

Amanda Ellis

University of Kentucky · Department of Biostatistics
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EDUCATION

- Ph.D., Statistics, University of Kentucky. 2018
- M.S., Statistics, University of Kentucky. 2013
- B.S., Mathematics, University of Kentucky. 2009

ACADEMIC POSITIONS

- Associate Professor, Department of Biostatistics, University of Kentucky July 2024-Current
 - Average Annual D.O.E.: Instruction 70%, Administration 11%, Research 10%, Service/Professional Development 9%
- Assistant Professor, Department of Biostatistics, University of Kentucky 2020-2024
- Assistant Professor, Statistics, Department of Mathematics and Statistics, Eastern Kentucky University 2017- 2020
- Graduate Teaching Assistant, Statistics, Department of Statistics, University of Kentucky 2011-2017

ADMINISTRATION

- Director of Graduate Studies, M.S. in Biostatistics. (Fall 2021-Current)
- Acting Vice Chair for Education Department of Biostatistics (June 2022-Current)

HONORS AND AWARDS

- Appointed as a Chellgren Faculty Fellow for the 2023-2024 Academic Year.
- Provost Outstanding Teaching Award (Faculty), 2023, University of Kentucky
- ASA's Section on Teaching Statistics in the Health Sciences: TSHS Young Investigator Award 2022
- ASA's Section on Statistics and Data Science Education: Catalyst Grants for Innovative and Impactful Initiatives in Statistics and Data Science Education Award 2022
- University of Kentucky College of Public Health Online Course Development Award, 2022
- Accepted in the 2021-2022 CELT Teaching Innovation Institute.
- University of Kentucky College of Public Health Dean's Innovation in Teaching Award, 2020
- Student Research Symposium Best Talk Award, 2016 Spring Chapter Meeting KYASA, Lexington KY.
- Provost Outstanding Teaching (TA), 2015, University of Kentucky (University Award)
- R.L. Anderson Award for Outstanding Teaching, 2012, UK Department of Statistics, Lexington, KY.
- College of Arts and Sciences Certificate for Outstanding Teaching, 2012, University of Kentucky, Lexington, KY.

- Boyd Hershberger Travel Award, 2012, provided by National Science Foundation to attend SRCOS, Jekyll Island GA.

TEACHING (Updated April 2025)

University of Kentucky

- BST 230 Statistical Thinking in Public Health (1 semester)
- BST 535: Introduction to R Programming (5 semesters)
- BST 600 Introduction to Biostatistical Methods (1 semester)
- BST 675 Biometrics 1 (5 semesters)
- BST 681 Linear Regression (5 semesters)
- BST 682 Generalized Linear Models (3 semesters)
- CPH 330 Health Analytics 1 (1 semester)
- CPH 603 Introduction to Data Analysis in Public Health (6 semesters)
- CPH 738 Special Topics in Biostatistics: Calculus for Biostatisticians (2 semesters)

Eastern Kentucky University

- STA 215 Introduction to Statistical Reasoning (10 semesters)
- STA 215P Quantitative Support for STA 215 (1 semester)
- STA 270 Applied Statistics (4 semesters)
- STA 270L Applied Statistics I Lab (1 semester)
- STA 340 Applied Regression (2 semesters)
- STA 585 Experimental Design (2 semesters)
- STA 470 Applied Probability (1 semester)
- STA 580 R and Introductory Data Mining (2 semesters)
- STA 520 Mathematical Statistics I (1 semester)
- STA 521 Mathematical Statistics II (1 semester)

STUDENT ADVISING

Independent Studies

- Jennifer O'Brien (M.P.H., 2021)
- Michaela Ambergey (M.P.H., 2023)

