematics &amp; Statistics</b> , Pomona College	2022 - present
<b>Professor of Mathematics</b> , Pomona College	2015 - 2022
<b>Visiting Lecturer</b> , Smith College	2024
<b>Chair, Department of Mathematics</b> , Pomona College	2013 - 2016
<b>Associate Professor of Mathematics</b> , Pomona College	2008 - 2015
<b>Assistant Professor of Mathematics</b> , Pomona College	2002 - 2008
<b>Staff Scientist</b> , Fred Hutchinson Cancer Research Center	2000 - 2002
<b>Lecturer</b> , Seattle University, Albers School of Business and Economics	2001 - 2002
<b>Associate Instructor</b> , UC Davis, Division of Statistics	1997 - 1999

### HONORS AND AWARDS

Fellow, Cultural Competence in Computing (3C), Duke University	2023-2024
Wig Distinguished Professor award, Pomona College	2016, 2023
Not So Standard Deviations Fellow	2020
Elected Member of the International Statistics Institute	2018
Mu Sigma Rho, William D. Warde Statistics Education Award	2018
Fellow of the American Statistical Association	2015
Mathematical Association of America, Hogg Award for Excellence in Teaching Intro Stats	2014
American Statistical Association, Waller Education Award	2007
Appointed to CGU's Extended Graduate Faculty	2003
Project NExT Fellow	2002-2003
Graduate Student Association Travel Award, UC Davis	2000
Student Paper Competition Runner-Up, Joint Meeting of WNAR, IBS, & IMS	1999

Julius Blum Award, Division of Statistics, UC Davis	1995-1996
Phi Beta Kappa, Pomona College	1995
Sigma Xi, Pomona College	1995
Graduated Cum Laude, (B.A.), Pomona College	1995
Graduated with Honors, Mathematics Department, Pomona College	1995

### FELLOWSHIPS AND GRANTS

Howard Hughes Medical Institute IE3 Learning Grant PI: Jane Liu Role: Leadership Team Member	2021-2023 \$30,000
NIH National Institute of General Medical Sciences Title: "A Training Module for Reproducible Data Science Research" PI: Roger Peng Role: External advisory committee	2021-2024 \$94,168
NSF HDR DSC: Collaborative Research, external advisory committee Title: "The Data Science WAV: Experiential Learning with Local Community Organizations" PI: Benjamin Baumer Role: External advisory committee	2019-2022 \$581,902
NSF Improving Undergraduate STEM Education (IUSE) Grant Title: "Creating Opportunities for Data Proficiency in Undergraduate Students" PI: Anna Bargagliotti Role: Advisory panelist	2017-2020 \$265,853
NIH Mouse Models of Human Cancers Consortium Grant Title: "Leveraging Genetically-Engineered Mice to Optimize Pediatric Glioma" PI: David Gutmann & Ami Radunskaya Role: Co-principal Investigator	2015-2019 \$160,916.93
CHAS Faculty Grant Proposal for Promoting Excellence Consortium on High Achievement and Success Title: "Advising Traditionally Underrepresented Students for Retention in Mathematics" Principal Investigator	2014-2015 \$6,400
HHMI 5C Summer Collaborative Grant Title: "The role of RpoS level in regulating genome-wide patterns of transcription" Role: Principal Investigator	Summer 2013 \$13,000
Mellon Foundation Workshop Grant Title: "Strengthening Bridges between Statistics and the Natural Sciences" Role: Principal Investigator	January 2011 \$19,100

National Science Foundation Research Experience for Undergraduates	summers 2009, 2010, 2011
Title: "Claremont Colleges Mathematics REU Site"	
PI: Christopher Towse	\$275,000
Role: Co-principal Investigator	
 Mellon Foundation Workshop Grant	summer 2008
Title: "Student/Faculty Research Models in Computational Biology"	
Role: Senior Personnel	\$16,762
 HHMI Interdisciplinary Research Grant	summer 2007
Title: "Statistical Estimation of Physiological Performance"	
PI: Stephen Adolph	\$10,500
Role: Co-principal Investigator	
 Mellon Foundation Workshop Grant	summer 2007
Title: "The Future of Statistics Consultation, Training, and Curriculum across the Liberal Arts College"	
Role: Co-principal Investigator	\$14,000
 Mellon Foundation Faculty Career Enhancement Grant	summer 2006
Title: "Clustering Microarray Data"	
Role: Principal Investigator	\$4,500
 National Science Foundation Research Experience for Undergraduates	summers 2005, 2006, 2007
Title: "Claremont Colleges Mathematics REU Site"	
PI: Jim Hoste	\$195,977
Role: Senior Personnel	
 Center for Quantitative Life Sciences	summer 2005
Title: "Statistical Estimation of Physiological Performance"	
PI: Stephen Adolph	\$17,904
Role: Co-principal Investigator	
 Howard Hughes Medical Institute	2004-2008
Title: "2004 Undergraduate Science Education Award"	
Role: Senior Investigator on institutional grant	\$1.3 million
 National Institutes of Health Conference Grant 1 R13 CA110472-01	2004 & 2005
Title: "Seventh and Eighth Meetings of New Researchers"	
Role: Principal Investigator	\$22,000

National Institutes of Health		2003-2005
Academic Research Enhancement Award Grant #1 R15 AG021907-01A1		
Title: "Microarray Analysis of Yeast Aging"		
PI: Laura Hoopes	\$100,000	
Role: Co-principal Investigator		
National Science Foundation Major Research Instrumentation Grant #0318944		2003-2006
Title: "Genomic and Genetic Analysis for Pomona College"		
PI: Laura Hoopes	\$233,000	
Role: Senior Investigator		
University of California, Davis Fellowship		1995 - 1997
Title: "Eugene Cota-Robles Fellowship"		
Role: Recipient	Fees, tuition, and a \$2,000 monthly stipend for two years	

## PUBLICATIONS AND PAPERS

- Peer-reviewed articles

46. Hardin, J. **Disciplinary Ethics in Data Science and Statistics**, submitted 2026.
45. Butler, S.<sup>†‡</sup>, Choi, P.<sup>†‡</sup>, Matheis, T.<sup>†‡</sup>, Terdiman, M.<sup>†</sup>, and Hardin, J. **Modifications to sicegar: Analysis of Single-Cell viral Growth Curves**, submitted, 2026.
44. Kher, S.<sup>†</sup> and Hardin, J. **Measuring the Impact of Missingness in Traffic Stop Data**. *Harvard Data Science Review*, accepted, 2026.
43. Hardin, J. **A Mathematical Lens for Teaching Data Science**. *Notices of the American Mathematical Society*, 72: 11, 2025.  
<https://www.ams.org/journals/notices/202511/rnoti-p1276.pdf>
42. Colando, S.<sup>†</sup>, Schulz, D., and Hardin, J. **Selecting ChIP-Seq Normalization Methods from the Perspective of their Technical Conditions**. *Briefings in Bioinformatics*, 26:4, 2025.  
<https://doi.org/10.1093/bib/bbaf431>
41. Karnovsky, N.J., Warzybok, P., Cavalcanti, A., Hardin, J., Brown, Z.W.<sup>†</sup>, Caves, E.<sup>†</sup>, Flynn, C.M.<sup>†</sup>, Gallaher, G.<sup>†</sup>, McDuffie, N.<sup>†</sup>, McOmber, K.<sup>†</sup>, Bradley, R.W., Elliott, M.L., Saenz, B.T., and Jahncke. J. **A decade of diving: responses of Cassin's auklets to variable foraging conditions in the California Current System**. *Frontiers in Bird Science*. 4:1587072, 2025.  
<https://doi.org/10.3389/fbirds.2025.1587072>

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<sup>†</sup>Work done as an undergraduate student.

<sup>‡</sup>Co-corresponding authors.

