

# VITA

## **THEODORE T. ALLEN**

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### **EDUCATION**

Ph.D. 1997 **UNIVERSITY OF MICHIGAN**, Industrial and Operations Engineering.

M.S. 1992 **UNIVERSITY OF CALIFORNIA, LOS ANGELES**, Physics (Solid State).

B.A. 1991 **PRINCETON UNIVERSITY**, Engineering Physics (Honors).

### **RESEARCH INTERESTS**

Security & efficiency analytics for cyber security and social media in manufacturing, mobility, and election systems.

### **SELECTED HONORS AND SERVICE**

Chief Content Officer, The Ohio State University, Institute for Cyber Security & Digital Trust 2019-present

2019 Chung Yuan Management Review Best Paper Prize

Selected in 2019 for INFORMS featured podcast and blogging on behalf of INFORMS for the 2019 Annual Conference

2018 Lumely Research Award, The Ohio State University College of Engineering

Faculty Advisor the Ohio State University Big Data Analytics Association (2018-present)

2017-2019 President of the INFORMS Social Media Analytics Section

President factSpread.org an Ohio-Based Non-Profit

Member, The Ohio Cyber Council (OC3) and OC3 Cyber Range Subcommittee

Runner-Up 2017 INFORMS Social Media Analytics Best Student Paper Competition Co-Author

Inaugural Member of MIT Election Data and Science Lab (MEDSL)

Election waiting line access cases and/or applications in Michigan, Ohio, North Carolina, New York, and New Mexico

Editorial Board and Simulation Area Editor for Computers & Industrial Engineering (I.F.=3.6, 2017-present)

Nominated for the Dean's Award for Distinguished Outreach Achievements by the ISE Department

INFORMS Volunteer Service Award 2016

2015 Co-author on a finalist article for the INFORMS Social Media Analytics Best Student Paper Competition

Elected to The OSU Integrated Systems Engineering Departmental Chair's Advisory Committee 2015

Chair of the Departmental Prize Committee 2013, 2015, and 2016

Faculty Representative to the OSU Information Security Advisory Board Since 2016

2014-2016 Elected Treasurer of the INFORMS Public Sector OR Section

2013-2019 Associate Editor for *Quality Approaches in Education*

2013 *Quality Approaches in Education* Journal Best Paper Prize

2010-present Fellow of The *American Society of Quality* (ASQ)

2000, 2001, 2010, 2011, and 2013 "Alpha Pi Mu Outstanding Faculty Awards" (by vote of the ISE undergraduates)

"Charles E. MacQuigg Student Award for Outstanding Teaching" from The Ohio State University (OSU)

2010 NAE selected as 1 of 55 "outstanding educators" from ~200 nominated to attend the FOEE Symposium

INFORMS Prize Committee Member Overseeing Nicholson and von Neumann prizes 2013-2015

2007-2010 Chair of Lloyd S. Nelson Award Chair of the ASQ (Gives a *JQT* best paper prize)

2<sup>nd</sup> Place INFORMS Section on Public Programs, Services & Needs (2011) inaugural best paper competition

Honda Fellow 2008, Voting Related Press: CNN situations room, CNN American morning

### **BOOKS AND BOOK CHAPTERS**

Total sales of printed books and chapter or whole book downloads exceed 155,000 as of February 2019.

1. Allen, T. T. and Liu, E. (accepted in preparation). *Introduction to Machine Learning for Supply Chain Analytics Ultimate Intelligence, Python, Cyber Security, with Industrial Datasets*, Springer Verlag: New York.
2. Allen, T. T. (2019). *Introduction to Engineering Statistics and Lean Six Sigma: Statistical Quality Control and Design of Experiments and Systems*, 3<sup>rd</sup> ed., Springer Verlag: London  
([TOC Preface Sample Buy http://www.springer.com/engineering/production+eng/book/978-1-84882-999-2](http://www.springer.com/engineering/production+eng/book/978-1-84882-999-2)) 65K paid chapter downloads as of April 2018 and 52K for the 1st edition.
3. Allen, T. T. (2011). *Introduction to Discrete Event Simulation Theory with Applications: Voting Systems, Health Care, Military, and Manufacturing*, Springer Verlag: London  
(<http://www.springer.com/978-0-85729-138-7>). 35K paid chapter downloads as of April 2018.
4. Allen, T. T., Brady, J. E., and Schenk, J. (2011). Analysing Portfolios of Lean Six Sigma Projects. In *Six Sigma: Projects and Personal Experiences*, 79-94.

### **REFEREED JOURNAL PUBLICATIONS**

Publications have received over 2756 Google citations as of July 2020.

1. Dang, Y., Singh, M., and Allen, T.T. (2020). Network Mode Optimization Using Red-Black ACS at DHL Supply Chain. *INFORMS Journal of Applied Analytics*.
2. Allen, T. T., Xiong, H., and S.H. Tseng (2020). A Pareto Charting Method Using High-Level Data Applied to Welding Images. *Informatics*.
3. Allen, T. T., Taslim, C., and Tseng, S.H. (2020). Design of Experiments for Steady-State System Identification with Applications in Genetic and Business Network Modeling. *Journal of Industrial and Production Engineering*, 1-16.
4. Allen, T. T., Huang, S., Yang, M., and Hernandez, O. (2020). Method to Allocate Voting Resources with Unequal Ballots and/or Education. *MethodX*.
5. Allen, T. T., Hernandez, O., Alomair, A. (2020), Optimal Offline Experimentation for Games, *Decision Analysis*.
6. Allen, T. T., Yang, M., Huang, S., & Hernandez, O. K. (2020). Determining resource requirements for elections using indifference-zone generalized binary search. *Computers & Industrial Engineering*, 140, 106243.
7. Liu, E., Allen, T. T., & Roychowdhury, S. (2019). Cyber vulnerability maintenance policies that address the incomplete nature of inspection. *Applied Stochastic Models in Business and Industry*, 35(6), 1390-1410.
8. Hou, C., Allen, T. T., Hall, N. G., & Comuzzi, V. S. (2019). Modeling formalism and notifications in project management. *Computers & Industrial Engineering*, 131, 200-210.
9. Allen, T. T., Roychowdhury, S., & Liu, E. (2018). Reward-based Monte Carlo-Bayesian reinforcement learning for cyber preventive maintenance. *Computers & Industrial Engineering*, 126, 578-594.
10. Allen, T. T., Sui, Z., & Akbari, K. (2018). Exploratory text data analysis for quality hypothesis generation. *Quality Engineering*, 30:4, 701-12.
11. Allen, T. T., Sui, Z., & Parker, N. L. (2017). Timely decision analysis enabled by efficient social media modeling. *Decision Analysis*, 14(4), 250-260.
12. Taslim, C., Allen, T. T., Lauria, M., & Tseng, S. H. (2017). Sequential forward-inverse design for genetic network modeling. *Journal of Industrial and Production Engineering*, 34(7), 520-528.
13. Allen, T. T. and S. H. Tseng (2017). Case Study Implementation of An Intervention to Improve Instruction of Lean Six Sigma in a Statistical Quality Control Course. *Chung Yuan Management Review*.
14. Roychowdhury, S., Allen, T. T., & Allen, N. B. (2017). A Genetic Algorithm with an Earliest Due Date Encoding for Scheduling Automotive Stamping Operations. *Computers & Industrial Engineering*, 105, 201–209.
15. Mount-Campbell, A. F., Rayo, M. F., O'Brien, J.J., Allen, T.T., Patterson, E. S. (October 2016). Patient-Centered Handovers: Ethnographic Observations of Attending and Resident Physicians. *Journal of Quality Management in Healthcare*, 25(4), 225-230.
16. Afful-Dadzie, A., and Allen, T. T. (2016). Control charting methods for autocorrelated cyber vulnerability data. *Quality Engineering*, 28(3), 313-328.