M.P.H., M.S., and Ph.D. Committees

- Sydney Shaffer (Ph.D. Candidate, Epidemiology and Biostatistics)
- Todd Burus (Ph.D. Candidate, Epidemiology and Biostatistics)
- Zachary Hackworth (Ph.D. Candidate, Forestry)
- Travis Wheeler (Ph.D., Mathematics, 2024)
- Jennifer Daddysman (Ph.D. Candidate, Education)
- Sarah Robbins (M.P.H., Epidemiology, 2022)

FUNDING

- Coker, A. L., Bush, A. M., Ellis, A. R., Howard, C., Delcher, P. C., Quesinberry, D. L. B., Harris, D. R., Bush, H. M., Chen, J., Martin, J. E., Costich, J. F., Jones, M. C., Yu, M., Chavan, N. R., Akpunonu, P.

D. S., Arnett, P. K., Baum, R., Walsh, S., Slavova, S. S., Bunn, T. L., Christian, W. J., "Kentucky Overdose Data to Action," Sponsored by Center for Disease Control and Prevention, Total Funding \$29,018,405.00, Total Projected Funding \$29,018,405.00, Date Submitted for Funding: September 23, 2019, Funding Date: September 1, 2019 - August 31, 2023.

The work on the grant involves the creation of an active Bystander training program for academic advisors to recognize Substance Use Disorder. Specifically, I work with the group to aid with course/training design and implementation.)

PUBLISHED WORKS

Refereed Journal Articles:

- Burus, T., Damgacioglu, H., Huang, B., Christian, W. J., Hull, P. C., **Ellis, A. R.**, ... & Kuhs, K. A. L. (2024). Trends in Oral Tongue Cancer Incidence in the US. *JAMA Otolaryngology–Head & Neck Surgery*.
- Burus, T., Lei, F., Huang, B., Christian, W. J., Hull, P. C., **Ellis, A. R.**, ... & Kuhs, K. A. L. (2024). Undiagnosed Cancer Cases in the US During the First 10 Months of the COVID-19 Pandemic. *JAMA oncology*.
- **Ellis, A. R.**, & Slade, E. (2023). A New Era of Learning: Considerations for ChatGPT as a Tool to Enhance Statistics and Data Science Education. *Journal of Statistics and Data Science Education*, 1-10.
- **Ellis, A.**,(2023). Incorporating Workforce Readiness Skills to Increase How Students Perceive Value of Biostatistics Coursework. *CHANCE*, 36(2), 39-44.
- **Ellis, A. R.** (2021). Development and Implementation of a Fully Online Introductory Data Analysis Course to Better Prepare Students for the Public Health Workforce. *Pedagogy in Health Promotion*, 23733799211060742.
- Rayens, W., & **Ellis, A.** (2018). Creating a student-centered learning environment online. *Journal of Statistics Education*, 26(2), 92-102.
- Nardone, R., Höller, Y., Thomschewski, A., Bathke, A. C., **Ellis, A. R.**, Golaszewski, S. M., ... & Trinka, E. (2015). Assessment of corticospinal excitability after traumatic spinal cord injury using MEP recruitment curves: a preliminary TMS study. *Spinal Cord*, 53(7), 534-538.
- Burchett, W. W., **Ellis, A. R.**, Harrar, S. W., & Bathke, A. C. (2017). Nonparametric inference for multivariate data: the R package nrmv. *Journal of Statistical Software*, 76, 1-18.

Manuals:

- **Ellis, A. R.**, (2024). Preparing a Teaching Portfolio. University of Kentucky College of Public Health.
- **Ellis, A. R.**, (2023). Diving Deeper into R: Phase II R Training. Kentucky Department of Public Health. Electronically Published to Kentucky Department of Public Health P-Drive and Teams Page.
- **Ellis, A. R.**, (2023). Teaching Companion. University of Kentucky College of Public Health.

ORAL PAPERS PRESENTED/ INVITED LECTURES

- Amanda Ellis and Emily Slade. "A New Era of Learning: Considerations for Generative AI as a tool to Enhance Statistics and Data Science Education" CAUSE/JSDSE webinar. April 2025 (**Invited**).

