Arman Sabbaghi

Contact Information

Department of Statistics
Purdue University
150 North University Street
West Lafayette, IN 47907 USA

☎ +1-765-496-0234
+1-765-494-0558
sabbaghi@purdue.edu
http://www.stat.purdue.edu/∼sabbaghi

Education

Harvard University, Cambridge, MA

PhD, Department of Statistics, May 2014

- Thesis: *Dilemmas in Design: From Neyman and Fisher to 3D Printing*
- Advisors: Donald B. Rubin and Tirthankar Dasgupta
- National Science Foundation (NSF) Graduate Research Fellow

AM, Department of Statistics, May 2011

Purdue University, West Lafayette, IN

BS, Department of Mathematics, May 2009
BS, Department of Statistics, May 2009

- Graduated *With Highest Distinction*, with Honors in Mathematics
- Phi Beta Kappa (2008)

Academic Employment

Purdue University, Department of Statistics, West Lafayette, IN

Assistant Professor in the Area of Applied Statistics — August 2014 – Present

Refereed Publications

[1] Sabbaghi A., Huang Q. (2018) Model transfer across additive manufacturing processes via mean effect equivalence of lurking variables. *Annals of Applied Statistics* (accepted).

[2] Sabbaghi A., Huang Q., Dasgupta T. (2018) Bayesian model building from small samples of disparate data for capturing in-plane deviation in additive manufacturing. *Technometrics* (in press) (INFORMS 2018 Annual Meeting *Technometrics* Invited Session paper).

[3] Huang Q., Zhang J., Sabbaghi A., Dasgupta T. (2015) Optimal offline compensation of shape shrinkage for 3D printing processes. *IIE Transactions on Quality and Reliability Engineering* **47**: 5, 431 – 441 (INFORMS 2014 Annual Meeting *IIE Transactions* Invited Session paper).

[4] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. (2014) Inference for deformation and interference in 3D printing. *Annals of Applied Statistics* **8**: 3, 1395 – 1415.

[5] Sabbaghi A., Rubin D.B. (2014) Comments on the Neyman-Fisher controversy and its consequences. *Statistical Science* **29**: 2, 267 – 284.

[6] Sabbaghi A., Dasgupta T., Wu C.F.J. (2014) Indicator functions and the algebra of the linear-quadratic parameterization. *Biometrika* **101**: 2, 351 – 363.

[7] DeMeyer L., Greve L., Sabbaghi A., Wang J. (2010) The zero-divisor graph associated to a semigroup. *Communications in Algebra* **38**: 9, 3370 – 3391.

Refereed Conference Proceedings

[1] Sabbaghi A., Huang Q. "Predictive Model Building Across Different Process Conditions and Shapes in 3D Printing". In: *Twelfth Annual IEEE International Conference on Automation Science and Engineering*, August 2016.

[2] Sabbaghi A., Huang Q., Dasgupta T. "Bayesian Additive Modeling for Quality Control of 3D Printed Products". In: *Eleventh Annual IEEE International Conference on Automation Science and Engineering*, August 2015.

[3] Xu L., Huang Q., Sabbaghi A., Dasgupta T. "Shape Deviation Modeling for High-Precision Additive Manufacturing". In: *ASME 2013 International Mechanical Engineering Congress & Exposition*, November 2013.

Submitted Manuscripts

[1] Patel S.H., Sabbaghi A., Carroll C.C. (2018) Streptozotocin-induced diabetes alters transcription of multiple genes necessary for extracellular matrix remodeling in rat patellar tendon. Revised and resubmitted to *Connective Tissue Research*.

[2] Sabbaghi A. (2018) An algebra for the conditional main effect parameterization. Submitted to *Statistica Sinica*.

In Preparation

[1] Sabbaghi A. (2018) An integrative framework for geometric and hidden projections of three-level fractional factorial designs.