40. Hardin, J. **CURV - connecting, uplifting, and recognizing voices.** *Chance Magazine, Statistics Education Column, Taking a Chance in the Classroom* 37(2), 2024.  
<https://doi.org/10.1080/09332480.2024.2348978>
39. Colando, S.†, Hardin, J. **Philosophy as Integral to a Data Science Ethics Course.** *Journal of Statistics and Data Science Education* 32(4), 2024.  
<https://doi.org/10.1080/26939169.2024.2394542> item Cruz, M.†, Wei, A.†, Hardin, J., and Radunskaya, A. **Long Term Averages of the Stochastic Logistic Map.** *Journal of Difference Equations and Applications* 30(6), 2024.  
<https://doi.org/10.1080/10236198.2024.2316379>
38. Ashby, E.†, Havens, J.†, Hardin, J., Schulz, D. **Chemical inhibition of bromodomain proteins in insect stage African trypanosomes perturbs silencing of the Variant Surface Glycoprotein repertoire and results in widespread changes in the transcriptome,** *Microbiology Spectrum* 11(3), 2023.  
<https://journals.asm.org/doi/10.1128/spectrum.00147-23>
37. Adams, J.†, Hoang, J.†, Petroni, E.†, Ashby, E.†, Hardin, J., Stoebel, D. **The timing of transcription of RpoS-dependent genes varies across multiple stresses in Escherichia coli K-12,** *mSystems* 8(5), 2023. <https://doi.org/10.1128/msystems.00663-23>
36. Hardin, J., Shahriari, S. **Community, Collaboration, and Climate,** *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies* 33(5), 2023.  
<https://doi.org/10.1080/10511970.2022.2082611>
35. Ashby, E.†, Paddock, L.†, Rollossen, L.†, Tang, E.†, Miller, G.†, Wade, S.†, Betts, H.†, Porter, A.†, Saada, C.†, Hardin, J., Schulz, D. **Genomic occupancy of the bromodomain protein Bdf3 is dynamic during differentiation of African trypanosomes from bloodstream to procyclic forms,** *mSphere* 7(3), 2022.  
<https://doi.org/10.1128/msphere.00023-22>
34. Çetinkaya-Rundel, M., Hardin, J., Baumer, B., McNamara, A., Horton, N., Rundel, C. **An Educator's Perspective on the Tidyverse,** *Technology Innovations in Statistics Education*, 14, 2022. <https://doi.org/10.5070/T514154352>
33. Lu, B.†, Hardin, J. **A Unified Framework for Random Forest Prediction Error Estimation,** *Journal of Machine Learning Research*, 22(8), 2021.  
<https://www.jmlr.org/papers/v22/>
32. Kim, A.Y., Hardin, J. **“Playing the whole game”: A data collection and analysis exercise with Google Calendar,** *Journal of Statistics Education*, 29(S1): S51-S60, 2021.  
<https://doi.org/10.1080/10691898.2020.1799728>
31. Hardin, J., Haushalter, K., Yong, D. **Turning STEM Education Inside-Out: Teaching and Learning Inside of Prisons,** *Science Education and Civic Engagement: An International Journal*, 12 (2); 2020.  
<https://new.seceij.net/articletype/projectreport/turning-stem-education-inside-out/>

30. Allison, K.<sup>†</sup>, Hallman, M.<sup>†</sup>, Koskelo, E.<sup>†</sup>, Radunskaya, A., Hardin, J., Hudgings, J. **Increasing the speed of CCD-based thermoreflectance imaging**, *Review of Scientific Instruments*, 91: 044901, 2020. <https://doi.org/10.1063/1.5135922>
29. Baumer, B., Bray, A., Çetinkaya-Rundel, M., and Hardin, J. **Teaching Introductory Statistics with DataCamp**, *Journal of Statistics Education*, 28(1): 89-97, 2020. <https://www.tandfonline.com/doi/full/10.1080/10691898.2020.1730734>
28. Fiksel, J., Jager, L., Hardin, J., Taub, M. **Using GitHub Classroom To Teach Statistics**, *Journal of Statistics Education*, 27(2): 110-119, 2019. <https://www.tandfonline.com/doi/full/10.1080/10691898.2019.1617089>
27. Duron, C., Pan, Y., Gutmann, D., Hardin, J., Radunskaya, A. **Variability of Betweenness Centrality and Its Effect on Identifying Essential Genes**, *Bulletin of Mathematical Biology*, 81: 3655-3673, 2019. <https://link.springer.com/article/10.1007/s11538-018-0526-z>
26. Evans, C.<sup>†</sup>, Hardin, J., Stoebel, D. **Selecting between-sample RNA-Seq normalization methods from the perspective of their assumptions**. *Briefings in Bioinformatics*, 19(5): 776-792, 2018. <https://academic.oup.com/bib/article/19/5/776/3056951>
- Tutorial on RNASeq Normalization and Differential Expression (Computational Genomics Summer Institute @ IPAM, 2016):  
<http://computationalgenomics.bioinformatics.ucla.edu/portfolio-item/jo-hardin-tutorial-on-rnaseq-normalization-and-differential-expression/>
  - Assumptions in Normalizing RNASeq Data (Computational Genomics Summer Institute @ IPAM, 2016): <http://computationalgenomics.bioinformatics.ucla.edu/portfolio-item/jo-hardin-assumptions-in-normalizing-rnaseq-data/>
25. Hardin, J. **Fun, Not Competition: The Story of My Math Club**, *Journal of Humanistic Mathematics*, 8(1): 350-358, 2018.  
<http://scholarship.claremont.edu/jhm/vol8/iss1/17/>
24. Pan, Y., Duron, C., Bush, E., Sims, P., Hardin, J.<sup>‡</sup>, Radunskaya, A.<sup>‡</sup>, and Gutmann, D.<sup>‡</sup> **Graph Complexity Analysis Identifies an ETV5 Tumor-Specific Network in Human and Murine Low-Grade Glioma**, *PLoS ONE*, 13(5): e0190001, 2018. <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0190001>
23. Hardin, J. **Dynamic Data in the Statistics Classroom**, *Technology Innovations in Statistics Education*, 11(1), 2018. <https://escholarship.org/uc/item/13g5g3dm>
- Dynamic Data in the Classroom (eCOTS 2016):  
<https://www.causeweb.org/cause/ecots/ecots16/posters/a/7>
  - Dynamic Data (useR 2016):  
<https://channel9.msdn.com/events/useR-international-R-User-conference/useR2016/Dynamic-Data-in-the-Statistics-Classroom>

22. Wong, G.<sup>†</sup>, Bonocora, R., Schep, A.<sup>†</sup>, Beeler, S.<sup>†</sup>, Lee, A., Shull, L.<sup>†</sup>, Batachari, L.<sup>†</sup>, Dillon, M.<sup>†</sup>, Evans, C.<sup>†</sup>, Becker, C.<sup>†</sup>, Bush, E., Hardin, J., Wade, J., and Stoebel, D. **The genome-wide transcriptional response to varying RpoS levels in *Escherichia coli* K-12**, *Journal of Bacteriology*, 199: e00755-16, 2017.  
<http://biorxiv.org/content/early/2016/10/21/082537>
21. Coleman, J.<sup>†</sup>, Replogle, J.<sup>†</sup>, Chandler, G., and Hardin, J. **Resistant Multiple Sparse Canonical Correlation**. *Statistical Applications in Genetics and Molecular Biology*, 15: 123-138; 2016. <http://arxiv.org/abs/1410.3355>
20. Hardin, J., Hoerl, R., Horton, N.J., and Nolan, D. **Data Science in Statistics Curricula: Preparing Students to ‘Think with Data’**. *The American Statistician*, 69(4), 2015.  
<http://arxiv.org/abs/1410.3127>
19. Hardin, J., Sarkis, G., and URC, P.C.<sup>†</sup> **Network Analysis with the Enron Email Corpus**. *Journal of Statistics Education*, 23(2), 2015. <http://arxiv.org/abs/1410.2759> (P.C. URC stands for the Pomona College Undergraduate Research Circle whose members for this project were Timothy Kaye, David Khatami, Daniel Metz, and Emily Proulx.)  
<https://amstat.tandfonline.com/doi/abs/10.1080/10691898.2015.11889734>
18. Hardin, J., Garcia, S.R., and Golan, D. **A method for generating realistic correlation matrices**. *Annals of Applied Statistics*, 7: 1733-1762, 2013. <http://arxiv.org/abs/1410.3370>
17. Brieger, K.<sup>†</sup>, and Hardin, J. **Medicine and Statistics: the inextricable link**, *Chance*, 25: 31-34; 2012.
16. Head, A.<sup>†</sup>, Hardin, J., Adolph, S.; **Methods for estimating peak physiological performance and correlating performance measures**, *Environmental and Ecological Statistics*, 19: 127-137; 2012.
15. Karnovsky, N.J., Brown, Z.W.<sup>†</sup>, Welcker, J., Harding, A.M.A., Walkusz, W., Cavalcanti, A., Hardin, J., Kitaysky, A., Gabrielsen, G., Grémillet, D. **Inter-colony comparison of diving behavior of an Arctic top predator: implications for warming in the Greenland Sea**, *Marine Ecology Progress Series*, 440: 229-240; 2011.  
<https://doi.org/10.3354/meps09351>
14. Grosfils, E.B., Long, S.M.<sup>†</sup>, Venechuk, E.M.<sup>†</sup>, Hurwitz, D.M.<sup>†</sup>, Richards, J.W.<sup>†</sup>, Kastl, B.<sup>†</sup>, Drury, D.E.<sup>†</sup>, and Hardin, J., **Geologic map of the Ganiki Planitia quadrangle (V-14), Venus**: U.S. Geological Survey Scientific Investigations Map 3121, 2011.  
<http://astrogeology.usgs.gov/Projects/PlanetaryMapping/MapStatus/VenusStatus/V14.html>  
Now available on USGS as an interactive map:  
<https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=c14edac7e91b4fc5ade4042e3036ec58>
13. Richards, J.<sup>†</sup>, Hardin, J., Grosfils, E.; **Weighted Model-Based Clustering for Remote Sensing Image Analysis**, *Computational Geosciences*, 14: 125-136; 2010.  
<https://doi.org/10.1007/s10596-009-9136-z>