- Amanda Ellis and Gail Burrill. "Teaching and Learning Math in an AI world" International Association for Statistical Education (IASE) Webinar. August 2024 **(Invited)**.
- Amanda Ellis. "Monitoring Students; Engagement with AI Features" JSM 2024, Portland Oregon. **(Invited)**.
- Jacob Bien, Amanda Ellis, and Xinmin Tu. "Generative AI in Statistics and Data Science Classrooms" Panel Discussion. ASA Section on Statistics and Data Science Education Webinar. May 2024. **(Invited)**.
- Lance Eaton, Amanda Ellis, and Anna Mills. "Data Science Discussions: Generative AI in the Classroom". Panel Discussion. Academic Data Science Alliance (ADSA) Webinar. February 2024. **(Invited)**.
- Amanda Ellis. "Navigating The Future Of Statistics Education: Leveraging ChatGPT's Advantages and Overcoming Challenges ". University of Texas at Austin. October 2023. **(Invited)**.
- Amanda Ellis. " Discover the Power of R Programming for Outcome Management: A Gentle Introduction for Beginners" Short Course. 19th Annual TCOM Conference, 2023. **(Invited)**
- Amanda Ellis. "Navigating Higher Education: A First-Generation Student's Perspective". Centre College Convocation. September 2023. **(Invited)**.
- Michael Hu, Amanda Ellis, and Amanda Ellis. "Academic Perspectives on ChatGPT". Panel Discussion. National Institute of Statistics Sciences (NISS) Webinar. September 2023. **(Invited)**.
- Amanda Ellis. "Strategies for Incorporating Both Technical and Non-Technical Writing Skills into Graduate Biostatistics Curriculum" JSM 2023. **(Invited)**.
- Amanda Ellis and Nathaniel Wilson. "Diving Deeper into R" Short Course for the Kentucky Department of Public Health, 2023. **(Invited)**.
- Amanda Ellis and Nathaniel Wilson. "R You Ready for R" Webinar for the Kentucky Department of Public Health, 2023. **(Invited)**.
- Amanda Ellis, Steve Foti, Steve Grambow, Matt Hayat, James Odei, Matt Zawistowski. "Teaching in the Health Sciences: Is There a Viable Teaching Career Pathway?" Panel Discussion. Teaching Statistics in the Health Sciences Winter Webinar, 2022. **(Invited)**
- Amanda Ellis. "Methods for Introducing the Future Public Health Workforce to Data Analysis" Teaching Statistics in the Health Sciences Fall Webinar, 2022. **(Invited)**
- Amanda Ellis. "Introduction to R Programming for Summarizing Data Arising from Outcome Management Tools" Short Course. 18th Annual TCOM Conference, 2022. **(Invited)**
- Matt Hayat, Steve Grambow, Steve Foti, Matt Zawistowski, Amanda Ellis, and James Odei, panelists. "Teaching in the Health Sciences: Is There a Viable Teaching Career Pathway?" Panel Discussion. JSM 2022. **(Invited)**
- Amanda Ellis. "Addressing the Challenges of Preparing Students for the Workforce". Roundtable Discussion Leader. ECOTS, 2022. (Contributed)
- Amanda Ellis. "Methods for Addressing the Challenges of Balancing Graduate Student Education and Graduate Career Development". Roundtable Discussion Leader. GCC Southeast Regional Conference 2022. (Contributed)
- Amanda Ellis. "Is Classroom Time Important? A Comparison of Synchronous and Asynchronous Remote Delivery Modalities in an Introductory Biostatistics Course". Keynote Speaker for ECU. Mu Sigma Rho initiation. April 2022. **(Invited)**
- Amanda Ellis. "Strategies for Simultaneously Teaching Methods for Analyzing Data and the Necessary Computer-Based Programming" APHA Annual Meeting and Expo 2021. (Contributed)
- Amanda Ellis. "Strategies for Teaching Methods for Analyzing Data and the Necessary Computer-Based Programming to MPH Students" JSM 2021. (Contributed).