17. Allen, T. T., Xiong, H., and Afful-Dadzie, A. (2016). A Directed Topic Model Applied to Call Center Improvement. *Applied Stochastic Models in Business and Industry*, 32(1), 57-73.
18. Xie, C. and T. T. Allen (2015). Simulation and Experimental Design Methods for Job Shop Scheduling with Material Handling (JSSMH): A Survey. *International Journal of Advanced Manufacturing Technology*, 1-11.
19. Tseng, S. H., & Allen, T. (2015). A Simple Approach for Multi-Fidelity Experimentation Applied to 2014 Financial Engineering. *Applied Stochastic Models in Business and Industry*, 31(5), 690-705.
20. Yang, M., Fry, M. J., Kelton, W. D., & Allen, T. T. (2014). Improving Voting Systems through Service-Operations Management. *Production and Operations Management*, 23(7), 1083-1097.
21. Afful-Dadzie, A. and T. T. Allen (2014). Data-Driven Cyber Vulnerability Maintenance Policies. *Journal of Quality Technology*, 26 (3), 1-17.
22. Ferhatosmanoglu, N., T. T. Allen, and U. Catalyrek (2014). Mitigating Bias in Planning Two-Color Microarray Experiments. *Int. J. of Data Mining and Bioinformatics*.
23. Allen, T. T., S. Artis, A. Afful-Dadzie, and Y. Allam (2013). Case Study Application of Blended Learning for an Engineering Simulation Course. *Quality Approaches in Higher Education*, 4(1), 1322. (<http://rube.asq.org/edu/2013/07/best-practices/case-study-application-of-blended-learning-in-an-engineering-simulation-course.pdf>, Winner 2013 Best Paper Prize)
24. Yang, M., T. T. Allen, M. Fry, and D. Kelton (2013). The Call for Equity: Simulation-Optimization Models to Minimize the Range of Waiting Times. *IIE Transactions*, 45, 1–15.
25. Huang, D., Allen, T. T., Notz, W. I., & Zheng, N. (2012). Erratum to: Global optimization of stochastic black-box systems via sequential kriging meta-models. *Journal of Global Optimization*, 54(2), 431-431.
26. Allen, T. T. and H. Xiong (2012). Pareto charting using multifield freestyle text data applied to Toyota Camry user reviews. *Applied Stochastic Models in Business and Industry*, 28 (2), 152-163.
27. Allen, T. T. and R. Rajagopalan (2011). A Bayesian plotting method for fractional factorial data analysis. *Journal of Quality Technology*, 43, 3, 224-235.
28. Allen, T. T. and S. Tseng (2011). Variance Plus Bias Optimal Response Surface Designs With Qualitative Factors Applied to STEM Choice Modeling. *Quality and Reliability Engineering International*, 27.
29. Allen, T. T., S. Tseng, K. S., M. A. Megimose-McClay (2010). Improving the Hospital Discharge Process with Six Sigma Methods. *Quality Engineering*, 22, 1-8 (<http://www.asq.org/pub/qe/2010/vol22-no1/>).
30. Ferhatosmanoglu, N., T. T. Allen, and G. Canahuat (2009). Vector Space Search Engines That Maximise Expected User Utility. *International Journal of Mathematics in Operational Research*, 1(3), 279 – 302 (<http://www.cse.ohio-state.edu/~canahuat/publications/ijmor.pdf>).
31. Allen, T. T., N. Chantararat, and C. Taslim (2009). Fractional Factorials that Maximize the Probability of Identifying Important Factors. *International Journal of Industrial and Systems Engineering*, 4 (2), 133-150. (<http://www.inderscience.com/browse/index.php?journalID=188&year=2009&vol=4&issue=2>).
32. Huang, D., T. T. Allen, W. Notz, R. A. Miller (2006). Sequential Kriging Optimization Using Variable Fidelity Data. *Structural & Multidisciplinary Optimization*, 32 (5) 369-382 (<http://www.springerlink.com/content/74033v631215r491/>).
33. Brady, J. E. and T. T. Allen (2006). Six Sigma: A Literature Review and Suggestions for Future Research” *Quality and Reliability Engineering International*, 22 (3), 335-367. (<http://www3.interscience.wiley.com/cgi-bin/fulltext/112587939/PDFSTART>).
34. Huang, D., T. T. Allen, W. Notz, and N. Zheng (2006). Global Optimization of Stochastic Black-Box Systems via Sequential Kriging Meta-Models. *The Journal of Global Optimization*, 34 (3), 427-440 (<http://www.springerlink.com/content/w8654353647525vx/>).
35. Chantararat, N., T. T. Allen, N. Ferhatosmanoglu, and M. Bernshiteyn (2006). A Combined Array Approach to Minimize Expected Prediction Errors in Experimentation Involving Mixture and Process Variables. *The International Journal of Industrial and Systems Engineering*, 1, 129-147 (<http://www.inderscience.com/storage/f210811354121679.pdf>).
36. Huang, D. and T. Allen (2005). Design and Analysis of Variable Fidelity Experimentation Applied to Engine Valve Heat Treatment Process Design. *Journal of the Royal Statistical Society: Series C*, 54, 2, 1-21 (<http://www3.interscience.wiley.com/cgi-bin/fulltext/118689819/PDFSTART>).
37. Allen, T. T., and K. Maybin (2004). Using Focus Group Data to Set New Product Prices. *Journal of Product and Brand Management*, 13, 1, 15-24. (<http://www.emeraldinsight.com/Insight/ViewContentServlet?contentType=Article&Filename=/published/emeraldfulltextarticle/pdf/0960130102.pdf>).

38. Allen, T. T., Bernshteyn, M., L. Yu, and K. Kabiri (2003). A Comparison of Alternative Methods for Constructing Meta-Models for Computer Experiments. *The Journal of Quality Technology*, 35 (3), 1-17 ([http://www.asq.org/data/subscriptions/jqt\\_open/2003/july/qtec-35-3-264.pdf](http://www.asq.org/data/subscriptions/jqt_open/2003/july/qtec-35-3-264.pdf)).
39. Ribardo C. and Allen, T. T. (2003). An Alternative Desirability Function for Achieving 'Six Sigma' Quality. *Quality and Reliability Engineering International*, 19, 227-240. (<http://www3.interscience.wiley.com/cgi-bin/fulltext/102530334/PDFSTART>).
40. Allen, T. T., L. Yu, J. Schmitz (2003). The Expected Integrated Mean Squared Error Experimental Design Criterion Applied to Die Casting Machine Design. *Journal of the Royal Statistical Society: Series C*, 52, 1, 1-15 (<http://www3.interscience.wiley.com/cgi-bin/fulltext/118874160/PDFSTART>).
41. Allen, T. T. and M. Bernshteyn (2003). Supersaturated Designs that Maximize the Probability of Finding the Active Factors. *Technometrics*, 45 (1), 1-8. (<http://pubs.amstat.org/doi/abs/10.1198/004017002188618734>).
42. Brady, J. E. and T. T. Allen (2002). Case Study Based Instruction of SPC and DOE. *The American Statistician*, 56, 4, 1-4 (<http://pubs.amstat.org/doi/pdf/10.1198/000313002614>).
43. Allen, T. T., R. W. Richardson, D. Tagliabue, and G. Maul (2002). Statistical Process Design for Robotic GMA Welding of Sheet Metal. *The Welding Journal*, 81, 5, 69s-77s (<http://files.aws.org/wj/supplement/05-2002-ALLEN-s.pdf>).
44. Allen, T. T., and L. Yu (2002). Low Cost Response Surface Methods From Simulation Optimization. *Quality and Reliability Engineering International*, 18, 1, 5-17. (<http://www3.interscience.wiley.com/cgi-bin/fulltext/91016170/PDFSTART>).
45. Allen, T. T., W. Ittiwattana, R. W. Richardson, and G. Maul (2001). A Method for Robust Process Design Based on Direct Minimization of Expected Loss Applied to Arc Welding. *The Journal of Manufacturing Systems*, 20, 5, 329-348 (<http://www-iwse.eng.ohiostate.edu/ISEFaculty/allen/AllenIttiwattanaRichardsonMaul2001.pdf>).
46. Allen, T. T., L. Yu, and M. Bernshteyn (2000). Low Cost Response Surface Methods Applied to the Design of Plastic Snap Fits. *Quality Engineering*, 12, 583-591. (<http://www.informaworld.com/smpp/content~db=all~content=a779115291>).
47. Koc M., Allen T. T., Jiratheranat S., and Altan, T. T. (2000). The use of FEM and experimental design to investigate tube hydroforming of a simple geometry. *The International Journal of Machine Tools and Manufacture*, 40, 2249-2266 ([http://journals.ohiolink.edu/ejc/pdf.cgi/Ko\\_Muammer.pdf?issn=08906955&issue=v40i0015&article=2249\\_tuofaddgfshp](http://journals.ohiolink.edu/ejc/pdf.cgi/Ko_Muammer.pdf?issn=08906955&issue=v40i0015&article=2249_tuofaddgfshp)).
48. Allen, T. T., P. Afshari, K. Kabiri, and G. Herrin (1999). Robust Engineering Using Numerical Methods: Application to the Design of D-Shaped Shafts. SAE Technical Paper # 98PC-229, 1999 *Society of Automotive Engineers Journal* (<http://papers.sae.org/980295>).

#### **CONFERENCE PUBLICATIONS (REFEREED EXCEPT AS NOTED)**

1. Hernandez OK, San Miguel CE, Militello L, Sushereba C, Wolf S, Lu M, Allen TT, Bahner D, Amin S, Mansour L, Chirumamilla V, Patterson ES. In *Proceedings of the International Symposium on Human Factors and Ergonomics in Health Care 2020* Sept 9(1):51-55. Los Angeles, CA: SAGE Publications.
2. Allen TT, Hernandez OK, Roychowdhury S, Patterson ES. Practical optimal scheduling for surgery. In *Proceedings of the International Symposium on Human Factors and Ergonomics in Health Care 2020* Sept 9(1):105-109. Los Angeles, CA: SAGE Publications.
3. Patterson, E. S., Hansen, C. J., Allen, T. T., Yang, Q., & Moffatt-Bruce, S. D. (2019, September). Predicting Mortality with Applied Machine Learning: Can We Get There?. In *Proceedings of the International Symposium on Human Factors and Ergonomics in Health Care* (Vol. 8, No. 1, pp. 115-119). Sage CA: Los Angeles, CA: SAGE Publications.
4. Liu, E. and Allen, T. T. (2019). A Twitter-Based Cyber Security Warning and Prioritization System, *INFORMS Social Media Analytics Best Student Paper Competition* (won runner up).
5. Allen, T. T., Murali, A. K., and Liu, E. (2019). Discrete Event Simulation of Cyber Maintenance Policies According to Nested Birth and Death Policies, In *Proceedings of the 2019 Winter Simulation Conference*. N. Mustafee, K.-H.G. Bae, S. Lazarova-Molnar, M. Rabe, C. Szabo, P. Haas, and Y.-J. Son, eds., IEEE.

