

R. Adam Molnar

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Work Experience

- 2022 – present Lecturer, Eller College of Management, University of Arizona
- 2021 – 2022 Director of Office of Institutional Effectiveness and Chair of Institutional Review Board, Oklahoma City Community College
- 2015 – 2021 Assistant Professor, Department of Statistics, Oklahoma State University
- 2011 – 2015 Teaching and Research Assistant, Departments of Statistics and Mathematics Education, University of Georgia
- 2012 Adjunct Professor, Pyongyang University of Science and Technology, Pyongyang, DPR (North) Korea
- 2007 – 2011 Assistant Professor, Department of Mathematics, Bellarmine University
- 2000 – 2006 Lecturer and Teaching Assistant, Department of Statistics and Booth School of Business, University of Chicago
- 1996 – 2000 Modeling Analyst, American Management Systems

Education

PhD in Mathematics Education, University of Georgia, 2015.

MS in Statistics, University of Chicago, 2010.

BA in Applied Mathematics, Harvard University, 1996.

Peer-Reviewed Publications

- Molnar, A. (2021). Learning analytics to predict final grade partway through introductory statistics. In A. A. Bilgin & S. Budgett (Eds.), *Proceedings of the 10th Australian Conference on Teaching Statistics* (pp. 49–54).
- Molnar, A. (2019). Choosing a study design for the polio vaccine. *Statistics Teacher*.
- Molnar, A. (2018). Language and lexical ambiguity in the probability register. In E. Chernoff & C. Batanero (Eds.), *Teaching and Learning Stochastics: Advances in Probability Education Research* (pp. 23–37). Cham, Switzerland: Springer Nature.
- Edalgo, S., & Molnar, A. (2017). Textbook formations of independence. In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown (Eds.), *Proceedings of*

the 20th Annual Conference on Research in Undergraduate Mathematics Education, San Diego, California.

- Curtis, R. C., Murray, J. K., Campbell, P., Nagamori, Y., Molnar, A., & Jackson, T. A. (2017) Species variation in pinworm susceptibility in a colony of mice. *Journal of the American Association for Laboratory Animal Science*, 56(1): 42–46.
- Molnar, A. (2016). High school mathematics teachers' reading of tables. In J. Engel (Ed.), *Promoting understanding of statistics about society. Proceedings of the Roundtable Conference of the International Association of Statistics Education, July 2016, Berlin, Germany.*
- Molnar, A. (2013). Discussion: What do instructors of statistics need to know about technology, and how can they best be taught? *Technology Innovations in Statistics Education*, 7(2).
- Wagoner, R., & Molnar, A. (2012) How attorneys judge collegiate mock trials. *Speaker & Gavel*, 49(1), 42–54.
- Molnar, A., & Price, J. (2009). The homeless average age 9? A curricular example. In *Proceedings of 2009 IASE Satellite Conference, Durban, South Africa.*
- Molnar, A. (2008). Bus arrivals and bunching. *Journal of Statistics Education*, 16(2).

Invited and Competitive Conference Proceedings

- Molnar, A., & Behrens, L. (2018). Extending introductory probability through games. In M. A. Sorto, A. White, & L. Guyot (Eds.), *Looking back, looking forward. Proceedings of the Tenth International Conference on Teaching Statistics (ICOTS10, July, 2018), Kyoto, Japan.* Voorburg, The Netherlands: International Statistical Institute.
- Molnar, A. (2017). Editor's Note: Building an Association. In A. Molnar (Ed.), *Teaching Statistics in a Data Rich World. Proceedings of IASE Satellite Conference, Rabat, Morocco.* Voorburg, The Netherlands: International Statistical Institute.
- Molnar, A. (2016). High school mathematics teachers' understanding of independent events. *Proceedings of 13th International Congress on Mathematical Education.*
- Molnar, A. (2010). Testing, testees, and tested: Practical lessons from the first years at a small teaching-focused university. In C. Reading (Ed.), *Data and context in statistics education: Towards an evidence-based society. Proceedings of the Eighth International Conference on Teaching Statistics (ICOTS8, July, 2010), Ljubljana, Slovenia.* Voorburg, The Netherlands: International Statistical Institute.