- Amanda Ellis. "Developing Pathways for Entrance into Biostatistics Programs". Roundtable Discussion Leader. JSM 2021. (Contributed)
- Amanda Ellis. "Should we Spend Classroom Time Together? A Comparison of Synchronous and Asynchronous Remote Delivery Modalities in an Introductory Biostatistics Course". USCOTS, 2021. (Contributed)
- Amanda Ellis. "Promoting Statistical Literacy through Experiential Learning to Non-STEM Majors". National Numeracy Network Annual Meeting 2021. (Contributed)
- Amanda Ellis. "Implementation of an Introductory Data Analysis Course in Response to MPH/CEPH Competency Changes to Better Prepare Students for the Workforce". APHA Annual Meeting and Expo 2020. (Contributed)
- Amanda Ellis. "Methods to Motivate Students to Connect Statistical Ideas with their Individual Interest through Classroom Discussion" Encouraging a Critical Mindset on Social Statistics — Topic Contributed Panel International Statistical Institute. JSM 2020.
- *Amanda Ellis. "Incorporation of Non-Technical Skills in an R Programming Course" Electronic Conference on Teaching Statistics. Lexington KY, May 2020. (Contributed) -Cancelled due to COVID-19
- Neil Moore, Chris Schardl, Amanda Ellis, Jerzy Jaromczyk, A. Leuchtman and C. A. Young. "5S33-4 Pan Genome Analysis of *Epichloë Typhina*, a Pathogen of Several Grasses and a Mutualist of a Few." 11th International Mycological Congress. San Juan, Puerto Rico. July 2018. Moore and Schardl presenting. (Contributed)
- Amanda Ellis and Simon Bonner. "Accounting for Matching Uncertainty in Automated Photo-Identification" International Statistical Ecology Conference. St. Andrews Scotland, July 2018. (Contributed)
- Simon Bonner and Amanda Ellis. "Accounting for Matching Uncertainty in Photo-Identification of Wild Animals." Statistical Society of Canada Annual Meeting. McGill University, Montreal, Québec. June 2018. Bonner presenting. (Contributed)
- Amanda Ellis. "Inference from Mark-Recapture Models while Allowing for Uncertainty in Photographic Identification." ECU Mathematics and Statistics Department Colloquium Series. February 2018. (Contributed)
- Amanda Ellis and Melissa Pittard. "Reflections on Using Simulation Based Methods to Teach" Electronic Conference on Teaching Statistics. Georgetown KY, May 2016. (Contributed)
- Amanda Ellis. "Modeling Uncertainty in the Photo Identification of Whale Sharks" Student Research Symposium. Spring Chapter Meeting KYASA Lexington Ky. April 2016. (Contributed)
- Simon Bonner, Woodrow Burchett and Amanda Ellis. "Modern Mark Recapture Methods- Beyond the Hyper-Geometric Distribution" University of Western Ontario. London, Canada. March 2016. (Contributed)
- Amanda Ellis and Sarah Janse. "A Brief Introduction to the Field of Statistics" UK DHN Supervised Practice Program Orientation; University of Kentucky, Lexington KY, January 2016. (Contributed)
- Amanda Ellis. "Introduction to Latex" University of Kentucky Student Statistics Association Seminar Series. Lexington KY, August 2015. (Contributed)
- Amanda Ellis, Rebecca Crouch. "Experiences in Transitioning a Blended Classroom to an Online Environment" WKU- Math Symposium. Bowling Green KY, October 2014. (Contributed)
- Amanda Ellis. "Intro to Bayesian Statistics" Workshop for the Council on Post-secondary Education, Frankfort KY, May 2014. (Contributed)

- Woody Burchett, Amanda Ellis, Meng Qi, Solomon W. Harrar, Arne C. Bathke. "How to use R for a Fully Non-parametric Comparison of Multivariate Samples" Joint Statistical Meetings, San Diego CA, July 2012 Ellis and Burchett Presenting. Session 399. (Contributed)