[2] Ferreira R., Sabbaghi A., Huang Q. (2018) Automated geometric shape deviation modeling for additive manufacturing processes via Bayesian neural networks.

[3] Edmondson D.A., Ma E., Yeh C.L., Ward E., Snyder S., Sabbaghi A., Zauber S.E., Dydak U. (2018) Changes in GABA and R1 reflect a dynamic occupational environment for welders exposed to Manganese: a prospective longitudinal cohort study.

[4] Plumlee M., Sabbaghi A. (2018) Sequential process improvement via input discrepancy correction.

[5] Wang Y., Qiu G., Ferreira R., Li G., Ye P., Sabbaghi A., Wu W. (2018) Machine learning-assisted discovery of the mechanism of 2D Tellurium shape control with tunable optical and electrical properties.

[6] Edmondson D.A., Sabbaghi A., Ma E., Yeh C.L., Snyder S., Dydak U. (2018) Magnetic resonance imaging markers show evidence of a threshold effect for manganese exposure in welders.

[7] Sabbaghi A. (2017) Partial aliasing relations in mixed two- and three-level designs.

[8] Gill M., Sabbaghi A., Schneer B. (2016) Bayesian instrumental variables estimation with relaxations of the exclusion restriction. To be revised and resubmitted to *Political Analysis*.

Grants

PI for NSF Grant No. CMMI-1744123 ($50,000): *Collaborative Research: EAGER: Explore the Theoretical Framework of Engineering Knowledge Transfer in Cybermanufacturing Systems* 8/2017 - 7/2018. Lead PI: Qiang Huang, University of Southern California, Los Angeles, CA ($49,998). Other PIs: Matthew Plumlee, Northwestern University, Evanston, IL ($29,890) and Hui Wang, Florida State University, Tallahassee, FL ($29,999).

Co-PI Statistician for NIH Grant No. 1R21HD091896-01: *Quantifying the Efficacy and Role of Service Dogs for Military Veterans With PTSD and Their Spouses.* 5/2017 - 4/2019. Lead PI: Marguerite O'Haire, Purdue University, West Lafayette, IN. Total Funding: $414,880.

PI for NSF Grant No. CMMI-1544841 ($299,952): *CPS: Synergy: Collaborative Research: Smart Calibration Through Deep Learning for High-Confidence and Interoperable Cyber-Physical Additive Manufacturing Systems.* 9/2015 - 8/2019. Lead PI: Qiang Huang, University of Southern California, Los Angeles, CA ($350,000).

Purdue University Research Foundation International Travel Grant. ($1,400) 8/2015.

Graduate Research Fellowship, NSF Grant No. DGE-1144152. 9/2011 - 5/2014.

Doctoral Advisory Committee Chair

Raquel De Souza Borges Ferreira

Timothy Jedidiah Keaton

Dominique McDaniel

Ahmad Hakeem Abdul Wahab

Yumin Zhang

Doctoral Advisory Committee Member

Chang Cheng

William Eagan

Tyler Michael Futch (Purdue Polytechnic Institute)

Chien-Yu Huang (Purdue University Department of Pharmacy Practice)

Whitney Huang (2017), currently Post-Doctoral Fellow at the Statistical and Applied Mathematical Sciences Institute (SAMSI)

He Luan (University of Southern California Epstein Department of Industrial and Systems Engineering)

Hui Sun

MS Committee Chair

Megan Endress (2016), currently Mathematical Statistician at the U.S. Census Bureau

Shiwei Liu

Ahmad Hakeem Abdul Wahab

MS Committee Member

Kirsen Sullivan

Invited Talks

[1] Sabbaghi A., Huang Q., Dasgupta T. "Bayesian Model Building From Small Samples of Disparate Data for Capturing In-Plane Deviation in Additive Manufacturing". In: *INFORMS 2018 Annual Meeting Technometrics Invited Session.* November 2018.

[2] Sabbaghi A. "An Algebra for the Conditional Main Effects Parameterization". In: *2018 International Conference on Advances in Interdisciplinary Statistics and Combinatorics.* October 2018.