12. Hardin, J., Wilson, J.; **A note on oligonucleotide expression values not being normally distributed**, *Biostatistics*, 10: 446-450; 2009.  
<https://doi.org/10.1093/biostatistics/kxp003>
11. Yiu, G.†, McCord, A.†, Wise, A.†, Jindal, R.†, Hardee, J.†, Kuo, A.†, Yuen Shimogawa, M.†, Cahoon, L., Wu, M., Kloke, J., Hardin, J., Mays Hoopes, L.L.; **Pathways Change in Expression During Replicative Aging in *Saccharomyces cerevisiae***, *Journal of Gerontology*, 63A: 21-34; 2008. <https://doi.org/10.1093/gerona/63.1.21>
10. Hardin, J., Mitani, A.†, Hicks, L.†, VanKoten, B.†; **A Robust Measure of Correlation between Two Genes on a Microarray**, *BMC Bioinformatics*, 8:220; 2007.  
<https://doi.org/10.1186/1471-2105-8-220>
9. Adolph, S., Hardin, J.; **Estimating Phenotypic Correlations: Correcting for Bias Due to Intraindividual Variability**, *Functional Ecology*, 21:178-184; 2007.  
<https://doi.org/10.1111/j.1365-2435.2006.01209.x>
8. Wise, A.†, Hardin, J., Hoopes, L.; **Yeast Through the Ages: a statistical analysis of genetic changes in aging yeast**, *Chance*, 19: 39-44; 2006.
7. Hardin, J., Hoopes, L., Murphy, R.†; **Analyzing DNA Microarrays with Undergraduate Statisticians**, *Proceedings of the Seventh International Conference on Teaching Statistics*, 2006.  
[http://iase-web.org/documents/papers/icots7/3E1\\_HARD.pdf?1402524964](http://iase-web.org/documents/papers/icots7/3E1_HARD.pdf?1402524964)  
course modules available at:  
<http://pages.pomona.edu/~jsh04747/courses/microarray/modules.htm>
6. Hardin, J., Rocke, D.; **The Distribution of Robust Distances**; *Journal of Computational and Graphical Statistics*, 14: 928-946; 2005. <https://doi.org/10.1198/106186005X77685>
5. Hardin, J., Waddell, M., Page, D., Zhan, F., Barlogie, B., Crowley, J., Shaughnessy, J.; **Evaluation of Multiple Models to Distinguish Closely Related Forms of Disease Using DNA Microarray Data: an Application to Multiple Myeloma**, *Statistical Applications in Genetics and Molecular Biology*, 3: article 10; 2004.  
<https://doi.org/10.2202/1544-6115.1018>
4. Hardin, J., Rocke, D.; **Outlier Detection in the Multiple Cluster Setting Using the Minimum Covariance Determinant Estimator**, *Computational Statistics and Data Analysis*, 44: 625-638; 2004. [https://doi.org/10.1016/S0167-9473\(02\)00280-3](https://doi.org/10.1016/S0167-9473(02)00280-3)
3. Durbin, B., Hardin, J., Hawkins, D., Rocke, D.; **A Variance-Stabilizing Transformation for Gene-Expression Microarray Data**; *Bioinformatics*, 18: S105-S110; 2002.  
[https://doi.org/10.1093/bioinformatics/18.suppl\\_1.s105](https://doi.org/10.1093/bioinformatics/18.suppl_1.s105)
2. Zhan, F., Hardin, J., Kordsmeier, B., Bumm, K., Zheng, M., Tian, E., Sanderson, R., Yang, Y., Wilson, C., Zangari, M., Anaisse, E., Morris, C., Muwalla, F., van Rhee, F., Fassas, A., Crowley, J., Tricot, G., Barlogie, B., Shaughnessy, J.; **Global Gene Expression Profiling of Multiple Myeloma, Monoclonal Gammopathy of Undetermined Significance, and Normal Bone Marrow Plasma Cells**; *Blood*, 99: 1745-1757; 2002. <https://doi.org/10.1182/blood.v99.5.1745>

1. Coleman, D., Dong, X., Hardin, J., Rocke, D.M., Woodruff, D.L.; **Some Computational Issues in Cluster Analysis with no *a priori* Metric**; *Computational Statistics and Data Analysis*, 31: 1-11; 1999. [https://doi.org/10.1016/S0167-9473\(99\)00009-2](https://doi.org/10.1016/S0167-9473(99)00009-2)

- **Textbooks**

2. Çetinkaya-Rundel, M., Hardin, J. **OpenIntro: Introduction to Modern Statistics**, 2nd edition, 2024. <https://openintro-ims.netlify.app/>
1. Çetinkaya-Rundel, M., Hardin, J. **OpenIntro: Introduction to Modern Statistics**, 1st edition, 2021. <https://openintro-ims1.netlify.app/>

- **Chapters in an edited book**

4. Hardin, J. **9 out of 10 Seniors Recommend this First-Year Seminar: Statistics in the Real World**, In *Mathematical Themes in a First-Year Seminar*, eds. J. Schaefer, J. Bowen, M. Kozek, and P. Pierce, MAA Notes Series; 2021.  
<https://www.maa.org/press/ebooks/mathematical-themes-in-a-first-year-seminar>
3. Hardin, J., Kloke, J.; **Statistical Analyses**, In *Current Protocols in Essential Laboratory Techniques*, eds. S. Gallagher and E. Wiley, John Wiley & Sons, Inc.: New York; 2017.
2. Kloke, J., Hardin, J.; **Statistical Analyses**, In *Current Protocols in Essential Laboratory Techniques*, eds. S. Gallagher and E. Wiley, John Wiley & Sons, Inc.: New York; 2008.
1. Pauler, D., Hardin, J., Faulkner, J., Leblanc, M., Crowley, J.; **Survival Analysis with Gene Expression Arrays**. In *Handbook of Statistics 23: Advances in Survival Analysis*, eds. N. Balakrishnan and C.R. Rao, Elsevier Science: Amsterdam; 2004.