POSTERS PRESENTED

- Amanda Ellis. "Strategies for simultaneously teaching methods for analyzing data and the necessary computer-based programming". APHA Annual Meeting and Expo 2021. (Contributed)
- *Bird, B., Ellis, A.R., & Incera, S. (2020). The Timing of Taboo Effects in First and Second Language Speakers of American English. Presented at the Eastern Kentucky University Presentation Showcase Event, Richmond, Kentucky. -Cancelled due to COVID-19
- Michelle Smith and Amanda Ellis. "Development and Implementation of WISE (Workshop to Inspire Statistical Excellence) to Recruit Future Statisticians" J.S.M., Denver, Colorado, August 2019.
- Amanda Ellis. "Transformation of Large Lecture Class with the Aid of Technology" USCOTS, State College, Pennsylvania, May 2019.
- Amanda Ellis, Melissa Pittard, William Rayens. "Experiences in Creating an Innovative Online Statistical Concepts Course" Joint Statistical Meetings, Boston MA, July 2014. Session 518. (Contributed)
- Amanda Ellis ,Woody Burchett, Hardas S. Sarita, D. Allan Butterfield, Rukhsana Sultana, Peng Wu, Eric A. Grulke, Robert A. Yokel, Solomon W. Harrar, Matthew Schofield, Arne C. Bathke. "Comparison Between Multivariate Non-parametric, and Hierarchical Bayesian Analysis of Small Sample Size Data" SRCOS Summer Research Conference, Jekyll Island Georgia, June 2012. (Contributed)
- Meng Qi ,Amanda Ellis ,Woody Burchett, Hardas S. Sarita, D. Allan Butterfield, Rukhsana Sultana, Peng Wu, Eric A. Grulke, Robert A. Yokel, Solomon W. Harrar, Matthew Schofield, Arne C. Bathke. "Meeting the Challenges of Complex Small Sample Data: Analyzing Nanotoxicology Data using Nonparametric Methods" 17th Annual KY EPSCoR Conference Aiming Science for Impact, Lexington Ky, May 2012. (Contributed)
- Woodrow Burchett, Amanda Ellis, Sarita S. Hardas, David Allan Butterfield, Rukhsana Sultana, Peng Wu, Eric A. Grulke, Robert A. Yokel, Solomon W. Harrar, Matthew Schofield, Arne C. Bathke "Making Sense of Complex Data: Analyzing Nanotoxicology Data from Opposite Statistical Angles" UT-ORNL-KBRIN Bioinformatics Summit, Louisville KY, March 2012.

INSTITUTIONAL SERVICE UK

University Service

- Served on Graduate Council (Summer 2023- Current)
- Served on the University Appeals Board. (2022-2023)

College Service

- Member of the BPH Program Faculty (Spring 2023-Current)
- Member Search Committee for Associate Dean of Faculty and Staff Development (2024)
- Member of the M.S. Epidemiology Program Faculty (Summer 2023-Current)
- Non-Voting Member of College Graduate Committee (Fall 2022-Current)
- Chaired Search Committee for Associate Dean of Academics, 2023

- Served as Poster Judge during the Spring 2023 Public Health Showcase.
- HSPA representative for M.P.H. coordinating committee. (Fall 2020 -Summer 2021)
- Member of E.P.B. program faculty. (Fall 2020-Current)
- Member of MPH program faculty. (Fall 2020-Current)
- Volunteered during iCats. (1/29/2021 & 2/19/2021)
- Served on
- Search Committee for Special Title Series in Epidemiology, (2021)

Departmental Service

- Chaired Search Committee for Lecturer, (2023)
- Member MSBST program faculty. (Fall 2021-Current)
- Served on Search Committee for Regular Title Series in Biostatistics, (2021-2022)