[3] Sabbaghi A., Huang Q. "Geometric Shape Deviation Modeling Across Different Processes and Shapes in Additive Manufacturing Systems". In: *2018 Fall Technical Conference.* October 5, 2018.

[4] Ferreira R., Sabbaghi A., Huang Q. "Automated Geometric Shape Deviation Modeling for Cyber-Physical Additive Manufacturing Systems via Bayesian Neural Networks". In: *University of Southern California Center for Cyber-Physical Systems and the Internet of Things (CCI) and Ming Hsieh Institute for Electrical Engineering Seminar*. March 21, 2018.

[5] Plumlee M., Sabbaghi A. "Input Correction Algorithms to Produce Better Quality Parts". In: *Second Foundation of Accuracy Control for Additive Manufacturing Workshop (FACAM 2018)*. February 8, 2018.

[6] Sabbaghi A., Huang Q. "Deviation Modeling Across Different Process Conditions and Shapes in Additive Manufacturing Systems". In: *Second Foundation of Accuracy Control for Additive Manufacturing Workshop (FACAM 2018)*. February 8, 2018.

[7] Sabbaghi A., Huang Q. "Model Transfer Across Additive Manufacturing Processes via Mean Effect Equivalence of Lurking Variables". In: *University of Louisville Department of Bioinformatics and Biostatistics Seminar Series*. February 2, 2018.

[8] Sabbaghi A., Huang Q. "Predictive Model Building Across Different Process Conditions and Shapes in 3D Printing". In: *INFORMS 2017 Annual Meeting*. October 22, 2017.

[9] Sabbaghi A. "Predictive Model Building Across Different Process Conditions and Shapes in Additive Manufacturing". In: *Sandia National Laboratories Statistical Sciences Colloquium*. September 21, 2017.

[10] Sabbaghi A. "Predictive Model Building Across Different Process Conditions and Shapes in Additive Manufacturing". In: *Accelerating NSF Research in Additive Manufacturing toward Industrial Applications Workshop*. August 18, 2017.

[11] Sabbaghi A., Huang Q. "Deformation Model Transfer via Equivalent Effects of Lurking Variables in Additive Manufacturing". In: *2017 Joint Statistical Meetings*. August 2, 2017.

[12] Sabbaghi A., Huang Q. "Predictive Model Building Across Different Process Conditions and Shapes in 3D Printing". In: *24th Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology*. May 18, 2017.

[13] Sabbaghi A., Huang Q. "Deformation Model Transfer via Equivalent Effects of Lurking Variables in Additive Manufacturing". In: *Purdue University School of Industrial Engineering Seminar Series*. February 8, 2017.

[14] Sabbaghi A., Huang Q. "Deformation Model Transfer via Equivalent Effects of Lurking Variables in Additive Manufacturing". In: *INFORMS 2016 Annual Meeting*. November 13, 2016.

[15] Sabbaghi A. "Model Transfer via Equivalent Effects of Lurking Variables". In: *2016 NIC-ASA and ICSA Midwest Joint Fall Meeting*. November 11, 2016.

[16] Huang Q., Sabbaghi A. "Smart Calibration Through Deep Learning for High-Confidence and Interoperable Cyber-Physical Additive Manufacturing Systems". In: *2016 National Science Foundation Cyber-Physical Systems Program Principal Investigators Meeting*. October 31, 2016.

[17] Sabbaghi A. "Hidden Connections Between Different Projections under the Linear-Quadratic Parameterization". In: *2016 International Conference on Advances in Interdisciplinary Statistics and Combinatorics*. September 30, 2016.

[18] Sabbaghi A., Huang Q. "Predictive Model Building Across Different Process Conditions and Shapes in 3D Printing". In: *Twelfth Annual IEEE International Conference on Automation Science and Engineering*. August 23, 2016.

