

Elvan Ceyhan

Marguerite Scharnagle Endowed Professor, Department of Mathematics and Statistics
Auburn University, Auburn, AL 36849
ceyhan@auburn.edu | www.auburn.edu/~ezc0066

Sigma Xi Curriculum Vitae

1. Education

- **Postdoctoral Institution:** Center for Imaging Science, Johns Hopkins University; postdoctoral fellow, 2004–2005.
- **Graduate Institutions:**
 - Johns Hopkins University, Applied Mathematics and Statistics, Ph.D., 2005.
 - Johns Hopkins University, Mathematical Sciences, M.S.E., 2002.
 - Oklahoma State University, Statistics, M.S., 2000.
- **Undergraduate Institution:** Koç University, Mathematics, B.S., 1997.

2. Appointments

- Professor, Department of Mathematics and Statistics, Auburn University, 2024–present.
- Associate Professor, Department of Mathematics and Statistics, Auburn University, 2019–2024.
- Research Associate Professor, Department of Statistics, North Carolina State University, 2017–2019.
- Concurrent administrative appointment: Deputy Director, Statistical and Applied Mathematical Sciences Institute (SAMSI), 2017–2019.
- Visiting Associate Professor, Department of Statistics, University of Pittsburgh, 2016–2017.
- Associate Professor, Department of Mathematics, Koç University, 2011–2016.
- Assistant Professor, Department of Mathematics, Koç University, 2005–2011.

3. Publications / Patents

Selected publications (10):

- Zhou, L., Ceyhan, E., and Charyyev, P. Adversarial Obstacle Placement with Spatial Point Processes for Optimal Path Disruption. *ISPRS International Journal of Geo-Information*, 14(10):374, 2025.
- Kent, T., Sinha, V., Ceyhan, E., Sura, L., Yekeler, E., Weiss, M.D., and Albayram, M. Deep cerebral venous abnormalities in premature babies with GMH-IVH: A single-centre retrospective study. *BMJ Paediatrics Open*, 7(1):e001853, 2023.
- Ceyhan, E., Wierman, J.C., and Xiang, P. Law of large numbers for a two-dimensional class cover problem. *ESAIM: Probability and Statistics*, 25:376–407, 2021.
- Bahadır, S. and Ceyhan, E. On the number of weakly connected subdigraphs in random kNN digraphs. *Discrete & Computational Geometry*, 65(1):116–142, 2021.
- Manukyan, A. and Ceyhan, E. Classification using proximity catch digraphs. *Machine Learning*, 109(4):761–811, 2020.
- Ceyhan, E. Domination number of an interval catch digraph family and its use for testing uniformity. *Statistics*, 54(2):310–339, 2020.
- Ceyhan, E. Cell-specific and post-hoc spatial clustering tests based on nearest neighbor contingency tables. *Journal of the Korean Statistical Society*, 46(2):219–245, 2017.
- Manukyan, A. and Ceyhan, E. Classification of imbalanced data with a geometric digraph family. *Journal of Machine Learning Research*, 17(189):1–40, 2016.
- Aksakalli, V. and Ceyhan, E. Optimal obstacle placement with disambiguations. *Annals of Applied Statistics*, 6(4):1730–1774, 2012.
- Ceyhan, E., Priebe, C.E., and Marchette, D.J. A new family of random graphs for testing spatial segregation. *Canadian Journal of Statistics*, 35(1):27–50, 2007.

4. Funding / R&D Leadership

Recent awards and leadership roles:

- **NSF Award #2319157** (PI), *ATD: Stochastic Obstacle Scene Problem with Adversarial Agents*, 09/2023–08/2026, \$300,000.
- **ONR Grant #N00014-22-1-2572** (PI), *Adversarial Risk Analysis for Optimal Obstacle Evasion*, 2022–2025,

\$358,000.

- **Simons Collaboration Grant** (PI), *Graph Theoretic Learning and Spatial Methods*, 2021–2026, \$42,000.
- **NSF Award DMS-1638521** (Co-PI; Deputy Director, SAMSI), 09/2017–08/2020, \$3,097,333/year for 3 years.
- **EU-FP7 Marie Curie International Outgoing Fellowship** (PI), *Pattern Recognition in High Dimensional Data*, 07/2013–07/2015, EUR 233,921.
- **TÜBİTAK 1001 Research Grant** (PI), 07/2012–07/2013.
- **TÜBİTAK Career Grant** (PI), 02/2008–02/2011.

Leadership examples:

- Co-Developer, Collaborative Data Science Initiative (CDSI), Auburn University, 2024–present: helping shape a cross-disciplinary initiative integrating data science and AI across research, education, and outreach.
- Deputy Director, Statistical and Applied Mathematical Sciences Institute (SAMSI), 2017–2019: provided institute-level leadership in scientific programming, personnel coordination, postdoctoral mentoring, strategic planning, and interdisciplinary partnership development.
- President, ASA Alabama–Mississippi Chapter, 2024–present: leading regional professional activities and supporting engagement, networking, and professional development in the statistical sciences.
- Member, Board of Directors, IASC-ERS (International Association for Statistical Computing – European Regional Section), 2012–2016.
- Founder and Organizer, Statistics & Data Science Seminar Series, Auburn University, Fall 2020 & Spring 2022: established an interdisciplinary seminar platform connecting statistics, data science, and applied research communities.

5. Synergistic Activities

- Designed and launched new statistics courses and graduate curriculum at Auburn University, including Bayesian Statistics and the core graduate inference sequence.
- Integrated AI-informed instructional modules and computational components into statistics teaching and assessment, with emphasis on critical thinking and responsible AI use.
- Directed postdoctoral and graduate professional development programs at SAMSI and expanded participation through interdisciplinary initiatives and engagement with minority-serving institutions.
- Served in sustained editorial and professional leadership roles, including Associate Editor for the Journal of Statistical Computation and Simulation and the Journal of Probability and Statistical Sciences, and past Associate Editor for Computational Statistics & Data Analysis.
- Organized major scientific activities at institutional, regional, national, and international levels, including the 8th World Congress in Probability and Statistics, ASA Alabama–Mississippi Chapter annual meetings, and Auburn’s Statistics & Data Science Seminar Series.

6. Mentoring

- Supervised completed Ph.D. students including Rui Shi (2025), Jordan Eckert (2025), Polat Charyyev (2017), Artur Manukyan (2016), and Selim Bahadır (2016).
- Supervised completed M.S. students including Yu Gu (2024), Zequn Wang (2023), De Xing (2022), Minghong Jian (2021), and Enes Ozel (2011).
- Currently advising graduate students in Statistics and Data Science and Mathematics at Auburn University.
- Supervised postdoctoral fellows Yuting Ma, Fekadu Bayisa, and Antony Pearson at Auburn University.
- As Deputy Director at SAMSI, mentored postdoctoral fellows and graduate researchers through evaluation, workshop leadership, recruitment, and professional development programming.
- Mentored graduate students, postdoctoral fellows, and junior scholars through research supervision, professional development, and interdisciplinary collaboration across multiple institutions.

This abbreviated CV was prepared in Sigma Xi’s requested format from the nominee’s full academic CV.