Invited and Competitive Conference Presentations

Molnar, A. (2021, August). *Large scale peer-assisted tutoring, corequisites, and other math support for introductory statistics*. Organizer of invited session and presenter at MAA Mathfest 2021, online.

Molnar, A., & Yang, S. (2021, July). *Mathematics ability and other factors associated with success in introductory statistics*. Presented at 14th International Congress on Mathematical Education, Shanghai, China and online.

Molnar, A. (2020, July). *Discussion on Topic 3: The influence of data science on the school curriculum and introductory statistics courses*. Discussion leader and closing session presentation at IASE 2020 Roundtable Conference, online.

Molnar, A., & Sauer, C. (2019, May). *Corequisite math support in introductory statistics*. Breakout session at US Conference on Teaching Statistics (USCOTS) 2019, State College, PA.

Schwab-McCoy, A., An, M. W., & Molnar, A. (2017, May). *Data-focused activities and lessons in seminar-style introductory classes*. Breakout session at USCOTS 2017, State College, PA.

Casey, S., Wasserman, N., Wilson, D., & Molnar, A. (2014, April). *Knowledge for teaching informal line of best fit*. Research symposium at the National Council of Teachers of Mathematics 2014 Research Conference, New Orleans, LA.

Conference Presentations and Posters

Molnar, A. (2022, April). *Professor perspective: Studying success in statistics*. Presentation at Spring 2021 OK-AIR online conference, Oklahoma City, OK.

Molnar, A. (2020, January). *Mathematics used in introductory statistics and the effects of math knowledge*. Presentation at 18th Hawaii International Conference on Education, Honolulu, HI.

Bode-Omoleye, I., Grammer, M., & Molnar, A. (2019, December). *Multi-scale quantitative analysis of microporosity in carbonate fabrics*. Poster at AGU Fall 2019 meeting, San Francisco, CA.

Molnar, A. (2019, June). *Corequisite math support for introductory statistics*. Session at AMAYTC Southwest Regional Conference 2019, Frisco, TX.

Molnar, A., & McDonald, K. (2019, May). *Math diagnostics and relationship to course grades*. Poster at USCOTS 2019, State College, PA.

Molnar, A. (2018, November). *Independence and other lexical ambiguities*. Poster at the 44th AMATYC Annual Conference, Orlando, FL.

Molnar, A. (2017, August). *Definition and confusion about independence*. SPEED session at the Joint Statistical Meetings, Baltimore, MD.

Molnar, A. (2017, July). *Teaching a polling and survey seminar*. Poster at the IASE Satellite Conference, Rabat, Morocco.