[19] Sabbaghi A. "Discussion of Powerful Experimental Designs for Non-Gaussian Responses Invited Session". In: *2016 Joint Statistical Meetings*. August 3, 2016.

[20] Sabbaghi A. "Partial Aliasing Relations in Mixed Two- and Three-Level Designs". In: *2016 ICSA Applied Statistics Symposium*. June 14, 2016.

[21] Sabbaghi A., Huang Q. "Causal Model Transfer via Equivalent Effects of Lurking Variables". In: *23rd Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology*. May 25, 2016.

[22] Sabbaghi A., Huang Q. "Causal Model Transfer via Equivalent Effects of Lurking Variables". In: *Theoretical Foundations for Accuracy Control in Additive Manufacturing Workshop (FACAM 2016)*, Epstein Institute at the Viterbi School of Engineering, University of Southern California. January 18, 2016.

[23] Sabbaghi A., Huang Q., Dasgupta T. "Model Building from Small Samples of Disparate Data in 3D Printing". In: *Theoretical Foundations for Accuracy Control in Additive Manufacturing Workshop (FACAM 2016)*, Epstein Institute at the Viterbi School of Engineering, University of Southern California. January 18, 2016.

[24] Sabbaghi A., Stein N.M., Lee J.J., Lindborg S.R., Zhu Y. "New Perspectives on Tests for Co-Primary and Secondary Endpoints". In: *Epstein Institute Seminar*, Daniel J. Epstein Department of Industrial and Systems Engineering, University of Southern California. November 17, 2015.

[25] Sabbaghi A. "Partial Aliasing Relations in Mixed Two- and Three-Level Designs". In: *INFORMS 2015 Annual Meeting*. November 4, 2015.

[26] Sabbaghi A., Huang Q., Dasgupta T. "Bayesian Additive Modeling for Quality Control of 3D Printed Products". In: *INFORMS 2015 Annual Meeting*. November 1, 2015.

[27] Sabbaghi A., Huang Q., Dasgupta T. "Bayesian Additive Modeling for Quality Control of 3D Printed Products". In: *Eleventh Annual IEEE International Conference on Automation Science and Engineering*. August 26, 2015.

[28] Sabbaghi A., Stein N.M., Lee J.J., Lindborg S.R., Zhu Y. "New Perspectives on Randomization Tests for Co-primary and Secondary Endpoints". In: *2015 Joint Statistical Meetings*. August 10, 2015.

[29] Sabbaghi A. "Hidden Connections Between Different Projections under the Linear-Quadratic Parameterization". In: *60th International Statistical Institute World Statistics Congress*. July 27, 2015.

[30] Sabbaghi A. "Hidden Connections Between Different Projections under the Linear-Quadratic Parameterization". In: *32nd Quality & Productivity Research Conference*. June 11, 2015.

[31] Sabbaghi A., Huang Q., Dasgupta T. "Bayesian Additive Modeling for Quality Control of 3D Printed Products". In: *32nd Quality & Productivity Research Conference*. June 10, 2015.

[32] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. "Inference for Deformation and Interference in 3D Printing". In: *2nd Workshop on Predictive Modeling and Control of Additive Manufacturing*, Epstein Institute at the Viterbi School of Engineering, University of Southern California. November 13, 2014.

[33] Sabbaghi A. "Projection Properties of Three-Level Fractional Factorial Designs under the Linear-Quadratic System". In: *INFORMS 2014 Annual Meeting*. November 9, 2014.

[34] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. "Interference in Deformation Compensation for 3D Printing". NASA Engineering and Safety Center Engineering Statistics Team. May 21, 2014.

[35] Sabbaghi A. "The Power of Potential Outcomes in Experimental Design: From the Neyman-Fisher Controversy to 3D Printing". Department of Statistics, Purdue University. February 26, 2014.

[36] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. "Posterior Predictive Checks for Interference in a 3D Printing Experiment". In: *2014 American Statistical Association Conference on Statistical Practice*. February 22, 2014.