6. Allen, T. T. and E. Liu (2018). Forecasting Cyber Maintenance Costs with Improved Scan Analytics. *Winter Simulation Conference* (10.1109/WSC.2018.8632354).
7. Sui, Z. and T. T. Allen (2017). Allen, T. T. and Z. Sui (under review). Exploratory Text Data Analysis. runner up in the *INFORMS Social Media Analytics Best Student Paper Competition*.
8. Sui, Z., D. Milam, and T. T. Allen (2015). A Visual Monitoring Technique Based on Importance Score and Twitter Feeds. finalist in the *INFORMS Social Media Analytics Best Student Paper Competition*.
9. Reisenhel, P. H. and T. T. Allen (2014). Application of Multifidelity Expected Improvement Algorithms to Aeroelastic Design Optimization. *10<sup>th</sup> AIAA Multidisciplinary Design Optimization Conference*, AIAA SciTech, 13-17 January, National Harbor, Maryland.
10. Allen, T.T. and S.H. Tseng (2013). A Magic Number versus Trickle Down Agent-Based Model of Tax Policy. *Proceedings of the 2013 Winter Simulation Conference*, R. Pasupathy, S.-H. Kim, A. Tolk, R. Hill, and M. E. Kuhl, eds. (<http://informs-sim.org/wsc13papers/includes/files/123.pdf>)
11. Li, J., T. T. Allen, and K. Akab (2013). Could Simulation Optimization Have Prevented 2012 Central Florida Election Lines. *Proceedings of the 2013 Winter Simulation Conference*, R. Pasupathy, S.-H. Kim, A. Tolk, R. Hill, and M. E. Kuhl, eds. (<http://informs-sim.org/wsc13papers/includes/files/183.pdf>)
12. Afful-Dadzie, A. and T. T. Allen (2013). Sufficiency Model-Action Clarification for Simulation Optimization Applied to an Election System. *Proceedings of the 2013 Winter Simulation Conference*, R. Pasupathy, S.-H. Kim, A. Tolk, R. Hill, and M. E. Kuhl, eds. (<http://informssim.org/wsc13papers/includes/files/094.pdf>)
13. Afful-Dadzie, A. and T. T. Allen (2013). Optimal Traditional Versus Online Instructional Method Selection. *ASEE Midwest Regional Conference*, R. Gustafson ed., Columbus, Ohio.
14. Allen, T. T., S. M. Vinson, A. Raqab, and Y. Allam (2013). Using SMERT to Identify Actionable Topics in Student Feedback. *ASEE Midwest Regional Conference*, R. Gustafson ed., Columbus, Ohio.
15. Xie, C., T. T. Allen, and A. Raqab (2013). Using Staged Control Charts for Educational Assessment. *ASEE Midwest Regional Conference*, R. Gustafson ed., Columbus, Ohio.
16. Allen, T. T. and D. N. Vuckovich (2010). An Open-Source Population Indifference Zone-Based Algorithm for Simulation Optimization. *Proceedings of the 2010 Winter Simulation Conference*, B. Johansson, S. Jain, J. Montoya-Torres, J. Hagan, and E. Yücesan, eds (<http://www.informssim.org/wsc10papers/021.pdf>).
17. Davis, N. and T. T. Allen (2010). A Simple Agent-Based Social Impact Theory Model of Student STEM Selection. *Proceedings of the 2010 Winter Simulation Conference*, B. Johansson, S. Jain, J. Montoya-Torres, J. Hagan, and E. Yücesan, eds (<http://www.informs-sim.org/wsc10papers/024.pdf>).
18. Zheng N, Allen TT, Patterson ES, Woods DD, Ferhatosmanoglu N. (2007). Diversity Search Techniques to Broaden Exploration of Alternative Explanations in Information Analysis. *Proceedings of the Naturalistic Decision Making Conference*. (May 2007): 52-58.
19. Zheng, N., T. T. Allen, and W. Ittiwattana (2007). Subset Selection and Optimization and For Selecting Binomial Systems Applied to Supersaturated Design Generation. *Proceedings of the 2007 Winter Simulation Conference*, Russell Barton editor (<http://www.informs-sim.org/wsc07papers/039.pdf>).
20. Schenk, J. R., N. Zheng, and T. T. Allen (2005). Multiple Fidelity Simulation Optimization of Hospital Performance Under High Consequence Event Scenarios. *Proceedings of the 2005 Winter Simulation Conference*, M. E. Kuhl, N. M. Steiger, F. B. Armstrong, and J. A. Joines, eds (<http://www.informssim.org/wsc05papers/110.pdf>).
21. Menke, J., N. Chantarat, D. Farson, T. T. Allen (2005). Statistical and numerical analysis for optimization of aluminum tube welding. *Trends in Welding Research Conference*, Pine Mountain GA, April 2005.
22. Allen, T. T., N. Zheng, N. Chantarat, M. Bernshteyn (2004). New Practical Objectives, Solution Methods, and Fractional Factorials. ASQ Fall Technical Conference, Roanoke Virginia.
23. Chantarat, N., N. Zheng, T. T. Allen, and D. Huang (2003). Optimal Experimental Design for Systems Involving Both Quantitative and Qualitative Factors. *Proceedings of the Winter Simulation Conference*, R. D. M. Ferrin and P. Sanchez (<http://www.informs-sim.org/wsc03papers/069.pdf>).
24. Ribardo, C. and T. Allen (2001). An Alternative Desirability Function for Achieving "Six Sigma" 2001 Quality. *Web Proceeding Quality, Reliability and Statistics Section for INFORMS Miami* ([www.personal.engin.umich.edu/~shihang/informs\\_qsr/](http://www.personal.engin.umich.edu/~shihang/informs_qsr/)).

25. Allen, T. T. and L. Yu (2000). Low Cost Response Surface Methods For and From Simulation Optimization. *Proceedings of the Winter Simulation Conference*, R. Barton and J. Joines editors (<http://www.informs-sim.org/wsc00papers/093.PDF>).
26. Allen, T. T., W. Ittiwattanna, and M. Bernshteyn (2000). A Method for Robust Machine Design Applied to Arc-Welding. *Third International Symposium on Tools and Methods of Competitive Engineering*, April 18-21, Delft, Netherlands.
27. Richardson, R. W., T. T. Allen, D.P. Tagliabue, G. Maul (2000). Statistical Process Design for Robotic Gas Metal Arc Welding of Sheet Metal. *Tenth International Conference: Computer Technology in Welding and Manufacturing*, Copenhagen, Denmark, June 6-7 (not refereed).
28. Ribardo, C., Allen, T. T., Richardson, R., and Yapp, D. (2000). Desirability Functions for Comparing Arc Welding Parameter Optimization Methods and For Addressing Process Variability Under Six Sigma Assumptions. *Proceedings of the 2000 International Conference on Advances in Welding Technology*, Orlando, FL, 12/00 (not refereed).
29. Allen, T. T., R. W. Richardson, D. P. Tagliabue, and G. Maul (2000). Statistical Process Design for Robotic GMAW of Sheet Metal. *Proceedings of the 2000 International Conference on Advances in Welding Technology*, Orlando, FL, 12/00 (not refereed).
30. Allen, T. T. and L. Yu. Low Cost Experimental Methods Applied to Aerospace Related Design. *Proceedings of the 3<sup>rd</sup> Annual World Congress on Multidisciplinary Optimization*, Niagara Falls/Amherst, New York, May 15-21, 1999.
31. Maul, G., T. T. Allen, and Richard Richardson. Arc Welding Process Optimization. *IEMS 98 International Conference*, Cocoa Beach, Florida.
32. Allen, T. T., Afshari, P. Kabiri, K., and Herrin, G. (1998). Robust Engineering Using Numerical Methods: Application to the Design of D-Shaped Shafts. SAE Technical Paper #98PC-229, 1998 SAE International Congress, Cobo Center, Detroit.

#### **TECHNICAL REPORTS**

1. Allen, T. T. and M. Bernshteyn (2008). Helping Franklin County Vote in 2008: Waiting Lines. Report to the Franklin County Board of Elections. <http://vote.franklincountyohio.gov/assets/pdf/press-releases/PR07302008.pdf>.
2. Allen, T. T. and M. Bernshteyn (2006). Optimal Voting Machine Analysis. in DRE Analysis for May Primary, Steven Hertzberg ed., Cuyahoga County, Technical Report, Election Science Institute ([http://www.sagata.com/resources/ESI\\_Cuyahoga\\_Final.pdf](http://www.sagata.com/resources/ESI_Cuyahoga_Final.pdf)).
3. Allen, T. T., S. Hertzberg, T. Warren (2006). Election System Functional Threat Analysis. in DRE Analysis for May 2006 Primary, Steven Hertzberg ed., Cuyahoga County, Technical Report, Election Science Institute.
4. Kinney, P., D. Farson, and T. T. Allen (2004). Optimization of an Innovative Hybrid Welding Process for Structural Fabrication. SME Technical Paper, Product ID: TP04PUB257.
5. Allen, T. T. (2003), *Introduction to Business Statistics and Six Sigma*, produced by Greyden Press, ISBN 0-9745912-0-3 (effectively a self-published book).
6. Ribardo, C., T. T. Allen, R. Richardson, and D. Yapp (2001). A Comparison of Arc Welding Parameter Optimization Methods. *Edison Welding Institute Technical Report*.
7. Allen, T. T., C. Ribardo, R. Richardson, and D. Yapp (2001). A desirability function for addressing process variability under six sigma assumptions. *Edison Welding Institute Technical Report*.
8. Allen, T. T. and Liyang Yu. The Odor Report. Submitted 1/20/98 to Visteon Corporation.
9. Allen, T. T., D. Tagliabue, R. Richardson, G. Maul (1999). A Statistical Process Design Procedure for the Arc Welding of Sheet Metal. *Edison Welding Institute Technical Report*.
10. Allen, T. T. and Mike Bernshteyn. New Experimental Methods Applied HVAC Case Joining. Submitted 1998 3/30/98 to Visteon Corporation.

#### **SELECTED MANUSCRIPTS IN THE REVIEW PROCESS**

1. Wang L., Allen T.T., Groeber M (under review). Tabu Efficient Global Optimizations with Applications in Additive Manufacturing. *Structural & Multidisciplinary Optimization*.

2. Dang, Y., Allen, T.T., and M. Singh (under review). Rich vehicle routing problem with last-mile outsourcing decisions. *IJOC*.
3. Yang, Q., Allen, T.T., Agrawal, G., Ramnath, R. (under review or near). Combining Markov Decision Processes with Decision Trees for Semi-Automatic State Identification Applied to Cyber Maintenance. *Computers & Industrial Engineering*.
4. Allen, T. T., Lawson, J., Mulh, B. and A. Balkin (under revision). A Diagrammatic Method for Content Analysis Based Technology Evaluation.
5. Tseng, S.-H., T. S. Nguyen, and T. T. Allen (2020). A Social Impact, Susceptible, Infectious, Recovered Model for Rumor Propagation in Social Networks. Proceedings of the 2020 Winter Simulation Conference K.-H. Bae, B. Feng, S. Kim, S. Lazarova-Molnar, Z. Zheng, T. Roeder, and R. Thiesing, eds..