INSTITUTIONAL SERVICE EKU

University Service

- Co-Organized R User Group with Assistant Professor Sara Incera from the Department of Psychology (Fall 2019-Spring 2020)
- Hosted an introduction to R workshop in the Noel Studio for all members of the EKU community. (9/19/19)
- Member of the ADA Awareness Accessibility Committee for (2019-2020)
- Organized and hosted DataFest with Professor Lisa Key (5/5/19-5/7/19)
- Presented "Unlocking the Mysteries of Bayesian Statistics" during the Department of Psychology Colloquium Series. (11/05/2018)
- Received Graduate Faculty status. (9/24/2018)
- Presented at a professional development workshop on Transitioning to Teaching Larger Classes hosted by Professor Shane Redmond. (Fall 2018)
- Co-Organized Data Fest, (Spring 2018 and 2019)
- Worked table at Grad Blitz, (Spring 2018)
- Worked table at Colonels Craze to Promote Statistics Club, (Fall 2017)

College Service

- Alternative for the College Curriculum Committee (Fall 2018-Spring 2020).
- Hosted an introduction to R workshop for the REU: Disturbance Ecology in Central Appalachia. (6/21/19)
- Volunteered at Science and Math Camp (6/3/2019 – 6/5/19)
- Volunteered during Diversity Event. (2/22/2019)
- Presented "Common errors in thinking about statistics" during the BIOS Seminar Series. (10/12/18)
- Volunteered during Celebration of Science and Mathematics Week, (2017)
- Participated in the College of Arts and Sciences mentoring program.

Departmental Service

- Served on Search Committee for Tenured Track Professor in Math Education (2020)
- Served on Search Committee for Tenured Track Professor in Mathematics (2020)
- Department of Math and Statistics: Developmental Committee (Fall 2108- Spring 2020)

- Department of Math and Statistics: Statistics Committee (Fall 2107- Spring 2020)
- Department of Math and Statistics: Graduate Committee (Fall 2107- Spring 2020)
- Department of Math and Statistics: Recruiting Committee (Fall 2107- Spring 2020)
- Developed and hosted Workshop on Statistical Excellence (WISE) with Professor Michelle Smith (5/12/19)
- Presented "How Bayesian Statistics Saved the Life of One Fisherman and what it Can Do for You" in the department's Coffee Time series. (9/26/2018)
- Served on Search Committee for Tenured Track Professor in Math Education, 2018
- Created and Maintains Department's Twitter Account, Spring 2018- Spring 2020.

SERVICE TO THE PROFESSION

- Reviewed for Harvard Data Science Review. (Summer 2023-Current)
- Reviewed for The Journal of Statistics and Data Science Education. (Fall 2023-Current)
- Reviewed for Pedagogy in Health Promotion (2023-2023)
- Program Chair for Teaching Statistics in the Health Sciences (TSHS.) Section (Fall 2022-Current)
- Program Chair-Elect for Teaching Statistics in the Health Sciences (TSHS.) Section (Fall 2021-2022)
- Vice President of the KY ASA Chapter (Fall 2020-Current)
- Chaired a session during JSM (2019)
- Reviewer and consultant for the Journal of Occupational Therapy Education (JOTE) (2018)
- Reviewed *Statistics the Art and Science of Learning from Data* written by Agresti, Franklin and Montgomery. (Summer 2018)
- Help organize Regional ECOTS at ECU. (Spring 2018)
- Maintainer of the R-Package nrmv, (Fall 2015-Current)

PROFESSIONALLY RELATED COMMUNITY SERVICE

- Invited to attend the first annual "Celebration of Women in STEM Brunch" held at Berea College (03/20/2019)
- Data Collection and Analysis, Keeneland Concours d'Elegance, Lexington KY (2014-2018)

PROFESSIONAL MEMBERSHIPS

- 2020-Present Member, American Public Health Association
- 2011-Present Member, American Statistical Association
- 2021- Present Member, National Numeracy Network