[37] Sabbaghi A. "Expeditions in Modern Experimental Design: Partial Aliasing and Interference". Department of Statistics, Stanford University. February 11, 2014.

[38] Sabbaghi A. "Expeditions in Modern Experimental Design: Partial Aliasing and Interference". Department of Statistics, University of California, Berkeley. February 5, 2014.

[39] Sabbaghi A. "The Power of Potential Outcomes in Experimental Design: From the Neyman-Fisher Controversy to 3D Printing". Booth School of Business, University of Chicago. January 30, 2014.

[40] Sabbaghi A. "The Power of Potential Outcomes in Experimental Design: From the Neyman-Fisher Controversy to 3D Printing". H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology. January 23, 2014.

[41] Sabbaghi A. "Inference for Deformation and Interference in 3D Printing". Stuart School of Business, Illinois Institute of Technology. October 22, 2013.

Contributed Talks

[1] Sabbaghi A., Huang Q., Dasgupta T. "Bayesian Additive Modeling for Quality Control of 3D Printed Products". In: *22nd Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology*. May 21, 2015.

[2] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. "Interference in Deformation Compensation for 3D Printing". In: *16th Meeting of New Researchers in Statistics and Probability*. August 1, 2014.

[3] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. "Inference with Interference and Interference for Inference in a 3D Printing Experiment". In: *INFORMS 2013 Annual Meeting*. October 9, 2013.

[4] Sabbaghi A., Dasgupta T., Wu C.F.J. "Indicator Functions and the Algebra of the Linear-Quadratic Parametrization". In: *INFORMS 2013 Annual Meeting*. October 7, 2013. One of four finalists for the Quality, Statistics, and Reliability Section Best Student Paper competition.

[5] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. "Inference with Interference and Interference for Inference: Modeling Potential Outcomes and Interference in a 3D Printing Experiment". In: *2013 Joint Statistical Meetings*. August 5, 2013.

[6] Sabbaghi A., Dasgupta T., Wu C.F.J. "Interesting Insights in Indicators: Indicator Functions and the Algebra of the Linear-Quadratic Parametrization". In: *20th Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology*. June 22, 2013.

[7] Sabbaghi A., Dasgupta T., Zhang J., Huang Q. "Inference with Interference and Interference for Inference: Modeling Potential Outcomes and Interference in a 3D Printing Experiment". In: *30th Quality & Productivity Research Conference*. June 5, 2013.

PURDUE STATISTICS TALKS

[1] Sabbaghi A. "Sports and Statistics, or, a Bayesian is Better at Betting on Basketball". In: *2017 Cary Quadrangle Talks*. September 26, 2017.

[2] Sabbaghi A. "Challenges and Opportunities in Statistical Quality Control for 3D Printing". In: *Statistics Living-Learning Community Fall 2015 Seminar (STAT 290: Rising Above the Gathering Storm)*. October 27, 2015.

[3] Sabbaghi A. "Challenges and Opportunities in Statistical Quality Control for 3D Printing". In: *Exploring Statistical Sciences Research Seminar (STAT 598V)*. September 23, 2015.

[4] Sabbaghi A. "Causal Inference under the Potential Outcomes Framework: History, Applications, Challenges". In: *Statistics Living-Learning Community Spring 2015 Seminar (STAT 290: What is the Big Idea?)*. March 10, 2015.

[5] Sabbaghi A. "Causal Inference under the Potential Outcomes Framework: History, Applications, Challenges". In: *Exploring Statistical Sciences Research Seminar (STAT 598V)*. October 8, 2014.

POSTERS

[1] Ferreira R., Sabbaghi A., Huang Q. "Automated Geometric Shape Deviation Modeling for Additive Manufacturing Processes via Bayesian Neural Networks". In: *2017 National Science Foundation Cyber-Physical Systems Program Principal Investigators Meeting*. November 13, 2017.