### **MAGAZINE, NEWSPAPER, OR OTHER PUBLICATIONS**

1. Allen, T. T. (2019). Faster Learning Control Schemes Can Help to Economically Address Cybersecurity, *Science Trends* (<https://sciencetrends.com/faster-learning-control-schemes-can-help-to-address-cybersecurity-economically/>).
2. Allen, T. T. (2019). Call for Submission to factSpread Journal or Policy Information Dissemination. *Policy Information Dissemination*, 1, 1-3.
3. Allen, T. T. (2019). Relating Voter Turnout with Knowledge and Attitudes: Analysis of 16 Surveys From Ask Your Target Market. *Policy Information Dissemination*, 1, 5-16.
4. Allen, T. T. (2018). Final Five with Theodore T. Allen. *ISE Magazine*, IISE Society, 49 (2), 66. Hernandez, O., T. T. Allen, and D. Samuelson (2017). Wargames Illuminate Cyber Threat Discovery. *ORMS Today* (<https://www.informs.org/ORMS-Today/Private-Articles/August-Volume-44-Number4/Wargames-Illuminate-Cyber-Threat-Discovery>).
5. Allen, T. T. (2013), Delving into the reasons for long lines can bring solutions, Orlando Sentinel, January 8, [http://articles.orlandosentinel.com/2013-01-08/news/os-ed-long-lines-voting-florida-01081320130107\\_1\\_long-lines-ballot-length-turnout](http://articles.orlandosentinel.com/2013-01-08/news/os-ed-long-lines-voting-florida-01081320130107_1_long-lines-ballot-length-turnout).
6. Samuelson, D. A., T. T. Allen, and M. Bernshteyn (2007). The Right Not to Wait. *ORMS Today*, December (<http://www.lionhrtpub.com/orms/orms-12-07/voting.html>).
7. Allen, T.T. and M. Bernshteyn (2006). Mitigating Voter Wait Times. *Chance Magazine, The American Statistical Association*, Autumn (<http://www.amstat.org/publications/chance/articleIndex.cfm>).
8. Allen, T. T., M. Bernshteyn, and D. A. Samuelson (2006), Voting Queues Present Complicated 2006 Problems, Letters to the Editor, *OR/MS Today* (<http://www.lionhrtpub.com/orms/orms-8-06/letters.html>, August).

### **WORK EXPERIENCE**

21 years of academic work experience

**THE OHIO STATE UNIVERSITY**, Integrated Systems Engineering, Columbus, OH.

03-present	Associate Professor with tenure
8/97-03	Assistant Professor (tenure track)
8/96-8/97	Instructor

**FORD MOTOR COMPANY**, Climate Control Operations (CCO), Advanced Engineering, Dearborn, MI.

5/95 -	• Optimized with experimental design the AC blower wheel imbalance to limit case vibrations,
10/96	• Optimized with experimental design, real-world and FEM testing snap tabs for AC case joining, • Optimized with experimental design, real-world and FEM testing the tongue and groove seal,
	• Correlated AC system performance, customer satisfaction, and warranty.

**FORD MOTOR COMPANY**, Corporate Quality, Reliability & AQP, Dearborn, MI.

5/94 -	• Coordinated a team of engineers developing the ideal air handling case-joining strategy for all vehicles.
5/95	• Responsibilities included finite element analysis (FEA) design, rapid prototyping, and incorporation into prototype injection molds, also, GD&T, budgeting (\$215K), modeling & analysis.

- 8/93 **THE UNIVERSITY OF MICHIGAN**, Department of Industrial and Operations Engineering.  
Teaching Assistant: Statistical Quality Control (IOE 466), Design of Experiments (IOE 465).
- CHRYSLER CORPORATION**, Problem Identification and Resolution, Highland Park, MI.
- 8/94 - • Led student team (under Professors Nair and Wu) in postmortem analysis of quality/corporate problems.  
6/95 • Used time series methods to demonstrate the dependence of warranty data on supplier SPC data.
- EMERSON ELECTRIC CO.**, Fusite Division, 6000 Fernview, Cincinnati, OH.
- 6-8/93 Used DOE techniques to fix an adhesion problem in a critical injection molding process.

### TEACHING EXPERIENCE

6 Teaching Awards (student selection) as of March 2016

#### Courses Developed and Taught at The Ohio State University

- Undergraduate: Statistical Modeling, Queuing, and Lean Production (INDENG 513) - the mathematical framework of simulation and queuing in the context of recent developments in lean manufacturing.
- Statistical Quality Control and Quality Management Systems (INDENG 509 & ISE 4120) - statistical quality control, ISO9000, and the 6 sigma process for quality improvement.
- Capstone Design (ISE 4900) - industrial projects for senior students in teams of 2 to try to use industrial and systems engineering techniques to help clients
- Undergraduate and Graduate: Design of Engineering Experiments (INDENG 610) - statistical planning of engineering experiments, including Taguchi methods and their role in the engineering design process.
- Graduate: Statistical Quality Control and Quality Management Systems (INDENG 709) - statistical quality control, ISO9000, and the 6 $\sigma$  process for quality improvement.
- Simulation for System Analytics and Decision-Making (ISE 6300) – basic discrete event simulation methods including VBA, ARENA, SIMIO, and SIMUL8 together with variation reduction techniques and simulation optimization methods
- Empirical Model Building in Industrial Engineering (INDENG 700) – utility theory and simulation optimization for system design and optimal data collection to support these activities

### ACADEMIC ADVISING: THE OHIO STATE UNIVERSITY

Chaired 19 Ph.D. Committees; Co-Chaired 2 Ph.D. Committees, 100+ student publications (with duplicates)

### Graduated Doctoral Students

1. Zhenhuan Sui (2017). Hierarchical Text Topic Modeling with Applications in Social Media-Enabled Cyber Maintenance Decision Analysis and Quality Hypothesis Generation.”  
Allen, T. T., Sui, Z., & Parker, N. L. (2017). Timely decision analysis enabled by efficient social media modeling. *Decision Analysis*, 14(4), 250-260.  
Allen, T. T. and Z. Sui (under second review). Exploratory Text Data Analysis. *Quality Engineering*.  
Sui, Z. and T. T. Allen (2017). Allen, T. T. and Z. Sui (under review). Exploratory Text Data Analysis. Runner up in the *INFORMS Social Media Analytics Best Student Paper Competition*.
- Sui, Z., D. Milam, and T. T. Allen (2015). A Visual Monitoring Technique Based on Importance Score and Twitter Feeds. finalist in the *INFORMS Social Media Analytics Best Student Paper Competition*.
2. Sayak Roychowdhury (2017). Data-Driven Policies for Manufacturing Systems and Cyber Vulnerability Maintenance.  
Allen, T. T., and Chowdhury, R. (under review). Fast Bayesian Reinforcement Learning for Cyber Maintenance. *Computers & Industrial Engineering*.
- Roychowdhury, S., Allen, T. T., & Allen, N. B. (2017). A genetic algorithm with an earliest due date encoding for scheduling automotive stamping operations. *Computers & Industrial Engineering*, 105, 201-209.
3. Shijie, Huang (2016). Waiting Lines and System Selection in Constrained Service Systems with Applications in Election Resource Allocation.



- Allen, T. T. S. Huang, and Yang, M. (under review). Determining Resource Requirements for Elections Using Ranking and Selection Methods. *EJOR*.
4. Chengjun Hou (2015). Dynamic Programming for Parametric Uncertainty with Applications in Project Management and Cyber Security.
  5. Xie, Chen (2014). Dynamic Approximate Empirical Reward Processes.
- Xie, C., & Allen, T. T. (2015). Simulation and experimental design methods for job shop scheduling with material handling: a survey. *The International Journal of Advanced Manufacturing Technology*, 80(1-4), 233-243.
6. Afful-Dadzie, Anthony (2012). Robust Optimal Maintenance Policies and Charts for Cyber Vulnerability Management.
- Afful-Dadzie, A., & Allen, T. T. (2014). Data-driven cyber-vulnerability maintenance policies. *Journal of Quality Technology*, 46(3), 234-250.
- Afful-Dadzie, A., Afful-Dadzie, E., Nabareseh, S., & Komínková Oplatková, Z. (2014). Tracking progress of African Peer Review Mechanism (APRM) using fuzzy comprehensive evaluation method. *Kybernetes*, 43(8), 1193-1208.
- Afful-Dadzie, E., Nabareseh, S., Afful-Dadzie, A., & Oplatková, Z. K. (2015). A fuzzy TOPSIS framework for selecting fragile states for support facility. *Quality & Quantity*, 49(5), 1835-1855.
- Afful-Dadzie, E., & Afful-Dadzie, A. (2016). A decision making model for selecting start-up businesses in a government venture capital scheme. *Management Decision*, 54(3), 714-734.
- Afful-Dadzie, A., Afful-Dadzie, E., & Turkson, C. (2016). A TOPSIS extension framework for re-conceptualizing sustainability measurement. *Kybernetes*, 45(1), 70-86.
- Afful-Dadzie, E., Afful-Dadzie, A., & Oplatková, Z. K. (2014). Measuring progress of the millennium development goals: A fuzzy comprehensive evaluation approach. *Applied artificial intelligence*, 28(1), 1-15.
- Afful-Dadzie, A., Afful-Dadzie, E., Awudu, I., & Banuro, J. K. (2017). Power generation capacity planning under budget constraint in developing countries. *Applied energy*, 188, 71-82.
- Afful-Dadzie, A., & Allen, T. T. (2016). Control charting methods for autocorrelated cyber vulnerability data. *Quality Engineering*, 28(3), 313-328.
- Afful-Dadzie, E., & Afful-Dadzie, A. (2017). Open Government Data in Africa: A preference elicitation analysis of media practitioners. *Government Information Quarterly*, 34(2), 244-255.
- Allen, T. T., Xiong, H., & Afful-Dadzie, A. (2016). A directed topic model applied to call center improvement. *Applied Stochastic Models in Business and Industry*, 32(1), 57-73.
- Ohene-Asare, K., Turkson, C., & Afful-Dadzie, A. (2017). Multinational operation, ownership and efficiency differences in the international oil industry. *Energy Economics*, 68, 303-312.
- Afful-Dadzie, A., Allen, T. T., Raqab, A., & Li, J. (2013, December). Sufficiency model-action clarification for simulation optimization applied to an election system. In *Proceedings of the 2013 Winter Simulation Conference: Simulation: Making Decisions in a Complex World* (pp. 1079-1088). IEEE Press.
- Allen, T. T., Artis, S., Afful-Dadzie, A., & Allam, Y. (2013). Case Study Application of Blended Learning for an Engineering Simulation Course. *Quality Approaches in Higher Education*, 4(1), 13-22.
- Afful-Dadzie, E., & Afful-Dadzie, A. (2017). Liberation of public data: Exploring central themes in open government data and freedom of information research. *International Journal of Information Management*, 37(6), 664-672.
- Afful-Dadzie, E., Afful-Dadzie, A., & Oplatkova, Z. K. (2017). Assessing Commercial Viability of Technology Start-up Businesses in a Government Venture Capital under Intuitionistic Fuzzy Environment. *International Journal of Fuzzy Systems*, 19(2), 400-413.
- Afful-Dadzie, E., Nabareseh, S., Afful-Dadzie, A., & Oplatková, Z. K. (2015). Erratum to: A fuzzy TOPSIS framework for selecting fragile states for support facility. *Quality & Quantity*, 49(5), 1857-1857.
- Afful-Dadzie, A., & Turkson, C. (2014). Economic sustainability in the Ghanaian Banking Sector: An application of TOPSIS for bank performance ranking. In *2nd UGBS Conference on Business and Development 2014 Conference Proceedings* (p. 169).
- Afful-Dadzie, A., & Allen, T. T. (2013, November). Optimal Traditional Versus Online Instructional Method Selection. In *ASEE North Central Section Conference 2013*.
- Afful-Dadzie, A., & Afful-Dadzie, E. Multi-Criteria Decision Making: The Case of Large and Distinct Decision Makers.
7. Soo Ho Lee (2012). Comparison and Application of Probabilistic Clustering Methods for System Improvement Prioritization.