- **R packages**

4. Hardin, J.; **sicegar** package as **author**; R statistical software. 2025. **creator** and **author**: Calgar, M.U. and Wilke, C.O.  
<https://github.com/hardin47/sicegar>
3. Hardin, J.; **forestError** package as **author**; R statistical software. 2019. **creator** and **author**: Lu, B..  
<https://github.com/benjilu/forestError>
2. Hardin, J.; **infer** package as **contributor**; R statistical software. 2018. **creator** and **author**: Bray, A., **author**: Ismay, C., **author**: Chasnovski, E., **author**: Baumer, B., **author**: Çetinkaya-Rundel, M.  
<https://infer.tidymodels.org/>
1. Hardin, J.; **biwt** package as **creator** and **author**; R statistical software. 2009 (version 1.0.1 in 2024).  
<https://hardin47.github.io/biwt/>

- **Other Papers**

27. Hardin, J. **Everything Is Predictable: How Bayesian Statistics Explain Our World, Review**, September 2025.  
<https://link.springer.com/article/10.1007/s00283-025-10456-4>
26. Hardin, J. **A Point of View: Pomona College**, *Amstat News*, September 2025.  
[https://magazine.amstat.org/wp-content/uploads/2025/08/SEPTEMBER25\\_wordpress.pdf](https://magazine.amstat.org/wp-content/uploads/2025/08/SEPTEMBER25_wordpress.pdf)
25. Hardin, J. **Let's Teach Them What They Need to Know**, *AWM Newsletter*, March 2025.  
<https://awm-math.org/wp-content/uploads/2025/04/AWM-News-March-April-2025-WEB.pdf>
24. Hardin, J. **Learning is Humbling... and Necessary for Educators**, *AWM Newsletter*, March 2024.  
<https://awm-math.org/wp-content/uploads/2024/03/AWM-News-March-April-2024-WEB.pdf>
23. Ward, J., Hardin, J. **JEDI, CAUSE Team to Offer Resources for JEDI-Informed Teaching**, *Amstat News*, January 2024.  
<https://magazine.amstat.org/blog/2024/01/04/jedi-cause-website/>
22. Hardin, J. **Data. In Here: Conversations on Solitude**, eds. Stephanie Emerson and Erin Hogan. Benton Museum of Art, 2023.  
<https://www.pomona.edu/museum/about/publications/here-conversations-solitude>
21. Hardin, J., Çetinkaya-Rundel, M. **Computational + mathematical models in Introductory statistics**. *OpenIntro Blog*, June 27, 2021.  
<https://www.openintro.org/blog/article/2021-06-27-computational-and-mathematical-models-in-introductory-statistics/>
20. Guest editor for *The Journal of Statistics and Data Science Education* with Nick Horton at Amherst College. Put together a special issue on computing in the statistics and data science curriculum. <https://www.tandfonline.com/toc/ujse21/29/1>
  - Horton, N. and Hardin, J. **Integrating computing in the statistics and data science curriculum: Creative structures, novel skills and habits, and ways to teach computational thinking**, *The Journal of Statistics and Data Science Education*, 29: 1, 2021. <https://doi.org/10.1080/10691898.2020.1870416>
  - Hardin, J. and Horton, N. **Special Issue Focuses on Computing in Statistics Education**, *Amstat News*, February 2021.  
<https://magazine.amstat.org/blog/2021/02/01/jdse-computing-in-stats-ed/>
19. Hardin, J. and Shahriari, S. **Collaboration, Community, and the Climate in the Mathematics Department**, in *Access to Mathematics: Opening Doors for Students Currently Excluded*; 57, 2020. A companion booklet to CIME Workshop 15, February 21-23, 2018.  
<http://library.msri.org/cime/CIME-v14.pdf>

18. Glanz, H., Hardin, J., and Horton, N. **Teach Data Science**. Fourteen blog entries in the summer of 2020 with a focus on the ethical aspects of data science.  
<https://teachdatascience.com/closing2020/>
17. Glanz, H., Hardin, J., and Horton, N. **Teach Data Science**. Fifty blog entries in the summer of 2019 describing different aspects of data science and teaching data science.  
<https://teachdatascience.com/closing/>
16. Hardin, J., Miller, J. **The Evolution of Variables and the Existence of Trans People**. *Amstat News*, March 2019.  
<http://magazine.amstat.org/blog/2019/03/01/evolutionofvariables/>
15. Horton, N., Hardin, J. **Challenges and Opportunities for Statistics and Data Science Undergraduate Major and Minor Degree Programs**. *Proceedings of the Tenth International Conference on Teaching Statistics*, 2018.  
[http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10\\_3A3.pdf](http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10_3A3.pdf)
14. Hardin, J., Horton, N. **Ensuring That Mathematics is Relevant in a World of Data Science**, *Notices of the AMS*, October, 2017. <http://dx.doi.org/10.1090/noti1572>
13. Hardin, J. **Expectations and Skills for Undergraduate Students Doing Research in Statistics and Data Science**, *Amstat News*, September, 2017.  
<http://magazine.amstat.org/blog/2017/09/01/undergraduateexpectations/>
12. Evans, C.<sup>†</sup>, Hardin, J., Huber, M., Stoebel, D., and Wong, G.<sup>†</sup> **Differential expression analysis for multiple conditions**. 2017. <http://arxiv.org/abs/1410.3370>
11. Blog on the ASA's 2016 Presidential Election Prediction Contest,  
<https://www.r-bloggers.com/presidential-election-predictions-2016-an-asa-contest/>  
also featured on the Data Skeptic podcast,  
<http://dataskeptic.com/epnotes/election-predictions.php>, 2016.
10. Blog on using tactile simulations in class, "Chocolate: tactile simulations without data collection," <https://www.causeweb.org/sbi/?p=1163>, 2016.
9. Guest editor for *The American Statistician* with Nick Horton at Amherst College. Put together a special issue on the ASA's 2014 updated curriculum guidelines for undergraduate programs in statistics <http://www.amstat.org/education/curriculumguidelines.cfm>.
  - Horton, N. and Hardin, J. **Teaching the Next Generation of Statistics Students to “Think with Data”: Special Issue on Statistics and the Undergraduate Curriculum**, *The American Statistician*, 69: 4, 2015. [As of Oct 26, 2017, the second most read article in *The American Statistician*.] <https://doi.org/10.1080/00031305.2015.1094283>
    - Hardin, J. and Horton, N. "Preparing the Next Generation of Students in the Mathematical Sciences to 'Think with Data' ",  
<http://blogs.ams.org/matheducation/2016/02/22/preparing-the-next-generation-of-students-in-the-mathematical-sciences-to-think-with-data/>, 2016.

- Horton, N. “Teaching Next Generation to ‘Think with Data’ ”,  
<http://www.datascienceassn.org/content/teaching-next-generation-think-data>, 2016.
8. Guest editor for *Chance*, put together a special issue on Culture of Statistics in Medicine. Responsible for finding all of the contributed articles, finding referees, refereeing, putting the articles together, and writing the following articles:
- Hardin, J. **Editor’s Letter**, *Chance*, 25: 3; 2012.
  - Hardin, J. **Changes Across 25 Years of Medicine**, *Chance*, 25: 35-37; 2012. [This piece is a series of interviews with experts in the field of medicine on their views of how statistics is changing medicine. I interviewed the editor of the *New England Journal of Medicine*, a preeminent doctor/researcher of lung cancer, the director of the LA County Department of Public Health, and a Harvard statistician who sits on the editorial board of the *New England Journal of Medicine*.]
7. Hardin, J.; **Book Review: DNA Microarrays and Related Genomics Techniques: Design Analysis, and Interpretation of Experiments** by D.B. Allison, G.P. Page, T.M. Beasley, and J.W. Edwards, *Journal of Biopharmaceutical Statistics*, 17: 187-190; 2007.
6. Hardin, J.; **Book Review: Introduction to Statistics Through Resampling Methods and R/S-Plus** by Philip Good, *The American Statistician*, 60: 343-344; 2006.
5. Hardin, J.; **Book Review: Design and Analysis of DNA Microarray Investigations** by R. M. Simon, E.L. Korn, L.M. McShane, M.D. Radmacher, G.W. Wright, and Y. Zhao, *Journal of Biopharmaceutical Statistics*, 15: 747-749; 2005.
4. Altman, N., Banks, D., Hardwick, J., Roeder, K., Craigile, P., Hardin, J., and Gupta, M. **The IMS New Researchers’ Survival Guide**, Institute of Mathematical Statistics; 2005. <http://www.imstat.org/publications/books/NewResearchersGuide.pdf>
3. Hardin, J. **IMS New Researchers’ Conference**, *IMS Bulletin*, 34: Issue 9, 5; 2005.
2. Escobar, A.<sup>†</sup>, Myhre, J., Hardin, J.; **Statistics Colloquia at Undergraduate Colleges**, *Amstat News*, Issue #331; January 2005.,
1. Hardin, J.; **Microarray Data from a Statistician’s Point of View**, *STATS: The Magazine for Students of Statistics*, 42: 4-13; Winter 2005.

#### • In Progress

1. Hardin, J., Quesada, L.<sup>†</sup>, Ye, J.<sup>†</sup>, and Horton, N.J. **The Exchangeability Assumption for Permutation Tests of Multiple Regression Models: Implications for Statistics and Data Science**. In progress.