[2] Sabbaghi A. "An Algebra for Conditional Main Effects". In: *The Design and Analysis of Experiments (DAE 2017) Conference*. October 12, 2017.

[3] Sabbaghi A., Huang Q., Dasgupta T. "Learning and Recalibration With Small Sets of Shapes for 3D Printing". In: *2016 National Science Foundation Cyber-Physical Systems Program Principal Investigators Meeting*. October 31, 2016.

[4] Sabbaghi A., Dasgupta T., Huang Q., Zhang J. "Interference in Deformation Compensation for 3D Printing". In: *16th Meeting of New Researchers in Statistics and Probability*. August 1, 2014.

[5] Sabbaghi A., Dasgupta T., Wu C.F.J. "Indicator Functions under the Linear-Quadratic Parametrization". In: *19th Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology*. June 13, 2012.

[6] Sabbaghi A., Rubin D.B. "Who was Right about ANOVA for Latin Squares: Neyman or Fisher?". In: *2012 Atlantic Causal Inference Conference*. May 24, 2012.

Professional Service

Organizer and Chair of the Developments in Bayesian Data Analysis invited session at the INFORMS 2017 Annual Meeting.

Organizer and Chair of the Predictive Modeling and Quality Control for Additive Manufacturing invited session at the 24th Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology.

Chair of the New Paradigms and Approaches in Modern-Day Process Monitoring contributed session at the 24th Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology.

President of the Purdue University chapter of Phi Beta Kappa from March 2017 - February 2018.

Co-Organizer and Co-Chair of the Foundations of Accuracy for Additive Manufacturing invited session at the INFORMS 2016 Annual Meeting.

Pre-Doctoral Mentor for the National Math Alliance for Doctoral Studies in the Mathematical Sciences.

Panel reviewer for the National Science Foundation.

Chair of the Recent Developments of Bayesian High Dimensional Modeling, Inference, and Computation invited session at the 2016 ICSA Applied Statistics Symposium.

Vice President of the Purdue University chapter of Phi Beta Kappa from March 2016 - February 2017.

Co-Organizer and Co-Chair of the Predictive Modeling and Control of Additive Manufacturing special session at the Twelfth Annual IEEE International Conference on Automation Science and Engineering.

Co-Organizer and Discussant of the Powerful Experimental Designs for Non-Gaussian Responses invited session at the 2016 Joint Statistical Meetings.

Organizer and Chair of the Statistical Methods in 3D Printing invited session at the 23rd Annual ASA/IMS Spring Research Conference on Statistics in Industry and Technology.

Co-Chair of the Predictive Modeling and Control for Additive Manufacturing invited session at the INFORMS 2015 Annual Meeting.

Organizer and Chair of the Developments in Design invited session at the 32nd Quality & Productivity Research Conference.

Invited reviewer for the Eleventh Annual IEEE International Conference on Automation Science and Engineering.

Invited reviewer for *Chapman & Hall/CRC Press*, *Technometrics*, *Sankhya B*, *Statistica Sinica*, *IEEE Transactions on Automation Science and Engineering*, *Journal of Quality Technology*, *Procedia Manufacturing*, and *The American Statistician*.

Committee member for the Institute of Mathematical Statistics Young Researcher Group.

Chair of the Operations Management in Manufacturing contributed session at the INFORMS 2013 Annual Meeting.

Professional Memberships

American Statistical Association (ASA)
Institute of Mathematical Statistics (IMS)
Institute for Operations Research and the Management Sciences (INFORMS)
Phi Beta Kappa
Pi Mu Epsilon