- Molnar, A. (2017, June). *Evaluating claims through confidence intervals*. Session at Oklahoma Council of Teachers of Mathematics 2017 Conference, Oklahoma City.
- Molnar, A. (2017, April). *Teaching about conceptions of independence*. Presentation at 79th Annual Meeting of the Oklahoma-Arkansas Section of the Mathematical Association of America, Norman, OK.
- Molnar, A. (2016, November). *The perils of p-values*. Presentation at University of Oklahoma Statistics in Research and Teaching Conference, Norman, OK.
- Molnar, A. (2016, June). *Randomness in probability: Theoretical, relative, and independent*. Session at OCTM/OSTA 2016 Conference, Tulsa, OK.
- Molnar, A. (2015, January). *Needs of high school mathematics teachers to teach conditional probability*. Presentation at Joint Mathematics Meetings, San Antonio, TX.
- Molnar, A. (2014, August). *High school teachers' conditional probability knowledge*. Presentation at Joint Statistical Meetings, Boston, MA.
- Molnar, A. (2014, July). *High school teachers' conditional probability content knowledge*. Poster at the 9th International Conference on Teaching Statistics, Flagstaff, AZ.
- Molnar, A., & Sawyer, A. (2013, August). *Surveys and blaster scatterplots at middle school math nights*. Poster at the Joint IASE/IAOS Satellite Conference, Macao, China.
- Wagoner, R., & Molnar, A. (2011, November). *How attorneys judge collegiate mock trials*. Presentation at National Communication Association 97th Annual Convention, New Orleans, LA.
- Molnar, A. (2011). *Statistics and the working nurse*. Presentation and Paper in *Proceedings of IASE Satellite Conference, Dublin, Ireland*.
- Molnar, A. (2010, August). *Bus arrivals and bunching: A data collection and analysis project*. Presentation at Joint Statistical Meetings, Vancouver, BC.
- Molnar, A. (2010, August). *Statistical literacy as a separate course from introductory statistics*. Roundtable discussion leader at the Joint Statistical Meetings, Vancouver, BC.
- Molnar, A. (2010, May). *Lies, damned lies, and statistics in abortion rhetoric*. Presentation at Rhetoric Society of America 14th Biennial Conference, Minneapolis, MN.
- Molnar, A., & Wu, S. (2008, August). *Chinese and American self and other: Calibration in relative rank on everyday tasks*. Poster at the Joint Statistical Meetings, Denver, CO.
- Molnar, A. (2008, July). *The homeless average age 9? Examining a bad statistic*. Presentation at MAA MathFest 2008, Madison, WI.

Molnar, A. (2005, June). *Bayesian neural networks and variable selection*.
Presentation at Joint annual meeting of the Interface Symposium and
Classification Society of North America, St. Louis, MO.

Invited Colloquia and Seminars

The problems with p-values. Cameron University, October 2018.

Classroom activities: Kisses, polio, and one card; and Lexical ambiguity in the
probability register. Two seminars at Texas State University, October 2018.

The post $P < 0.05$ world. Korea National Open University, Republic of (South)
Korea, November 2017.

Critically evaluating media content & Critically conducting media literacy research
(with Ji Hong). Seoul National University, Republic of (South) Korea, Nov. 2017.

Tables, conditional probability, and assumed information. Presentation at 6th
Oklahoma Research in Undergraduate Mathematics Education Conference,
Stillwater, OK, August 2016.

p-Values. Yonsei University, Seoul, Republic of (South) Korea, May 2016.

Teaching conditional probability. Oklahoma State University, February 2015.

Bayesian trees and neural networks.

Cal Poly Pomona, Valparaiso University, University of Central Florida, Texas
Tech University, and Bellarmine University, November 2006 – February 2007.

Applied statistics: Modeling self-evaluation and culture. U. Puget Sound, Feb. 2007.

Bayesian data mining: Trees and neural networks. Northern Illinois U., April 2006.

The nuts and bolts of teaching statistics (assisting Linda Collins in 2003–06,
Michael Larsen in 2002). University of Chicago Center for Teaching and
Learning, September 2006, 2005, 2004, 2003, and 2002.

University Courses Completed as Instructor of Record

Oklahoma State University, 2015–2021:

1. Stat 2013, Elementary Statistics (22 sections): undergraduate service course, including 10 online sections and 5 co-requisite math support sections
2. Stat 2023, Elementary Statistics for Business and Economics (2 sections): undergraduate service course, taught online
3. Stat 5013, Statistics for Experimenters I: graduate service course
4. Stat 4043, Applied Regression Analysis (6 sections): grad/undergrad course
5. Stat 4910, Polling and Surveys: designed undergraduate honors seminar
6. Stat 2890/4910, Games of Chance and Skill (7 sections): designed and developed undergraduate honors seminar
7. Stat 2890, Collecting Good Data (2 sections): designed honors seminar
8. Stat 4981, Statistics Capstone I (5 sections): advanced undergraduate tutorial
9. Stat 4991, Statistics Capstone II (5 sections): advanced undergrad tutorial
10. Stat 5002, Applied Masters Creative Component: project-based capstone