8. Hui (Paul) Xiong (2011). Combining Subject Expert Experimental Data with Standard Data in Bayesian Mixture Modeling.
- Allen, T. T., & Xiong, H. (2012). Pareto charting using multifield freestyle text data applied to Toyota Camry user reviews. *Applied Stochastic Models in Business and Industry*, 28(2), 152-163.
- Allen, T. T., Xiong, H., & Afful-Dadzie, A. (2016). A directed topic model applied to call center improvement. *Applied Stochastic Models in Business and Industry*, 32(1), 57-73.
9. Rajagopalan, Ravishankar (2009). Response-Probability Model Analysis Plots with Applications In Engineering and Clinical Research.
- Allen, T. T., & Rajagopalan, R. (2011). A Bayesian plotting method for fractional factorial data analysis. *Journal of Quality Technology*, 43(3), 224-236.
10. Taslim, Cenny (2008). Multi-State Experimental Planning and Analysis For Forward-Inverse Regression Applied to Genetic Network Modeling.
- Bailey, T., Krajewski, P., Ladunga, I., Lefebvre, C., Li, Q., Liu, T., ... & Zhang, J. (2013). Practical guidelines for the comprehensive analysis of ChIP-seq data. *PLoS computational biology*, 9(11), e1003326.
- Taslim, C., Wu, J., Yan, P., Singer, G., Parvin, J., Huang, T., ... & Huang, K. (2009). Comparative study on ChIP-seq data: normalization and binding pattern characterization. *Bioinformatics*, 25(18), 2334-2340.
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- Taslim, C., Huang, T., & Lin, S. (2011). DIME: R-package for identifying differential ChIP-seq based on an ensemble of mixture models. *Bioinformatics*, 27(11), 1569-1570.
- Shapiro, J. P., Biswas, S., Merchant, A. S., Satoskar, A., Taslim, C., Lin, S., ... & Freitas, M. A. (2012). A quantitative proteomic workflow for characterization of frozen clinical biopsies: laser capture microdissection coupled with label-free mass spectrometry. *Journal of proteomics*, 77, 433-440.
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- Song, M. A., Brasky, T. M., Marian, C., Weng, D. Y., Taslim, C., Dumitrescu, R. G., ... & Shields, P. G. (2015). Racial differences in genome-wide methylation profiling and gene expression in breast tissues from healthy women. *Epigenetics*, 10(12), 1177-1187.
- Johnson, K. M., Taslim, C., Saund, R. S., & Lessnick, S. L. (2017). Identification of two types of GGAA-microsatellites and their roles in EWS/FLI binding and gene regulation in Ewing sarcoma. *PloS one*, 12(11), e0186275.
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- Allen, T. T., Chantarat, N., & Taslim, C. (2009). Fractional factorial designs that maximise the probability of identifying the important factors. *International Journal of Industrial and Systems Engineering*, 4(2), 133-150.
- Taslim, C., Lin, S., Huang, K., & Huang, T. H. M. (2012). Integrative genome-wide chromatin signature analysis using finite mixture models. *BMC genomics*, 13(6), S3.
- Taslim, C., Weng, D. Y., Brasky, T. M., Dumitrescu, R. G., Huang, K., Kallakury, B. V., ... & Schneider, S. S. (2016). Discovery and replication of microRNAs for breast cancer risk using genome-wide profiling. *Oncotarget*, 7(52), 86457.
- Park, J., Taslim, C., & Lin, S. (2015). BOG: R-package for bacterium and virus analysis of orthologous groups. *Computational and structural biotechnology journal*, 13, 366-369.
- Song, M. A., Brasky, T. M., Marian, C., Weng, D. Y., Taslim, C., Llanos, A. A., ... & Kallakury, B. V. (2016). Genetic variation in one-carbon metabolism in relation to genome-wide DNA methylation in breast tissue from healthy women. *Carcinogenesis*, 37(5), 471-480.
- Weng, D. Y., Chen, J., Taslim, C., Hsu, P. C., Marian, C., David, S. P., ... & Shields, P. G. (2016). Persistent alterations of gene expression profiling of human peripheral blood mononuclear cells from smokers. *Molecular carcinogenesis*, 55(10), 1424-1437.
- Taslim, C., & Lin, S. (2014). A mixture modeling framework for differential analysis of high-throughput data. *Computational and mathematical methods in medicine*, 2014.

- Taslim, C., Lin, S., Huang, K., & Huang, T. (2011, December). Chromatin signature analysis and prediction of genome-wide novel promoters using finite mixture model. In *Genomic Signal Processing and Statistics (GENSIPS), 2011 IEEE International Workshop on* (pp. 13-16). IEEE.
- Johnson, K. M., Mahler, N. R., Saund, R. S., Theisen, E. R., Taslim, C., Callender, N. W., ... & Lessnick, S. L. (2017). Role for the EWS domain of EWS/FLI in binding GGAA-microsatellites required for Ewing sarcoma anchorage independent growth. *Proceedings of the National Academy of Sciences*, 114(37), 9870-9875.
- Taslim, C., & Taslim, M. C. Package 'DIME'.
- Johnson, K. M., Taslim, C., & Lessnick, S. L. (2017). EWS/FLI regulates transcriptional activation via length-dependent GGAA microsatellites.
- Siddiqui, H., Selich-Anderson, J., Felgenhauer, J., Fitch, J., Nadella, V., Taslim, C., ... & Lessnick, S. L. (2018). HOTAIR primes the Ewing sarcoma family of tumors for tumorigenesis via epigenetic dysregulation involving LSD1. *bioRxiv*, 244558.
- Song, M. A., Brasky, T. M., Marian, C., Weng, D. Y., Taslim, C., Llanos, A. A., ... & Freudenheim, J. L. (2016). One-carbon metabolism genetic variant and genome-wide DNA methylation in breast tissues from healthy women.
- Taslim, C. (2011). Algorithm for comparing large scale protein-DNA interaction data (Doctoral dissertation, The Ohio State University).
- Kuang, X., Marian, C., Taslim, C., Song, M. A., Weng, D., Freudenheim, J. L., ... & Shields, P. G. (2016). A web-based platform for exploring 'omics and clinical data from healthy breast tissues.
- Song, M. A., Marian, C., Brasky, T. M., Weng, D., Taslim, C., Freudenheim, J. L., & Shields, P. G. (2015). Racial disparities of genome-wide DNA methylation profiles and association with breast tissues biomarkers in healthy women.
- Taslim, C., Allen, T. T., Lauria, M., & Tseng, S. H. (2017). Sequential forward-inverse design for genetic network modeling. *Journal of Industrial and Production Engineering*, 34(7), 520-528.
- Taslim, C., Weng, D. Y., Brasky, T. M., Dumitrescu, R. G., Huang, K., Krishnan, S., ... & Troester, M. A. (2015). Genome-wide tissue-based microRNA signature in healthy women predicting breast cancer risk.
11. Zheng, Ning (2007). *Discovering Interpretable Topics in Free-Style Text: Diagnostics, Rare Topics, and Topic Supervision*. Alien of extraordinary ability, U.S. Department of State.
- Chantararat, N., Zheng, N., Allen, T. T., & Huang, D. (2003, December). Issues on simulation and optimization I: optimal experimental design for systems involving both quantitative and qualitative factors. In *Proceedings of the 35th conference on Winter simulation: driving innovation* (pp. 556-564). Winter Simulation Conference.
- Schenk, J. R., Huang, D., Zheng, N., & Allen, T. T. (2005, December). Multiple fidelity simulation optimization of hospital performance under high consequence event scenarios. In *Proceedings of the 37th conference on Winter simulation* (pp. 936-942). Winter Simulation Conference.
- Zheng, N., & Allen, T. T. (2007, December). Subset selection and optimization for selecting binomial systems applied to supersaturated design generation. In *Simulation Conference, 2007 Winter* (pp. 331-339). IEEE.
- Huang, D., Allen, T. T., Notz, W. I., & Miller, R. A. (2006). Sequential kriging optimization using multiple-fidelity evaluations. *Structural and Multidisciplinary Optimization*, 32(5), 369-382.
12. Tseng, Shi-Hsien (2007). *Bayesian and Semi-Bayesian Regression Applied to Manufacturing Wood Products*.
- Allen, T. T., Tseng, S. H., Swanson, K., & McClay, M. A. (2009). Improving the hospital discharge process with Six Sigma methods. *Quality Engineering*, 22(1), 13-20.
- Allen, T. T., & Tseng, S. H. (2011). Variance plus bias optimal response surface designs with qualitative factors applied to stem choice modeling. *Quality and Reliability Engineering International*, 27(8), 1199-1210.
- Tseng, S. H., & Allen, T. T. (2013, December). A magic number versus trickle down agent-based model of tax policy. In *Proceedings of the 2013 Winter Simulation Conference: Simulation: Making Decisions in a Complex World* (pp. 1407-1418). IEEE Press.
- Tseng, S. H., & Hsu, Y. (2016). A Two Model Approach for Regression Diagnostics Applied to Furniture Design. *品質學報*, 23(1), 1-24.
- Tseng, S. H., Chen, C. K., Yu, J. C., & Wang, Y. C. (2014). Applying the agent-based social impact theory model to the bullying phenomenon in K-12 classrooms. *Simulation*, 90(4), 425-437.
- Tseng, S. H., & Allen, T. (2015). A Simple Approach for Multi-fidelity Experimentation Applied to Financial Engineering. *Applied Stochastic Models in Business and Industry*, 31(5), 690-705.
- Taslim, C., Allen, T. T., Lauria, M., & Tseng, S. H. (2017). Sequential forward-inverse design for genetic network modeling. *Journal of Industrial and Production Engineering*, 34(7), 520-528.
13. Schenk, Jason (2007). *Meta-Uncertainty and Resilience with Applications in Intelligence Analysis.*"