Teaching Experience

Purdue University, West Lafayette, IN

Assistant Professor — January 2015 – Present

- Statistics 699: Research PhD Thesis (January 2018 – May 2018)
- Statistics 598: Design, Bayes, and Causal (January 2018 – May 2018)
- Statistics 699: Research PhD Thesis (August 2017 – December 2017)
- Statistics 695: Bayesian Data Analysis (August 2017 – December 2017)
- Statistics 598: Design, Bayes, and Causal (August 2017 – December 2017)
- Statistics 699: Research PhD Thesis (June 2017 – August 2017)
- Statistics 699: Research PhD Thesis (January 2017 – May 2017)
- Statistics 598: Design, Bayes, and Causal (January 2017 – May 2017)
- Statistics 699: Research PhD Thesis (August 2016 – December 2016)
- Statistics 695: Bayesian Data Analysis (August 2016 – December 2016)
- Statistics 598: Design, Bayes, and Causal (August 2016 – December 2016)
- Statistics 490: Experimental Design (August 2016 – December 2016)
- Statistics 598CI: Topics in Causal Inference (June 2016 – August 2016)
- Statistics 699: Research PhD Thesis (January 2016 – May 2016)
- Statistics 490: Experimental Design (August 2015 – December 2015)
- Statistics 692: Statistics General Colloquium (January 2015 – May 2015)
- Statistics 513/IE 530: Statistical Quality Control (January 2015 – May 2015)

Harvard University, Cambridge, MA

Teaching Fellow — January 2013 – May 2013

- Statistics 140: Design of Experiments
  - Awarded a Certificate of Distinction in Teaching by Harvard University's Derek Bok Center for Teaching and Learning.

Guest Lecturer — February 13, 2013

- Statistics 221: Statistical Computing and Visualization
  - Presented a real-life example of Bayesian nonlinear regression model building and checking for quality control in additive manufacturing.

Contributor to Course Construction — January 2012 – May 2012

- Statistics 265: Statistical Mathematics (Graduate Seminar in General Education)
  - Helped develop a General Education course for Harvard University undergraduates that interweaves calculus, probability, and statistics.
  - Wrote Chapter 6 of the course textbook (in collaboration with Carolyn Stein and Jessica Hwang) on connections between the Fundamental Theorem of Calculus and statistical concepts.

Teaching Fellow — September 2010 – May 2011

- Statistics 104: Introduction to Quantitative Methods for Economics

Teaching Fellow — June 2010 – August 2010

- Statistics S-100: Introduction to Quantitative Methods

Contributor to Course Construction — September 2009 – December 2009

- Statistics 305: Statistical Fallacies and Paradoxes: A Cartoon Guide (Graduate Seminar in General Education)
  - Helped develop a module on Simpson's paradox and the ecological fallacy for use in Harvard University's General Education course EM 16: Real-Life Statistics: Your Chance for Happiness (or Misery).
  - Researched the historical origin of Simpson's paradox and the ecological fallacy, and major milestones in their development.
  - Summarized findings from both research and pedagogical perspectives, with an emphasis on the interplay between different disciplines, and between academia and the general public's interests in its development.
  - Prepared a "cartoon guide" of slides with pictures and diagrams to illustrate the key ideas in the most intuitive, insightful, and interesting ways possible.
  - Submitted a paper summarizing the research, and suggested homework questions and group project for Harvard University General Education students.

Purdue University, West Lafayette, IN

Teaching Assistant — January 2009 – May 2009

- Mathematics 450: Honors Galois Theory

Teaching Assistant — August 2006 – May 2007

- Statistics 416: Probability (January 2007 – May 2007)
- Statistics 301: Elementary Statistical Methods (January 2007 – May 2007)
- Statistics 225: Introduction to Probability Models (August 2006 – December 2006)

Awards: 2014 - Present

Regina and Norman F. Carroll (Col. USAF) Scholarship & Research Award
Awarded by the Purdue University Department of Statistics (2017)
Awarded to recognize faculty members whose research represents distinctive contributions to statistical science.

Diversity Award
Awarded by the Purdue University College of Science (2017)
Awarded to recognize excellence in leadership that improves the environment for faculty, staff, and students and promotes diversity and inclusiveness in the College of Science.

