

Catherine S. Durso
Research Statistician
Center for Statistics and Visualization
University of Denver
Denver, CO 80208

EDUCATION

University of Colorado, Denver, CO. M.S., Applied Statistics, 2012.

Studies included Bayesian analysis, multivariate statistics, spatial statistics, advanced methods for research. Thesis: "A Review of a Value Added Model for Teacher Evaluation"

Massachusetts Institute of Technology, Cambridge, MA. Ph.D., Mathematics, 1988.

Studies included functional analysis, pseudodifferential operator theory, measure theory, complex analysis, algebraic topology, differential geometry, and mathematical logic. Research assistant, methods of applied linear algebra. Thesis: "Singularities of the Trace of the Wave Operator on Polygonal Domains".

Princeton University, Princeton, NJ. AB Mathematics, high honors, 1983

TECHNICAL SKILLS

Background includes: linear mixed effects models, generalized linear models, kernel methods, machine learning, model assessment and selection, mathematical statistics, statistical cluster estimation, spatial statistics, queuing theory, reliability, algorithm and data structure design and analysis, computational geometry
Programming languages include: R, Matlab, C, C++

RECENT RESEARCH

- The effect of conspecific cues on honey bee foraging behavior, Horna Lowell, E. S., Morris, J. A., Vidal, M. C., Durso, C. S., Murphy, S. M., International Society for Behavioral Ecology, International Society for Behavioral Ecology, Minneapolis, MN. (August 14, 2018)
- Why Courts Fail to Protect Privacy: Race, Age, Bias, and Technology, Chao, B., Durso, C., Farrel,I., Robertson, C., 106 Calif. L. Rev, April 18, 2018
- Residential preferences, transit accessibility and social equity: insights from the Denver region, Luckey, K., Marshall, W.E., Durso, C., Atkinson- Palombo, Journal of Urbanism: International Research on Placemaking and Urban Sustainability, Routledge, January 2018:
<https://doi.org/10.1080/17549175.2017.1422531>
- Political Change Strategy Preference, Dorff, C.L., Durso, C., Joint Statistical Meeting, American Statistical Association, Chicago, IL, USA. (August 1, 2016)
- The Neuromuscular Response to Spinal Manipulation in the Presence of Pain, Currie, S., Myers, C.A., Durso, C., Enebo, B.A., Davidson, B., Journal of Manipulative & Physiological Therapeutics, Vol. 39, Issue 4, p288–293, April 6, 2016
- Jury Simulation, Durso, C. S., Joint Statistical Meeting, American Statistical Association, Seattle, WA, USA. (August 11, 2015)

- Level of Service of Safety Revisited, Kononov, J., Durso, C., Lyon, C., Allery, B.,
Transportation Research Record: Journal of the Transportation Research Board, Jan 2015, Vol. 2514, pp. 10-20
- The Rise and Fall of Value Added Models for Teacher Evaluation , panelists Briggs, D, Durso, C, Lockwood, J.R, Rothstein, J, contributed panel, Joint Statistical Meeting, San Diego, CA, July 29, 2012
- Relationship between Traffic Density, Speed and Safety and Its Implication on Setting Variable Speed Limits on Freeways, Kononov, J., Durso, C., Reeves, D., Allery, B., Transportation Research Record , Journal of the Transportation Research Board of the National Academies, Washington, D.C. No. 2280, pp. 1–9. Dec 2012
- Relationship between Freeway Flow Parameters and Safety and Its Implication on Adding Lanes, Kononov, J., Reeves, D., Durso, C., Allery, B., Transportation Research Record : Journal of the Transportation Research Board of the National Academies, Washington D.C. ,No. 2279, pp. 118-123, Dec 2012
- An Analysis of the Use and Validity of Test-Based Teacher Evaluations Reported by the Los Angeles Times: 2011. Durso, C., National Education Policy Center, Boulder, CO: <http://nepc.colorado.edu/publication/analysis-la-times-2011>.
- Surveying and Modeling Long Distance Trips, Bricka, S., Sabina, E., Paasche, J., Durso, C., presented at 13th Annual Transportation Research Board Transportation Applications Conference, Session 17, May 11, 2011
- 2010: Conference paper: Locating an Obnoxious Line Through a Weighted Set of Points, Yan Mayster, Mohammed Albaw, Catherine Durso, Mario Lopez, 26th European Workshop on Computational Geometry
- Classification of hyperactivated spermatozoa using a robust Minimum Bounding Square Ratio algorithm, Kaula, N., Andrews, A., Durso, C., Dixon, C., Graham, J.K., Conf Proc IEEE Eng Med Biol Soc. 2009;2009:4941-4

EMPLOYMENT

Research Statistician, Center for Statistics and Visualization, University of Denver, 2014-present

- Responsibilities include

- Development and review of study design
- Development and review of data analysis plans
- Development and review of data analytical exposition

Statistical Consultant, 2010-present

- Responsibilities include

- Development and review of study design, data analysis plans, data analytical exposition
- Development and exposition of statistical models
- Statistical computing

Chief Scientist, Medallion Learning, 2012-2016

- Responsibilities include

- Planning of data capture
- Learning analytics
- Data-informed assessment design

Lecturer, Department of Computer Science, University of Denver 2001-present

- With title of Associate Teaching Professor, 2015-present
- Courses taught include
 - o Data Analysis and Inference
 - o Performance Analysis: Queuing Theory and Reliability
 - o Algorithms and Data Structures, Advanced Algorithms and Data Structures
 - o Computer programming
 - o Bioinformatics Algorithms
 - o Discrete Mathematics for Computer Science, Advanced Discrete Mathematics for Computer Science

Adjunct Instructor, Department of Mathematics and Computer Science, University of Denver 1996-2001.

- Courses taught include
 - o Mathematical Statistics
 - o Integral and Differential Calculus
 - o Multivariate Calculus
 - o Differential Equations
 - o Linear Algebra

Assistant Professor, Department of Mathematics, Transylvania University, 1991-1994.

- Courses taught include
 - o Applied Statistics
 - o Probability
 - o Complex Analysis
 - o Topology

.Assistant Professor, Department of Mathematics, SUNY Stony Brook, 1991-1994.

- Courses taught include
 - o Graduate Partial Differential Equations
 - o Measure Theory