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- Schenk, J. R., & Wade, R. L. (2008, August). Robotic systems technical and operational metrics correlation. In *Proceedings of the 8th Workshop on Performance Metrics for Intelligent Systems* (pp. 108-115). ACM.
- Allen, T. T., Schenk, J., & Woods, D. D. (2016). An Initial Comparison of Selected Models of System Resilience. In *Resilience Engineering Perspectives, Volume 2* (pp. 95-116). CRC Press.
14. Ferhatosmanoglu, Nilgun (2007). Optimal Design of Experiments for Emerging Biological and Computational Applications.
- Chantarat, N., Allen, T. T., Ferhatosmanoglu, N., & Bernshteyn, M. (2006). A combined array approach to minimise expected prediction errors in experimentation involving mixture and process variables. *International Journal of Industrial and Systems Engineering*, 1(1-2), 129-147.
- Sacan, A., Ferhatosmanoglu, N., & Ferhatosmanoglu, H. (2009). MicroarrayDesigner: an online search tool and repository for near-optimal microarray experimental designs. *BMC bioinformatics*, 10(1), 304.
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15. Brady, James (2005). Six Sigma and the University: Research, Teaching, and Meso-Analysis. (one publication in the *American Statistician*, one publication in *Quality and Reliability Engineering International*, and one article under preparation for the *Journal of Quality and Technology*).
- Brady, J. E., & Allen, T. T. (2006). Six Sigma literature: a review and agenda for future research. *Quality and reliability engineering International*, 22(3), 335-367.
16. Huang, Deng (2005). Experimental Planning and Sequential Kriging Optimization Using Variable Fidelity Data. (co-adviser with Allen Miller, alien of extraordinary ability U.S. State Department).
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18. Ittiwattana, Waraphorn (2002). A Method for Simulation Optimization with Applications in Robust Process Design and Locating Supply Chain Operations (resulted in a publication on an alternative to Taguchi Methods in the refereed *Journal of Manufacturing Systems*).
19. Bernshteyn, Mikhail (2001). Heuristics that Combine Population and Multiple Comparison Based Searches with Application to Model Robust Supersaturated Experimental Designs (resulted in publications in the top journals *Technometrics* and the *Journal of Quality Technology*).
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20. Ribardo, Charles (2000). Desirability Functions for Comparing Arc Welding Parameter Optimization Methods and for Addressing Process Variability Under Six Sigma Assumptions (resulted in a publication in the refereed journal *Quality and Reliability Engineering International* and the award of finalist in the INFORMS QSR student paper competition, Co-adviser with Prof. R. W. Richardson).
- Ribardo, C., & Allen, T. T. (2003). An alternative desirability function for achieving ‘six sigma’ quality. *Quality and Reliability Engineering International*, 19(3), 227-240.
21. Yu, Liyang (2000). Expected Modeling Errors and Low-Cost Response Surface Methods. (resulted in publications in the reputed refereed journals *Journal of the Royal Statistical Society: Series C*, *Quality Engineering*, and *Quality and Reliability Engineering International*).
- Yu, L. (2014). schema.org and Semantic Markup. In *A Developer's Guide to the Semantic Web* (pp. 475-515). Springer Berlin Heidelberg.
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- Allen, T. T., Yu, L., & Schmitz, J. (2003). An experimental design criterion for minimizing meta-model prediction errors applied to die casting process design. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 52(1), 103-117.
- Allen, T., Yu, L., & Bernshteyn, M. (2000). Low-cost response surface methods applied to the design of plastic fasteners. *Quality Engineering*, 12(4), 583-591.

### **Current Doctoral Students**

1. Enhao Liu – Data-Driven Monitoring and Maintenance Relating to COVID-19 and Cybersecurity
2. Long Wang (Aerospace program) – Efficiency & Quality Optimization of 3D Printing
3. Yibo Dang – Large Scale Optimal Vehicle Routing including Third Party and Environmental Concerns
4. Olivia Hernandez – Gaming and Augmented Reality Methods for Educating with Applications in Military Medicine
5. Medhi Mashayekhi – Innovative Methods for Deep Learning Hyperparameter Optimization
6. Abdullah Alomair – Optimal Experimental Planning for Offline Games and Resilience with Cybersecurity Applications
7. Qiwei Yang (Ramnath is Adviser, Co-Advisor, Computer Science) – Movement Layer-Based LSTM Neural Nets for Infant Neurological Diagnoses
8. Matthew Booth – TBD – Optimization and Cybersecurity for Smart Manufacturing and Mobility

### **Graduated Thesis or Project Option Masters Students**

1. Tianyu Jiang (2017). Data-Driven Cyber Vulnerability Maintenance of Network Vulnerabilities with Markov Decision Processes. Thesis.
2. Enhao Liu (2017). Logistic Regression Model for Predicting Warning “Incident” Rates and Implications for the Common Vulnerability Scoring System Ph.D. Student in ISE. Thesis.
3. Nachiket Deshpande (2016). Project.
4. Adhithya Madurai Venkatesan (2016). Improvement Advisor Fedex. Project.
5. Chandrasekaran Raghuram (2016). DHL Supply Chain Study. Project.
6. Sara Vinson (2015). Unilever, Management Engineering. Project.
7. Raqab, Alah (2014). Gaining Monitoring Capabilities and Insights into Responses From Phishing Data. Thesis.
8. Zugeldar, Thomas (2012). Lean Six Sigma Literature: A Review and Agenda for Future Research. Thesis.
9. Khalaf, Ramez (2010). An Agent-Based Simulation of Inventory Management with Uncertain Quality and Lead Times. Thesis.
10. Kanth Rachakonda, Ravi (2009). Crew Rostering Problem: A Random Key Genetic Algorithm with Local Search. Thesis.
11. Richards, Gavin (2005). Bayesian regression diagnostic. Project.
12. Zheng, Ning (2005). Subset Selection and Optimization For Selecting Binomial Systems Applied to Supersaturated Design Generation. Thesis.
13. Ahuja, Anita (2004). Data Mining and OR Methods for Scheduling Jobs at a Fashion Distribution Center. Project.
14. Treaster, Allegra (2004). New Methods for On-Line Experimentation Applied to Flux Core Arc Welders for Ship Panel Production. Thesis.
15. Kumar, Amarendra (2003). Graphical Comparison of Non-sequential Procedures for Response Surface Investigation. Spring. Thesis.
16. Ventakaraman, Karthik (2003). A Method for Robust Interface Design. Winter. Project.
17. Metha, Gautam (2002). An Application of Experimental Design to Optimize A Web Site. Autumn Project.
18. Joshi, Chaitanya (2002). Modeling Six Sigma-Type Methodologies. Autumn. Project.
19. Chivate, Chetan (2002). Optimal Design of Focus Group Studies to Minimize Errors in Predicting Demand. expected Summer Project.
20. Kusumakar, Hari (2002). Portfolio Selection Using Simulation Optimization. Project.
21. Schmidt, John. The Sensitivity of Expected Prediction Accuracy to Assumptions. Winter Project.
22. Padwal, Sachin (2001). Applying Experimental Design to Optimize Interface Usability of Statistics Software. Winter. Project.
23. Sharma, Deepak (1999). Optimal Experimental Design Applied to HVAC Case Joining Decision-Making. Summer. Thesis.

### **Other Advised Students**

Served as principal adviser for numerous other M.S. students. Served as graduate representative, committee, member and other similar functions for numerous students.

### **Undergraduate Honors Theses**

1. Jeremiah Lawson (2017). Engineering Out Systematic Oppression: Disenfranchisement, Discrimination, and Solutions for Election Systems.
2. Xiaoli Liu (2012). Applications of Statistical Experimental Design to Improve the Performance of Google AdWords Campaigns.
3. Kimiebi Akah (2012). Roles for Industrial Engineering in Cyber Vulnerability Management (presented poster at the ISE student conference).
4. Thomas Herman (2012). Decision Problems in ISO9000 Documentation with Applications to Bicycle Maintenance (presented poster at the student ISE conference).

5. David Vuckovich (2009). An Open-Source Population Indifference Zone-Based Algorithm For Simulation Optimization, published in the WSC10.
6. Aaron Friedman (2005). Towards Data Driven University Departmental Strategies.
7. Kristen Maybin (2004). Using Focus Group Data to Set New Product Prices. Published in the *Journal of Product and Brand Management*, 13, 1, 15-24.

### **CONSULTING**

I have served as a consultant on projects at companies that include:  
 ACLU, Lextant, LaBarge, Lucent, Philip Randolph Institute, Nationwide Services, Timken, and Net Jets.

Accomplishments included:

1. Led team to significantly reduce average patient chart mistakes and average discharge times at a community hospital and significantly reduced errors in the patient charts.
2. Proposed and led the implementation in 2008 a principled approach for deciding how many voting machines are needed and how they should be allocated.
3. Developed methods to forecast accurately maintenance costs associated with an aging fleet of aircraft.
4. Expert witness: Philip Randolph Institute vs. Johnson, Ohio Democratic Party v. Husted, League of Women Voters v. North Carolina (with NAACP helping to clarify disenfranchisement in 2015 and overturned a racist law, supreme court supports ruling 2016), and Fleming v. Gutierrez.