Pyongyang University of Science and Technology, 2012:

1. Elementary Statistics: undergraduate service course
2. Advanced Technical Writing: English-language writing for graduate students

Bellarmino University, 2007–2011:

1. Statistics and Society (17 sections): developed and designed course; undergraduate general education, statistical literacy
2. Elementary Statistics (7 sections): undergraduate service course
3. Probability (4 sections): undergraduate course for math and comp. sci. majors
4. Mathematical Statistics (4 sections): undergraduate course for math majors
5. Stochastic Processes (2 sections): redesigned course for undergraduate math and computer science majors
6. Advanced Statistics: developed and designed methods course for Doctor of Nursing Practice students

University of Chicago, 2002–2006: Statistical Methods and Applications (6 sections): undergraduate/graduate service course

Academic Service

Oklahoma State University:

Course Coordinator for Statistics 2013, 2015 – 2021. This includes direct supervision of graduate students and maintenance of online homework system.

Department of Statistics Social Chair, 2015 – 2021.

Faculty Council student affairs and learning resources committee, 2016 – 2019.

Arts & Sciences college policy and planning committee, 2016.

University of Georgia:

Mathematics Education Student Association President, 2012 – 2013.

Bellarmino University: Brown Scholars Committee, 2008 – 2010.

Psychology Search Committee, 2007 – 2008.

Professional Service

Proceedings Editor, 2017 IASE Satellite Conference, Rabat, Morocco. Included authors and reviewers from over 20 countries.

Chair and committee member, Oklahoma Course Equivalency Project Faculty Curriculum Committee in Statistics, 2017 – 2020.

ISI News & IASE Matters co-editor, International Association for Statistical Education, 2011 – present.

ASA representative, Oklahoma Mathematics Alliance, 2015 – 2017.

Committee member, writing standards for Statistics and Probability, Oklahoma State Department of Education, October – December 2015.

Session Organizer and Chair: Statistics instructors' knowledge of students' development of fundamental statistics concepts, 9th International Conference on Teaching Statistics, Flagstaff, AZ, July 2014.

Reviewer for *Child Abuse & Neglect*, *Mathematics Teaching in the Middle School*, *Journal of Statistics Education*, *Technology Innovations in Statistics Education*, *Statistics Education Research Journal*, and *The Mathematics Educator*.

Advisory Panel, NSF Grant #1021584, "Discovery Learning Projects In Introductory Statistics." April 2011.

Media interviews:

State of Affairs, Louisville NPR, on basketball statistics, March 2009.

New York Times on homeless statistics, May 2008.

PhD Committee Memberships at Oklahoma State

Mingming Zhang, Department of Mathematics, 2019 – 2021.

Ibukun Bode Omoleye, Boone Pickens School of Geology, 2016 – 2019.

Steve Thakur, Department of Mathematics, 2017 – 2018.

Beth Vanden Berg, Boone Pickens School of Geology, 2016.

Masters' Students Advised at Oklahoma State

John Adams, Department of Statistics, 2020.

Ben Wallace, Department of Statistics, 2018 – 2020.

Ryan Osmus, Department of Statistics, 2019.

Jeffrey Swensen, Department of Statistics, 2017.

Masters' Committee Memberships at Oklahoma State

Fisher Ankney, Department of Statistics, 2019 – 2020.

April Richardson, Department of Mathematics, 2019 – 2020.

Dongrui He, Department of Agricultural Economics, 2019.

Honors

Presidential Graduate Fellow, University of Georgia, 2011 – 2015.

University-wide competition; full tuition and fees plus stipend.

Winner, Stat Bowl 2008. Stat Bowl is a quiz competition for graduate students, held annually at the Joint Statistical Meetings.

Project NExT: New Experiences in Teaching, Mathematics Association of America, 2007 Fellow.

Physical Sciences Teaching Prize, University of Chicago, one of top three graduate teaching assistants in the physical sciences division, 2006.