## STUDENT SUCCESSES

DataFest - The Don Ylvisaker Best Insight Award (Honorable Mention)	2024
Jazelle Saligumba '26, Kellie Au '26, Julianne Louie '26, Chau Vu '26, Yunju Song '26	
<a href="http://datafest.stat.ucla.edu/2024-asa-datafesttm-results">http://datafest.stat.ucla.edu/2024-asa-datafesttm-results</a> Finalist in the MD++ Datathon 2022 as part of team 'WeLoveRData'	
Pipi Gao '22	2022
<a href="https://medium.com/mdplusplus/inaugural-md-datathon-2022-4947b28b2181">https://medium.com/mdplusplus/inaugural-md-datathon-2022-4947b28b2181</a>	
DataFest - The Don Ylvisaker Best Insight Award (Honorable Mention)	2022
Xuehuai He '25, Saatvik Kher '24, Samson Zhang '25	
<a href="http://datafest.stat.ucla.edu/2022-asa-datafesttm-results">http://datafest.stat.ucla.edu/2022-asa-datafesttm-results</a>	
DataFest - Best Use of Statistical Models (Honorable Mention)	2022
Aditya Bhalla '23, Alan Zhou '23	
<a href="http://datafest.stat.ucla.edu/2022-asa-datafesttm-results/">http://datafest.stat.ucla.edu/2022-asa-datafesttm-results/</a>	
2 <sup>nd</sup> place Undergraduate Statistics Class (intermediate) Project Competition	2021
"A Regularized Cox Regression Approach to the Health Evaluation and Linkage to Primary Care (HELP) Clinical Trial", E. Ashby '21	
<a href="https://www.causeweb.org/usproc/usclap/2021/spring/winners">https://www.causeweb.org/usproc/usclap/2021/spring/winners</a>	
DataFest – Judges' Choice Award	2021
H. Mandel '23, E. Tomz '23, A. Liang '23, C. Sun '23, I. Krupkin '23	
<a href="http://datafest.stat.ucla.edu/competition/2021-asa-datafesttm-results/">http://datafest.stat.ucla.edu/competition/2021-asa-datafesttm-results/</a>	
2 <sup>nd</sup> place Undergraduate Statistics Research Project Competition	2020
"Exploring Missingness and its Implications on Traffic Stop Data", A. Lee '22	
<a href="https://www.causeweb.org/usproc/usresp/2020/fall/winners">https://www.causeweb.org/usproc/usresp/2020/fall/winners</a>	
"Data Exploration of US Police Stops"	2020
A. Lee '22, A. Wonghirundacha '22, E. Godfrey '21, E. Ong '21, I. Yuan '21, O. Chang '22, and W. Gray '22	
Data Science Research Circle, supervised by J. Hardin and G. Sarkis	
<a href="https://hardin47.github.io/TrafficRC2020/Report/">https://hardin47.github.io/TrafficRC2020/Report/</a>	
DataFest – Judges' Choice Award	2020
G. Thampakkul '23 and T. Xiang '23	
<a href="http://datafest.stat.ucla.edu/2020-results/2020-winners/">http://datafest.stat.ucla.edu/2020-results/2020-winners/</a>	
C. Duron, PhD Claremont Graduate University	2019
"The Distribution of Betweenness Centrality in Exponential Random Graph Models"	
<a href="http://pages.pomona.edu/~jsh04747/Student%20Theses/christina_duron_2019.pdf">http://pages.pomona.edu/~jsh04747/Student%20Theses/christina_duron_2019.pdf</a>	
DataFest – Best Use of External Data	2019
A. Watt '20, A. Rees '20, E. Ashby '21, C. Ford '20, and M. Andersen '22 (HMC).	
<a href="http://datafest.stat.ucla.edu/past-datafests/2019-asa-datafesttm-results/">http://datafest.stat.ucla.edu/past-datafests/2019-asa-datafesttm-results/</a>	
DataFest – Best Insight, honorable mention	2018
V. Vohra '19, Z. Xu '19, M. Hobbs '19 (Scripps), X. Gui '19	
<a href="http://datafest.stat.ucla.edu/past-datafests/2018-asa-datafesttm-results/">http://datafest.stat.ucla.edu/past-datafests/2018-asa-datafesttm-results/</a>	

Winning Paper Undergraduate Statistics Research Project Competition <a href="https://www.causeweb.org/usproc/usresp/2017/fall/winners">https://www.causeweb.org/usproc/usresp/2017/fall/winners</a> <b>Bag of Little Random Bootstraps</b> , Z. Xu '19	2017
DataFest – Judges’ Choice Award J. Carney '18, H. Shin '19, A. Starr '18 <a href="http://datafest.stat.ucla.edu/past-datafests/2017-asa-datafesttm-results/">http://datafest.stat.ucla.edu/past-datafests/2017-asa-datafesttm-results/</a>	2017
Winning Paper Undergraduate Statistics Research Project Competition <a href="https://www.causeweb.org/usproc/USRESP%20Winning%20Projects">https://www.causeweb.org/usproc/USRESP%20Winning%20Projects</a> <b>Quantifying and Comparing Centrality Measures for Network Individuals as Applied to the Enron Corpus</b> , T. Kaye '15, D. Khatami '16, D. Metz '16, E. Proulx '16 (Research Circle)	2014
Kaye, T. '15, Khatami, D. '16, Metz, D. '16, Proulx, E. '16. <b>Quantifying and Comparing Centrality Measures for Network Individuals as Applied to the Enron Corpus</b> ; <i>SIAM Undergraduate Research Online</i> , 7: 2014. <a href="https://www.siam.org/publications/siuro/volume-7">https://www.siam.org/publications/siuro/volume-7</a>	
DataFest – Best Insight J. Coleman '13, M. Cruz '14, B. DeRose '15, C. Evans '15, R. Knickerbocker '15, K. Lu '14, D. Owens-Oas '13, B. Shand '14, B. Williamson '14	2013
DataFest – Best Use of External Data K. Kumbier '13, E. Parks '13, J. Replogle '13	2012
DataFest – Best Visualization, honorable mention D. DiPalma '13 and T. Stutz '12	2012

### PROFESSIONAL WORKSHOPS & ORGANIZED SESSIONS

Computational Genomics Summer Institute, UCLA <a href="http://computationalgenomics.bioinformatics.ucla.edu/resources/cgsi-2025/">http://computationalgenomics.bioinformatics.ucla.edu/resources/cgsi-2025/</a>	July 2025 Organizing Committee
Preparing to Teach <a href="https://preparingtoteach.org/">https://preparingtoteach.org/</a>	July 2024 Program Faculty
Computational Genomics Summer Institute, UCLA <a href="http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2024/">http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2024/</a>	July 2024 Organizing Committee
Preparing to Teach <a href="https://preparingtoteach.org/">https://preparingtoteach.org/</a>	July 2023 Program Faculty
Computational Genomics Summer Institute, UCLA <a href="http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2023/">http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2023/</a>	July 2023 Organizing Committee

Computational Genomics Summer Institute, UCLA <a href="http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2022/">http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2022/</a>	July 2022 Program Faculty
Women in Data Science, Claremont, CA <a href="https://wids47-2022.netlify.app/">https://wids47-2022.netlify.app/</a>	April 2022 Organizer
StatFest <a href="https://community.amstat.org/cmis/events/statfest">https://community.amstat.org/cmis/events/statfest</a> (2018)	2016, 2018, 2020, 2021 participant, organizer satellite event
Computational Genomics Summer Institute, UCLA <a href="http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2019/">http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2019/</a>	July 2019 Program Faculty
Computational Genomics Summer Institute, UCLA Journal Club <a href="http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2018/">http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2018/</a>	July 2018 Program Faculty
StatPREP Statistics workshop for community college instructors <a href="http://statprep.org/">http://statprep.org/</a>	June 2018 Instructor
Computational Genomics Summer Institute, IPAM, UCLA Teaching Bioinformatics Lunch <a href="http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2017/">http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2017/</a>	July 2017 Program Faculty
Computational Genomics Summer Institute, IPAM, UCLA Tutorial on RNASeq Normalization and Differential Expression <a href="https://www.youtube.com/watch?v=YrQPA23PXSY&amp;index=6&amp;list=PLHyI3Fbmv0Sd763rgnjcgpG3EkFgdK-2b">https://www.youtube.com/watch?v=YrQPA23PXSY&amp;index=6&amp;list=PLHyI3Fbmv0Sd763rgnjcgpG3EkFgdK-2b</a> <a href="http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2016/">http://computationalgenomics.bioinformatics.ucla.edu/programs/cgsi-2016/</a>	July 2016 Program Faculty
Computational & Visualization Consortium Workshop, Claremont, CA Dynamic Data and Working with Data <a href="http://cvc.mosaic-web.org/Summer2016/schedule2016.html">http://cvc.mosaic-web.org/Summer2016/schedule2016.html</a>	June 2016 Organizer
Computational & Visualization Consortium Workshop, Claremont, CA Project: Dynamic Data	July 2015 Funded Participant
Joint Statistical Meetings, Montreal Herd Immunity: Teaching Techniques for the Health Sciences	August, 2013 Organizer
Institute for Pure and Applied Mathematics, UCLA Mathematical and Computational Approaches in High-Throughput Genomics	Fall, 2011 Funded Participant
Strengthening Bridges between Statistics and the Natural Sciences Funded by the Mellon Foundation	January, 2011 Organizer