### **OTHER HONORS AND SERVICE**

Ohio State Senate Apportionment Ad Hoc Advisory Committee 2010  
 Featured on “The Big Story” in Columbus 10TV News, WOSU, and NYT & Dispatch front page article  
 Vice chairperson of Academic Relations of the Public Programs and Processes Section of INFORMS  
 Editorial board of the *International Journal of Industrial & Systems Engineering*  
 Editorial board of the *Journal of Experimental Design and Process Optimisation*  
 Selected to Standard & Poor's Society of Industry Leaders  
 Elected Council Member for two, two-year terms, INFORMS Quality, Statistics & Reliability Section,  
 Local Arrangements Chair – 2006 ASQ Fall Technical Conference  
 2001-2002 Faculty Founder and Faculty Advisor for the ASQ Student Section  
 Member: INFORMS, ASQ, ASA, The Sierra Club, MoveOn, Ford Motor Company Fellowship  
 Edwin Pauly Merit Scholarship (UCLA), Physics Scholar Award (UCLA), Sigma Xi  
 Active reviewer for: *Bioinformatics*, *IIE Transactions*, *Technometrics*, *JQT*, *IJQSR*, *QE*, and *CDSA*.

### **SPONSORED RESEARCH**

PI on \$1.8M on Awarded Research for OSU (Includes \$170,000 of \$0.9M Awarded not delivered from DOE)  
 Co-PI on \$0.3M on Awarded Research for OSU

### **Past and Current Projects (OSU Cost Share Not Included in the Award Amounts)**

Ohio Cybersecurity Initiative for Mobility and Manufacturing (OCIMM) – Ohio Department of Higher Education  
 (367,846.00 + \$42,000 sub-award – Co-PI, Eylem Ekici PI, 2020-2020)

RAPIDS: Central Ohio Consortium  
 (\$200,000 – State of Ohio Department of Higher Education PI with Vimal Buck and Ahmed Qadeer Co-PIs)

EAGER: A Framework for Economical Cyber Security Inspection and Assurance (#1912166)  
 (\$300,000 – NSF PI 2019-2021, Rajiv Ramnath and Laura Albert Co-PIs, \$100,000 subcontract to U. Wisc.)

Deep learning and interpretable AI methods for classifying infant neurology: pressure plate and EEG Data to  
 Nationwide Childrens  
 (\$11,000 – PI from 2019-2020)

Warehouse parts storage optimization  
 (\$10,000 – PI Honda of America Manufacturing, 2019-2020)

Senior Design Capstone Projects including from Honda, KDC, Sally Beaty, Stonecrop, and Stoneridge  
 (\$5,000 – total from 2018-2019, PI related to ISE 4900)

Improving Service Quality with Translational Data Analytics  
(\$52,000 – GE Appliances PI 2017-2018)

Extension and Application of Vulnerability Control System to ARCYBER Defense  
(\$93,000 – NSF PI 2016-2017)

VBA Software for Mixing and Prediction Decision-Making  
(\$68,000 – Under review Allied Minerals PI 2015-2016)

Proposal to Supply SMERT Analysis NIE in Relation to W9124N-15-T-0033  
(\$100K over 1 year, Army Research Laboratory PI 2015-2016)

Data-Driven Cyber Vulnerability Maintenance (#1409214)  
(\$516K over 4 years, NSF co-PIs Cathy Xia and Rajiv Ramnath 2014-2018)

Data-Driven Cyber Vulnerability Maintenance – Transition to Practice (#1409214)  
(\$77K over 4 years, NSF co-PIs Cathy Xia and Rajiv Ramnath 2014-2018)

Scheduling Software and Methods for Injection Molding and Stamping  
(\$75K over 1 year, Honda North America, 2013-2014)

Major Upgrade – Making SKO Faster Through Improved Core and New Methods  
(\$24K for 1 year from Honda of America with 25% from the Honda Partnership, 2013)

Software and Methods for Modeling Customer Decision-Making and Issues  
(\$64K/year from the Nationwide Center for Advanced Customer Insights, 2012-13)

Further Extension of Honda of America Black Box Simulation Methods  
(\$24,000 from Honda of America with 25% from the Honda Partnership, 2012)

Adding Optimization Functions to Simulation Software at Honda of America  
(\$24,000 from Honda of America with 25% from the Honda Partnership, 2011)

Enhanced Design of Experiments Laboratories Using Blended Learning  
(\$12,800 from the OSU College of Engineering, 2010)

Illustrating and Applying Simulation at Nestle  
(\$65,000 from Nestle, Hagle is PI 2010-11)

Enhanced Simulation Laboratories Using Blended Learning  
(\$11,800 from the OSU College of Engineering, 2009)

Multidisciplinary, Multi-Fidelity Analysis and Integration of Aerospace Vehicles  
(\$36.7K for OSU from Near Inc. funded by AFOSR, 2009-2010)

Improving Honda of America Simulation Efficiency  
(\$16.7K for OSU from Honda of America Inc., 2009-2009)

Make-Buy and Supply Chain Modeling for Furniture Makers  
(\$54,661 for OSU from Feng Sheng International, 2006-2009)

Determining Appropriate Specifications for Welding Aluminum Tubes at USEC  
(\$30K for OSU from the Edison Welding Institute, 2006)

The Development and Application of Advanced Design of Experiments Methods to More Effectively Bleach Wood  
(\$65K for OSU from Feng Sheng International, 2005-2006)

Fatigue Resistant, Energy Efficient (awarded but then the area dissolved, funding only partial and for the partners)  
(\$0.9M with \$170K for OSU, Department of Energy thru Caterpillar, Co-PIs Farson, Richardson, 2003-2006)

Welding Process Modeling and Robust Design  
(\$200K, The State of Ohio through the Edison Welding Institute, Farson is PI, 2003-2006)

6sigma Methods Development and Application to Welding Processes (CRP)  
(\$209K over 3 years from the Edison Welding Institute, EWI, including \$45K at EWI, 2000-02)

Methods for Knowledge Based GMAW Parameter Optimization  
(\$119K awarded much less received over 2 years from the Naval Joining Center, Richardson is PI, 2000-02)

Weld Sizing Technology for Arc Welding Production Robustness (CRP)  
(\$10K over 1 year from EWI and \$150K at EWI, 2000-01)

Optimal Statistical Decision-Making for Welding Process Design – Continuation  
(\$30K over 2 years from EWI, 1999-00)

Software for Design of Experiments and Optimization of Welding Processes  
(\$11,051 over 2 years from EWI, 1999-01)



Statistical Process Control for Arc Welding of Tank Turrets  
(\$2K over 1 year from EWI, 1999)

Regression and Neural Net Modeling for a Resistance Welding Application  
(\$4K over 1 year from EWI, 1999)

Knowledge Based Welding Process Optimization  
(\$77K over 1 year from EWI including \$67K at EWI, Yapp is Co-PI, 1998-99)

New Experimental Methods Applied to HVAC Case-Joining – Continuation  
(\$30K over 1 year from Visteon Co. a subsidiary of Ford Motor Co., 1998-99)

Optimal Statistical Decision-Making for Welding Process and Production Systems Design  
(\$16K over 1 year from EWI, 1998-99)

New Experimental Methods Applied to HVAC Case Joining  
(\$35K over 1 year from Ford Motor Co., 1997-98)

Efficient Methods for Constructing KBS Inputs Applied to HVAC Odor Reduction  
(\$28K over 1 year from Ford Motor Co., 1997-98)

Weld Process Optimization  
(\$5K over 1 year from EWI, Profs. Richard Richardson and Gary Maul PI's, 1997-98)

Optimal Experimental Design for Arc Welding  
(\$25K over 1 year from OSU Seed Grant, 1998-99)

Developing a Standard Test for Weld Cracking  
(\$5K over 1 year from EWI, Lippold PI, 1998)

Interactive Web-based Software to Teach Experimental Data Analysis in Engineering Design  
(\$1K over 1 year from OSU Faculty Innovator Grant, 1998-99)

#### Continuing Education for Industry

Short Courses:        Design of Experiments, one-day course for practicing engineers, sponsored by the Edison Welding Institute and the Society of Manufacturing Engineers, September, 1997.  
                              Design of Experiments and Taguchi Methods, one day course for practicing engineers, sponsored by The Ohio State University, February 1998.

#### **ORGANIZED SESSIONS**

1. Co-Cluster Chair Social Media Analytics Section, INFORMS 2019.
2. Cluster Chair Social Media Analytics Section, INFORMS 2018, 16+ sessions involving 80 speakers.
3. Co-Cluster Chair Social Media Analytics Section, INFORMS 2017. 25+ sessions involving approximately 126 speakers.
4. “Social Media Analytics Best Papers Finalist Competition. INFORMS 2015.
5. “Optimization and Modeling For Election Systems. INFORMS Conference (Invited) – Public Programs, Service and Needs Section, 2014.
6. “Optimization and Modeling for Individual Decision-Making. INFORMS Conference (Invited) – Social Media Analytics Section, 2014.
7. INFORMS Midwest Regional Conference (2011), Cluster Chair for Quality Statistics and Reliability, 5 sessions, 17 speakers.
8. “Optimal DOE in Computer Science and Bioinformatics. *INFORMS Conference*, Pittsburg, 2006.
9. “Quality Applications and Methods. *INFORMS Conference*, Pittsburg 2006.
10. “Experimentation for Profit. *INFORMS Conference*, San Jose, California, November 2002.
11. “FasterBetterCheaper Experimentation. *INFORMS Conference*, Miami, Florida, November 2001.
12. “Six Sigma Methods Development and Applications to Manufacturing Processes. *INFORMS Conference*, San Antonio, Texas, November 2000.
13. “Optimal Design of Experiments for and from Simulation Optimization. *INFORMS Conference*, San Antonio, Texas, November 2000.

14. "Recent Work in Experimental Design – Three Sessions. in collaboration with Bruce Ankenman (Northwestern University) and Kurt Palmer (USC), *INFORMS Conference*, Salt Lake City, Utah, May 2000.
15. "Simulation-Based Objectives for Optimal Experimental Design. *INFORMS Conference*, Cincinnati, Ohio, May 1999.
16. "Modeling Manufacturing Systems for Quality Improvement. *INFORMS Conference*, Cincinnati, Ohio, May 1999.