Finalist for the QSR Section Best Paper Award
Awarded by the Quality, Statistics, Reliability (QSR) Section of INFORMS (2016)
Awarded to the top four researchers who submitted papers for consideration of the QSR Section Best Paper Award at the INFORMS 2016 Annual Meeting.

Early Career Scholarship
Awarded at the 22nd Annual ASA/IMS Spring Research Conference (2015)
Awarded to early career researchers in recognition of their research potential.

Graduate Awards: 2009 - 2014

Finalist for the QSR Section Best Student Paper Award
Awarded by the Quality, Statistics, Reliability (QSR) Section of INFORMS (2013)
Awarded to the top four student researchers who submitted papers for consideration of the QSR Section Best Student Paper Award at the INFORMS 2013 annual meeting.

Certificate of Distinction in Teaching
Awarded by Harvard University's Derek Bok Center for Teaching and Learning (2013)

Awarded to Teaching Fellows that achieve an overall rating of 4.5 or above on the Q's 5-point scale.

American Statistical Association Student Travel Award
Awarded by the ASA Section on Quality & Productivity (2013)
Awarded to three student researchers presenting contributed papers at the 2013 Joint Statistical Meetings.

Institute of Mathematical Statistics Travel Award
Awarded by the IMS Committee on Travel Awards (2013)
Awarded to fund travel and other expenses to present a paper at the 20th Annual ASA/IMS Spring Research Conference.

QPRC Student Scholarship
Awarded by Organizers of the 30th Quality & Productivity Research Conference (2013)
Awarded to student researchers attending the 30th Quality & Productivity Research Conference.

Junior Researcher Support
Awarded by Organizers of the Design and Analysis of Experiments Conference (2012)
Awarded to researchers attending the Design and Analysis of Experiments Conference.

Post-Qualifying Talk Award
Awarded by Department of Statistics, Harvard University (2012)
Awarded each semester to two PhD candidates based on clarity of thinking, communication, and substance of the post-qualifying presentation.

UNDERGRADUATE AWARDS: 2005 - 2009

Undergraduate Poster Session Prize Winner
Awarded by the Mathematical Association of America (2009)
Awarded for outstanding presentation during the poster session of the Joint Meetings of the American Mathematical Society and the Mathematical Association of America.

Senior Achievement Award in Mathematics
Awarded by Department of Mathematics, Purdue University (2009)
Awarded annually to an outstanding senior in the Department of Mathematics.

Outstanding Student, Departments of Mathematics and Statistics
Awarded by College of Science, Purdue University (2007, 2009)
Awarded annually to four undergraduates (one from each class) in each of the fields of actuarial science, biology, chemistry, computer science, earth and atmospheric sciences, physics, mathematics, and statistics.

Meyer Jerison Memorial Award in Analysis
Awarded by Department of Mathematics, Purdue University (2008)
Awarded annually to one undergraduate demonstrating excellence in analysis.

V. L. Anderson Scholarship Fund Award
Awarded by Department of Statistics, Purdue University (2008)
Awarded annually to one undergraduate demonstrating promise of contributing to statistics.

Glen E. Baxter Award
Awarded by Department of Mathematics, Purdue University (2008)

Awarded annually to two undergraduates demonstrating excellence in mathematics.

Edward and Antoinette Shapiro Memorial Mathematics Scholarship
Awarded by Department of Mathematics, Purdue University (2005, 2007)

Helen Clark Wight Scholarship
Awarded by Department of Mathematics, Purdue University (2006)

Certificate of Merit - Problem of the Week Series
Awarded by the Department of Mathematics, Purdue University (2005)

Indiana Resident Top Scholar Award
Awarded by Purdue University (2005)
Awarded annually to outstanding Indiana high school graduates.

Academic Success Award
Awarded by Purdue University (2005)

Jean E. Rubin Memorial Mathematics Scholarship
Awarded by Purdue University (2005)

Valedictorian Scholarship
Awarded by Purdue University (2005)