Student/Faculty Research Models in Computational Biology Funded by the Mellon Foundation	June 18-20, 2008 Organizer
The Future of Statistics Consultation, Training and Curriculum across the Liberal Arts College Funded by the Mellon Foundation	July 25-27, 2007 Organizer
Mathematical Sciences Research Institute, Berkeley, CA Mathematical Systems Biology of Cancer	May 3-5, 2006 Funded Participant
Mathematical Biosciences Institute, Columbus, OH Emerging Genomic Technologies and Data Integration Problems	February 21-24, 2005 Funded Participant
Genome Consortium on Active Teaching, Washington, DC Best Practices Workshop	July 6-9, 2004 Workshop Instructor
Genome Consortium on Active Teaching, Seattle, WA Best Practices Workshop	August 13-15, 2003 Founding Organizer

### PROFESSIONAL PRESENTATIONS

“Philosophy as Integral to a Data Science Ethics Course” Joint Statistical Meetings, Portland, Oregon <a href="https://ww2.amstat.org/meetings/jsm/2024/program.cfm">https://ww2.amstat.org/meetings/jsm/2024/program.cfm</a>	2024
“Fitting time-dependent models using sicegar with applications to the timing of transcription of RpoS-dependent genes in <i>E. coli</i> ” Computational Genomics Summer Institute, UCLA <a href="https://www.youtube.com/watch?v=CXnNmiLwfXU">https://www.youtube.com/watch?v=CXnNmiLwfXU</a>	2024
“Community, Collaboration, and Climate” eCOTS Regional Conference, University of California Irvine	2024
“Community, Collaboration, and Climate” Department of Statistics and Applied Probability Seminar, UC Santa Barbara	2024
“Technical Conditions in Normalizing ChIP-Seq Data” Department of Mathematics, Statistics and Data Science Seminar, Loyola Marymount University	2024
“Technical Conditions in Normalizing ChIP-Seq Data” Statistics Seminar, San Diego State University	2023
“Technical Conditions in Normalizing ChIP-Seq Data” Research Frontiers in Biomathematics Seminar, UCLA	2023
“What I know now that I wish I knew then” Women in Statistics and Data Science, Bellevue, WA	2023
“Collaboration, Community, and Climate in Pomona College’s Math & Stats Department” Horizons Seminar, Brown University	2023
“Permutation Tests in Multiple Linear Regression” Joint Statistical Meetings, Toronto, Ontario, Canada <a href="https://ww2.amstat.org/meetings/jsm/2023/program.cfm">https://ww2.amstat.org/meetings/jsm/2023/program.cfm</a>	2023

“Connecting, Uplifting, and Recognizing Voices”	2023
Joint Statistical Meetings, Toronto, Ontario, Canada	
<a href="https://ww2.amstat.org/meetings/jsm/2023/program.cfm">https://ww2.amstat.org/meetings/jsm/2023/program.cfm</a>	
“Discussant: Power in the Classroom”	2023
Joint Statistical Meetings, Toronto, Ontario, Canada	
<a href="https://ww2.amstat.org/meetings/jsm/2023/program.cfm">https://ww2.amstat.org/meetings/jsm/2023/program.cfm</a>	
“Teaching intro stats and assessing learning”	2023
Preparing to Teach Workshop, Toronto, Ontario, Canada <a href="https://preparingtoteach.org/">https://preparingtoteach.org/</a>	
“Selecting between-sample ChIP-Seq normalization methods from the perspective of their assumptions”	2023
Computational Genomics Summer Institute, UCLA	
<a href="https://youtu.be/BDj0xanmAGg">https://youtu.be/BDj0xanmAGg</a>	
“Resources for JEDI-Informed Teaching”	2023
USCOTS, Penn State University	
“Data Science and Social Justice”	2022
Virtual Applied Data Science Training Institute, Howard University	
<a href="https://www.youtube.com/watch?v=5n0zmNSk3-s">https://www.youtube.com/watch?v=5n0zmNSk3-s</a>	
“Professional Strategies in Statistics: Mentoring Students for Professional Success”	2022
Joint Statistical Meetings, Washington, DC	
<a href="https://ww2.amstat.org/meetings/jsm/2022/onlineprogram/ActivityDetails.cfm?SessionID=221966">https://ww2.amstat.org/meetings/jsm/2022/onlineprogram/ActivityDetails.cfm?SessionID=221966</a>	
“Teaching-focused careers”	2022
Preparing to Teach Workshop, Fairfax, VA	
<a href="https://preparingtoteach.org/">https://preparingtoteach.org/</a>	
“onlineFDR Control with Applications to RNA-Seq Data”	2022
Computational Genomics Summer Institute, UCLA	
<a href="https://www.youtube.com/watch?v=f6hsEsjG0ac">https://www.youtube.com/watch?v=f6hsEsjG0ac</a>	
“Grading for Equity”	2022
eCOTS (electronic Conference on Teaching Statistics)	
<a href="https://www.causeweb.org/cause/ecots/ecots22/program/breakout/14">https://www.causeweb.org/cause/ecots/ecots22/program/breakout/14</a>	
TPSE Panel: Exploring the Future of Mathematics Education - what should we be teaching?	2022
Joint Mathematical Meetings, virtual	
<a href="https://meetings.ams.org/math/jmm2022/meetingapp.cgi/Session/4154">https://meetings.ams.org/math/jmm2022/meetingapp.cgi/Session/4154</a>	
“The Objectivity of My Desire”	2022
Bay Area Mathematical Adventures, virtual	
Talk at <a href="https://www.youtube.com/watch?v=03b06yubSg8">https://www.youtube.com/watch?v=03b06yubSg8</a>	
<a href="http://mathematicaladventures.org/">http://mathematicaladventures.org/</a>	
“Successful Strategies for Collaborative Undergraduate Research”	2022
University of Arizona Postdoc Seminar, virtual	

“Introduction to Statistics: A Modern Approach” AMATYC, virtual <a href="https://amatyc.org/page/Webinars#AMATYC">https://amatyc.org/page/Webinars#AMATYC</a>	2021
“Synchronous vs. Asynchronous Connections and Learning” Joint Statistical Meetings, virtual <a href="https://ww2.amstat.org/meetings/jsm/2021/index.cfm">https://ww2.amstat.org/meetings/jsm/2021/index.cfm</a>	2021
“Modernising the Introductory Statistics Course” ISI World Statistics Congress <a href="https://www.isi2021.org/events/isi-world-statistics-congress-2021/index.html">https://www.isi2021.org/events/isi-world-statistics-congress-2021/index.html</a>	2021
“Integrating Computational Thinking into Statistics Education” USCOTS 2021 <a href="https://www.causeweb.org/cause/uscots/uscots21/3h-integrating-computational-thinking-statistics-education">https://www.causeweb.org/cause/uscots/uscots21/3h-integrating-computational-thinking-statistics-education</a>	2021
“Math for Data Science” 2021 National Workshop on Data Science Education, UC Berkeley <a href="https://data.berkeley.edu/academics/resources/data-science-education-resources/2021-national-workshop-data-science-education">https://data.berkeley.edu/academics/resources/data-science-education-resources/2021-national-workshop-data-science-education</a>	2021
“Computing in the Statistics and Data Science Curriculum” CAUSE webinar <a href="https://cause.vmhost.psu.edu/cause/webinar/jsdse/2021-01">https://cause.vmhost.psu.edu/cause/webinar/jsdse/2021-01</a>	2021
“A Unified Framework for Random Forest Prediction Error Estimation” UC Davis, Biostatistics Seminar <a href="https://biostat.ucdavis.edu/past-seminars">https://biostat.ucdavis.edu/past-seminars</a>	2021
“The Value of Computational Thinking in Statistics Education” Electronic Seminar on Mathematics Education <a href="https://olsume.org/">https://olsume.org/</a>	2021
“A Unified Framework for Random Forest Prediction Error Estimation” Department of Biostatistics, Columbia University	2020
“Difficult Dialogues: Communicating Data Analyses Effectively” Joint Statistical Meetings, virtual	2020
“A Unified Framework for Random Forest Prediction Error Estimation” Biostatistics Seminar, John Hopkins University	2020
“Using GitHub with Statistics Undergraduates” Symposium on Data Science and Statistics, Bellevue, WA	2019
“Normalization and Differential Expression” Computational Genomics Summer Institute, UCLA	2019
“Issues in sequencing depth when clustering genetic profiles measured across varying levels of Rpos protein” Computational Genomics Summer Institute, UCLA	2018

“Challenges and Opportunities for Statistics and Data Science Undergraduate Major and Minor Degree Programs”	2018
International Conference on Teaching Statistics, Kyoto, Japan	
“Prediction intervals for random forests”	2018
Applied Math Seminar, Claremont, CA	
“Why I mentor”	2017
Women in Statistics & Data Science, La Jolla, CA	
“Prediction intervals for random forests with applications to high throughput data”	2017
Computational Genomics Summer Institute, UCLA	
“Expectations and Skills for Undergraduate Students doing Research in Statistics and Data Science”	2017
Joint Statistical Meetings, Baltimore, MD	
“Assumptions in Normalizing RNA-Seq Data”	2017
Bioinformatics Seminar, UCLA, CA	
“Where do Mathematics and Statistics fit in to a World of Data Science?”	2017
Breaking Boundaries in STEM Education Research, Loyola Marymount University, CA	
“Dynamic Data in the Statistics Classroom” (e-poster)	2016
Women in Statistics and Data Science Conference, Charlotte, NC	
“Assumptions in Normalizing RNASeq Data”	2016
Computational Genomics Summer Institute, IPAM, UCLA	
<a href="https://www.youtube.com/watch?v=TwW_8-ZhfCM">https://www.youtube.com/watch?v=TwW_8-ZhfCM</a>	
“Dynamic Data in the Statistics Classroom”	2016
UseR, Palo Alto, CA	
<a href="https://channel9.msdn.com/Events/useR-international-R-User-conference/useR2016/Dynamic-Data-in-the-Statistics-Classroom">https://channel9.msdn.com/Events/useR-international-R-User-conference/useR2016/Dynamic-Data-in-the-Statistics-Classroom</a>	
“Dynamic Data in the Statistics Classroom” (5 min e-poster)	2016
eCOTS (electronic Conference on Teaching Statistics)	
<a href="https://www.causeweb.org/cause/ecots/ecots16/posters/a/7">https://www.causeweb.org/cause/ecots/ecots16/posters/a/7</a>	
“Resistant Multiple Sparse Canonical Correlation with High-Throughput Data”	2016
Statistics Seminar, UC Irvine	
“The Undergraduate Curriculum of the Future”	2015
Joint Statistical Meetings, Seattle, WA	
“‘Data’ vs. ‘Fest’: the student perspective at DataFest”	2014
Joint Statistical Meetings, Boston, MA	
“DESeq Plus: expanding DESeq to comparisons of more than 2 groups”	2014
EDGE Program Mathematics Colloquium, Claremont, CA	
(also presented at IPAM workshop, Lake Arrowhead, CA (2014);	
UCLA Statistics Seminar, LA, CA (2014))	
“Towards a more conceptual way of understanding and implementing inferential rules”	2014
Poster Presenter, International Conference on Teaching Statistics, Flagstaff, AZ	

“Big Data, Data Science, and Next Steps for the Undergraduate Curriculum” Electronic Conference on Teaching Statistics	2014
“Robust Sparse Canonical Correlation with High-Throughput Data” IPAM workshop, Lake Arrowhead, CA	2013
“Biweight Estimation for Robust Analysis of High Throughput Data” International Conference on Robust Statistics, Burlington, VT	2012
“Exploring Relationships: A Method for Generating Realistic Correlation Matrices” Loyola Marymount University, Statistics Seminar (also presented at CSU Fullerton, Statistics Seminar (2011))	2012
“Outliers when clustering microarray data” 3 <sup>rd</sup> Annual Southern California Women in Math Symposium, Claremont, CA (also presented at Claremont Colleges OR / Statistics / Math Finance Seminar, Claremont, CA (2009); Claremont Colleges Mathematics Colloquium, Claremont, CA (2008); Joint Statistical Meetings, Denver, CO (2008))	2010
“Using False Discovery Rates to Determine Cutoffs for Cluster Membership” Joint Statistical Meetings, Vancouver, BC	2010
“Biweight Correlation as a Measure of Correlation Between Genes on a Microarray” Statistics Colloquium, San Diego State University (also presented at Department of Statistics, Cal Poly, San Luis Obispo (2006); Division of Biostatistics, UC Davis (2006); Department of Statistics & Actuarial Science, U of Waterloo (2006); Horvath working group, UCLA (2005))	2008
“A Robust Measure of Correlation Between Two Genes on a Microarray” Graduate Seminar in Mathematics, CSU, Channel Islands (also presented at Claremont Colleges Statistics Colloquium, Claremont, CA (2007); Department of Statistics, UC, Riverside (2006); Colloquium for Women in Mathematics, University of Southern California (2006); Howard Hughes Summer Series, Claremont, CA (2006))	2007
“Analyzing DNA Microarray Data with Undergraduate Statisticians” Invited speaker, Joint Statistical Meetings, Seattle, WA (also presented at Invited speaker, 7 <sup>th</sup> International Conference on Teaching Statistics, Salvador, Brazil (2006))	2006
“Collaborating, Data Analysis, and Science in Statistical Education” Invited Speaker, Joint Statistical Meetings, Minneapolis, MN	2005
“Using Robust Measures to Describe Distributions and Similarities of Microarray Data” Mathematics Colloquium, Cal State Univ, Long Beach (also presented at US/Japan Conference on Biostatistics, Seattle, WA (2004); Joint Statistical Meetings, Toronto, Ontario (2004))	2005
“Variability Sources in Gene Expression Data” Poster Presenter, Intelligent Systems of Molecular Biology, Glasgow, Scotland	2004

“Transformations and Simulations of Microarray Data” Statistics Colloquium, University of California San Diego	2003
“Simulating microarray data using the t-distribution” Joint Statistical Meetings, San Francisco, CA (also presented at Working Group on Model Based Clustering, University of Washington, Seattle, WA (2003))	2003
“Analyzing Microarray Data – Difficulties and Disasters” Claremont Colleges Statistics Colloquium, Claremont, CA (also presented at Claremont Colleges Mathematics Colloquium, Claremont, CA (2003))	2003
“Model Based Clustering and Outlier Detection in Microarray Data” Invited Speaker, Joint Statistical Meetings, New York City, NY	2002
“The Use of Gene Expression Profiling in the Quest to Understand the Molecular Basis of Multiple Myeloma” Invited presenter, Southwest Oncology Group Continuing Education Workshop, Chicago, IL	2001
“Determining Outlying Points” Williams College Mathematics and Statistics Colloquium, Williamstown, MA (also presented at Claremont Colleges Mathematics Colloquium, Claremont, CA (1999))	2001
“A Basic Overview of Analyzing Microarray Data” Statistics Seminar, Department of Statistics, University of California, Davis	2001
“Outlier Detection: an Application to Microarray Data” Microarray Working Group, Department of Biostatistics, University of Washington, Seattle, WA	2001
“Robust Model-Based Clustering of Genes in Microarray Data: Are there gene clusters?” Poster presenter, Critical Assessment of Microarray Data Analysis, Duke University, Durham, NC	2000
“Robust Clustering with Minimum Covariance Determinant Estimation” Invited Speaker, 7th Conference of the International Federation of Classification Societies, Namur, Belgium	2000
“The Distribution of Robust Distances” New Researchers Conference, Sponsored by the Institute of Mathematical Statistics, Baltimore, MD (also presented at Joint Meeting of the Western North American Region of the International Biometric Society and the Institute of Mathematical Statistics, Seattle, WA (1999); Workshop on Robust Analysis of Multivariate Data: Outlier Detection, Cluster Identification, and Data Mining. Technische Universität Braunschweig, Braunschweig, Germany (1998))	1999

## OTHER PRESENTATIONS

“A Unified Framework for Random Forest Prediction Error Estimation” AAC&U Academic Minute <a href="https://www.aacu.org/podcasts/academicminute/2025-08-jo-hardin-pomona-college-a-unified-framework-for-random-forest-prediction-error-estimation">https://www.aacu.org/podcasts/academicminute/2025-08-jo-hardin-pomona-college-a-unified-framework-for-random-forest-prediction-error-estimation</a>	2025
“Those Who Can, Teach: A Conversation about Mathematics Instruction” The Mathclub Podcast <a href="https://sites.libsyn.com/410831/those-who-can-teach">https://sites.libsyn.com/410831/those-who-can-teach</a>	2023
“How I got to data science & social justice” Utah Tensor Women Scholar Program	2023

“How I got to data science & social justice” Cambridge Rindge and Latin Data Science Club	2022
Faculty panel Fall 2022 Canvas Pilot	2022
Intensive Summer Experience Symposium Explorations in Biology Research	2022
Pomona College Sagecast <a href="https://www.pomona.edu/sagecast">https://www.pomona.edu/sagecast</a>	2020
“The objectivity of my desires... (and you thought statistics was boring!)” Pomona in the City, Seattle, WA	2018
“Collaboration, Community, and Climate” Critical Issues in Mathematics Education Workshop, MSRI, Berkeley, CA	2018
“Models, Bias, and Social Justice” Math Snacks, Department of Mathematics, Pomona College, CA	2017
“Communities of Learning in a Math Department” AALAC Conference on Inclusivity in Economics, Pomona College, CA	2016
“Finding Life’s Music Through Statistical Noise” Fall Faculty Lecture Series, Pomona College, CA	2012
“9 out of 10 Seniors Prefer This Freshman Seminar” Topic session on first year seminars in statistics: <i>Catch ‘Em While They’re Young: Statistics as a First-Year Seminar</i> Joint Statistical Meetings, San Diego, CA (also presented at Family Weekend, Pomona College (2011); CAUSE Webinar, Teaching & Learning Series (2009))	2012
“Bayes Goes to Bat: using baseball to introduce Bayesian estimation” CAUSE Webinar, Activity Series	2009
“Polling and Exit Polling” Panel on Election Polling, Pomona College	2008
“Statistical Conundrums” Parents’ Weekend, Pomona College (also presented at Mathematics Talent Search Honors Day, Pomona College (2005))	2007
“Translating Statistical Results into Public Policy” Panelist for the forum on “The Translator’s Art – Basic Problems in Different Languages,” sponsored by the Pacific Basin Institute, Claremont, CA	2003

## PROFESSIONAL SERVICE

International Conference on Teaching Statistics Organizing Committee	2026
American Statistical Association Fellows Committee	2025-2027
Advisory Board, Southern California Consortium for Data Science	2023-2027
External reviewer for Wellesley College, Department of Mathematics	2023
Chair-elect, Chair, Past-chair, Section on Statistics and Data Science Education	2020-2022
Member, ASA's Justice, Equity, Diversity, Inclusion Outreach Group	2019 - present
Associate Editor, <i>La Matematica</i>	2020 - present
Associate Editor, <i>The American Statistician</i>	2014 - 2017
Associate Editor, <i>Journal of Statistics Education</i>	2013 - present
Associate Editor, <i>Chance</i>	2010 - 2022
MAA Hogg Award Selection Committee	2014-2016
Judge, USPROC competition	2019 - present
Judge, Intel International Science Fair	2011, 2014, 2017, 2021
Judge, UCLA DataFest	2020 - present
Mentor, Section on Statistics & Data Science Education	2020, 2021, 2022
elected Vice Chair, District 6, Council of Chapters Governing Board of ASA	2014-2016
ASA Workgroup to Revise the Undergraduate Guidelines for Statistics Programs	2013-2014
Search Committee for Executive Editor, <i>Chance</i>	2010 & 2013
Waller Education Award Committee	2008-2011
elected Treasurer, Southern California ASA	2008-2014
elected Representative-at-Large, ASA Section on Statistics Education	2007-2009
Reader, AP Statistics Exam	2006
Judge, WNAR Student Paper Competition	2006
President, Sigma Xi, Claremont Colleges Chapter	2004-2005
Chair, IMS New Researchers Committee	2004-2005
Co-founded and help organize Claremont Colleges Statistics Colloquium	2003-present
Vice President, Sigma Xi, Claremont Colleges Chapter	2003-2004
elected Secretary, Caucus for Women in Statistics	2002-2004
Member, New Researchers Committee	2002-2005
elected Representative-at-Large, Caucus for Women in Statistics	2000-2002
Referee	ongoing
<i>Technology Innovations in Statistics Education, Chance, Journal of the American Statistical Association, BMC Medical Genomics, Journal of Computational and Graphical Statistics, BMC Bioinformatics, Cancer Informatics, Statistics &amp; Computing, Journal of Statistics &amp; Data Science Education, Statistics in Medicine, IEEE/ACM Transactions on Computational Biology and Bioinformatics, Briefings in Bioinformatics, Statistical Applications in Genetics and Molecular Biology, Bioinformatics, Computational Statistics and Data Analysis, Knowledge and Information Systems, The American Statistician, PLoS ONE, Reinvention: a Journal of Undergraduate Research, PLoS Biology, Communications in Statistics - Simulation and Computation, Teaching Statistics, F1000Research</i>	
Reviewer, Springer	2010
Reviewer, CRC Press	2009
Reviewer, Key College Press	2003
Reviewer, Prentice Hall	2003

## COLLEGE SERVICE

Faculty Personnel Committee	2024-2026
Inclusive Excellence Committee	2020-2023
President, Pomona College Chapter of Phi Beta Kappa	2015-2016 & 2020-2021
	Phi Beta Kappa Outstanding Chapter Award, 2021
Executive Committee	2019-2020
Critical Thinking and Writing Committee	2018-2019
Posse Mentor (Chicago, PP13)	2017-2021
Faculty Personnel Committee	2016-2018
Search committee to hire Athletic Director	2015
Pomona Scholars of Mathematics Faculty	2014-2017
Vice President, Pomona College Chapter of Phi Beta Kappa	2014-2015
Faculty Athletic Representative	2013-2016
Health Sciences Committee	2010-2011, 2012-2013
Ad Hoc Faculty Advisor, Pomona Student Union, 2010 - present	
Chair, search committee tenure-track line in Statistics	2009-2010
Grievance Committee	2008-2010
Dean Search Committee	2008
Orientation Committee	2006-2008
Chair, search committee to hire a three-year post-doctoral Statistician	2004-2005
Search committee to hire a Statistician at HMC	2004-2005
Search committee to hire a Bioinformatician (Biology department)	2004-2005
Smith Campus Center Planning Committee	2004-2005
Alumni Association Strategic Planning Committee	2004-2005
Ad Hoc Advisor, Pomona College Student Affairs Committee	2003-present
Alumni Admissions Volunteer, Pomona College	1995-present

## OTHER SERVICE

Alumni Panelist for student athletes	2021
Introduction of Michael Starbird, honorary degree recipient	2014
Host for the Downing College Scholar	2014
Pomona Academy for Youth Success Faculty	2012
Enhancing Diversity in Graduate Education (EDGE) Instructor (short course)	2008
Summer Scholars Enrichment Program Mathematics Faculty	2008
Orientation Adventure faculty representative	2005, 2006
Summer Scholars Enrichment Program Research Faculty	2006
Seminar on how to use L <sup>A</sup> T <sub>E</sub> X for math undergraduates	2005, 2006, 2009
Organized a panel for undergraduates: "Women in Mathematics", Pomona College	2005
Volunteer Swim Instructor, Pomona College	2003
President, Division of Statistics Graduate Student Group	1999-2000
Teaching Assistant Consultant, Teaching Resources Center, UC Davis	1998-2000
Recruitment Committee, Division of Statistics, UC Davis	1998-2000
Mentor for Undergraduate, Opportunities in Engineering and Science, UC Davis	1998