#### **SELECTED PRESENTATIONS (WITH NO PROCEEDINGS)**

1. Allen, T. T. (2019). Optimal Off-Line Experimentation for Designing Cyber Security CTF Red/Blue Team Games. INFORMS, Seattle, Washington.
2. Allen, T. T. (2020). Cyber Security Prioritization and Control. INFORMS Conference On Security, Monterey, California.
3. Allen, T. T. (2019). Analyzing Social Media Data to Identify Cybersecurity Threats: Decision Making With Real-time Data. INFORMS Business Analytics, Austin. (<http://meetings2.informs.org/wordpress/analytics2019/speakers/ted-allen/>).
4. Allen, T. T. (2018). Machine Learning for "Dark Host" Vulnerabilities. Ohio State University Cyber Security Day Columbus.
5. Allen, T. T. (2018). Using DOE and Social Media to Spread Policy Information. INFORMS Phoenix.
6. Hernandez, O., Allen, T. T., and Alomair, A. (2018). Design of Experiments for Bimatrix Games with Military and Baseball Applications. Joint Research Conference on Statistics in Quality, Industry, and Technology, Los Alamos.
7. Allen, T. T. (2018). The Structure of "Ultimate Intelligence" and A Possible Future for Optimal Experimental Design. Joint Research Conference on Statistics in Quality, Industry, and Technology, Los Alamos.
8. Wang, L. and Allen, T. T. (2018). Comparison of Alternative Kriging Estimation Methods Including Cross-Validation. Joint Research Conference on Statistics in Quality, Industry, and Technology, Los Alamos.
9. Allen, T. T. (2018). Machine Learning for "Dark Host" Vulnerabilities: How Quality, Reliability, & IE/OR Methods Can Help. Ohio State University Cyber Day, October 2, Columbus Ohio, Ohio Union.
10. Allen, T. T. (2017). How to Get Published in Social Media Analytics. Invited Panel, INFORMS Houston.
11. Allen, T. T., Y. Muer, S. Huang (2017). Towards Rigorous Standards for Voting Resource Apportionment and Allocation. NIST Invited Presentation, June Maryland.
12. Allen, T. T., O. Hernandez, D. Samuelson, C. Saie, and J. Alt (2017). Assessing Cyber-Threats Using Fusion of Control Charts. Military Operations Research Conference, West Point.
13. Allen, T. T., O. Hernandez, D. Samuelson, C. Saie, and J. Alt (2017). Cyber-Threat Wargames at the Brigade Level. Military Operations Research Conference, West Point.
14. Allen, T. T., O. Hernandez, D. Samuelson, C. Saie, and J. Alt (2017). Optimization and Charting Methods to Focus Cyber Threat Detection. Military Operations Research Conference, West Point.
15. Allen, T. T. (2017). Topic Models and SMERT. TRADOC Text Modeling Workshop, NPS, Monterey, California.
16. Allen, T. T. (2017). Operations Research and Voting Systems Applications. Invited Presentation the Student Chapter of the Institute of Industrial and Systems Engineers, Ohio State University Chapter.
17. Allen, T. T. (2017). Data-Driven Cyber Vulnerability Maintenance. Invited Presentation, Internet 2, May Washington, D.C.
18. Allen, T. T. (2016). Using Innovative Text Analytics on a Military Specific Corpus. Military Operations Research Conferences, Quantico, West Virginia.
19. Allen, T. T. (2016). Efforts to Discourage Black Voters in OH, NC, and MI and Stopping Them. What Do You Have To Lose? The Black Vote and the Election: Simone Drake Panel.
20. Shijie, H. and T. T. Allen (2016). Generalized Binary Search with Indifference Zones So All Can Wait Less than 30 Minutes. Invited Presentation, INFORMS, Nashville.
21. Allen, T. T. (2016). Operations Research Meets Voting Laws in the U.S.A.: NAACP v. McCrory, Arizona, and Others. Invited Presentation, INFORMS, Nashville.
22. Roychowdhury, S. and T. T. Allen (2016). Innovative Scheduling and Kriging-Based Optimization Methods in VBA. Invited Presentation, INFORMS, Nashville.
23. Hariharan, A. and T. T. Allen (2016). Regression Models for Cyber Attack Prediction Based on Twitter. Invited Presentation, INFORMS, Nashville.
24. Sui, Z. and T. T. Allen (2016). NLP, LDA, SMERT, k-Means and Efficient Estimation Methods with Military Applications. Invited Presentation, INFORMS, Nashville.

25. Allen, T. T. (2016). Optimal Learning with Cyber Security Applications. University of Illinois, Industrial Engineering Seminar Series, Champagne.
26. Allen, T. T. and M. Yang (2015). Multiple Resource Type Straddling a Standard with Applications in Election Resource Allocation. Invited INFORMS.
27. Allen, T. T. and M. Yang (2015). Multiple Resource Type Straddling a Standard with Applications in Election Resource Allocation. Invited INFORMS.
28. Roychowdhury, S. and Allen, T. T. (2015). Heuristic Methods For Automotive Stamping Scheduling. Contributed INFORMS.
29. Allen, T. T. and Hou, C. (2015). Data-driven Markov Decision Processes Applied to Cyber Vulnerability Maintenance. Invited INFORMS.
30. Hou, C. and Allen, T. T. (2015). Cyber Vulnerability Maintenance Policies for Universities. Invited INFORMS.
31. Sui, Z., Milam, D., and Allen, T. T. (2015). A Visual Monitoring Technique Based on Importance Score and Twitter Feeds. Invited INFORMS.
32. Allen, T. T. (2014). Feasible Allocation thru Iterative Relaxations with Election Systems. Informs Annual Meeting in San Francisco.
33. Allen, T. T. (2014). SMERT Modeling of Stephen Colbert Tweets. Informs Annual Meeting in San Francisco.
34. Zugelder, T. and T. T. Allen (2011). Lean Six Sigma Literature Review and Synthesis Revisited. Midwest INFORMS 2011, Columbus, Ohio August.
35. Artis, S., T. T. Allen, A. Afful-Dadzie, and Y. Allam (2011). Results From a Randomized Experiment Involving Blended Learning Discrete Event Simulation Software. Midwest INFOR
36. Afful-Dadzie, A. and T. T. Allen (2011). Simulation and Control Charting of Cyber Vulnerabilities and Attacks. Midwest INFORMS 2011, Columbus, Ohio August.
37. Xiong, H. and T. T. Allen. Combining Subject Matter Expert Experimental Data with Standard Data in Bayesian Mixture Modeling with Applications In Quality Engineering. Midwest
38. Probabilities with Applications for the Insurance Industry. Midwest INFORMS 2011, Columbus, Ohio August.
39. Lee, S. H. and T. T. Allen (2011). Statistical Process Control Charting of Markov Chain Transition
40. School of Industrial Engineering at UNIBE (Universidad Iberoamericana) in the Dominican Republic.
41. Allen, T. T. (2011). OR / Lean Six Sigma Applications for Process Design: Electronics, Health Care, and Food Production". Keynote Presentation. Engineering Convergence Seminar
42. Afful-Dadzie, A. and T. T. Allen (2011). Parallels Between Cyber Vulnerabilities and Attacks and Tool Degradation and Failure, Amstat Spring Research Conference, Evanston, Illi
43. Allen, T.T. and H. Xiong (2011). SMERT Clustering Models Have Steering Wheels. Contributed Presentation, Amstat Spring Research Conference, Evanston, Illinois, June.
44. Allen, T. T. (2010). Human Assisted Modeling and SMERT Models with Applications in Text and Image Analysis" ISE Departmental Seminar.
45. Allen, T. T. (2010). Pareto Charting Using Unsupervised, Freestyle Text Data and Bayesian Mixture Modeling. JRC 2010 at NIST.
46. Allen, T. T. (2009). Genetic Experimentation and Directed Bayes Modeling. Georgetown University Department of Biostatistics, Bioinformatics and Biomathematics.
47. Allen, T. T. (2009). Exploratory Data Analysis at the Border Between Statistics and Optimization. ASQ Fall Technical Conference, Indianapolis, Indiana.
48. Allen, T. T., M. Bernshiteyn, M. Damschroder, and K. Cotton. Using Simulation to Determine the Number of Voting Machines in Franklin, Ohio. Invited presentation at the INFORMS
49. Zheng, N. and T. T. Allen. Topic Model Supervision Using Anti-Words. Invited presentation at the INFORMS Annual Meeting 2008.
50. Rajagopalan, R. and T. T. Allen. Physics-based Response Oriented Bayesian Empirical Surfaces. Invited presentation at the INFORMS Annual Meeting 2008.
51. Tseng, S. and T. T. Allen. A Simple Bayesian Regression Diagnostic to Account for Bias. Invited presentation at the INFORMS Annual Meeting 2008.
52. Ferhatosmanoglu, N. and T. T. Allen. Discrete Choice Models for User-Centric Search Engines. Invited presentation at the INFORMS Annual Meeting 2008.
53. Taslim, C. and T. T. Allen. Optimally Designed Perturbations for Uncovering Genetic Networks and Inverse Estimation. Invited presentation at the INFORMS Annual Meeting 2008.

54. Ferhatosmanoglu, N. and T. T. Allen. Generalized A-Optimality and Hybrid Designs for Two-Color Microarrays. Invited presentation at the INFORMS Annual Meeting 2008.
55. Allen, T. T. and N. Zheng. Process Control Using Free-Style Text and Topic Models. INFORMS speakers program, WINFORMS, Washington, D.C. 1/08.
56. Allen, T. T. and J. Brady. Meso-Analysis Analysis of Six Sigma Project Databases. Invited IERC 2007 Presentation.
57. Schenk, J. and T. T. Allen. Consequence-Likelihood Diagrams for After-Action Reporting of Incident Response. Invited IERC 2007 Presentation.
58. Tseng, S. and T. T. Allen. Optimal Focus Group Design to Augment Demand Data. INFORMS Annual Meeting 10/06.
59. Taslim, C. and T. T. Allen. Optimal Design of Experiments for System Identification Applied to Transcriptional Network Modeling. INFORMS Annual Meeting 10/06.
60. Ferhatosmanoglu, N. and T. T. Allen. Optimal Design of cDNA Microarray Experiments. INFORMS Annual Meeting 10/06.
61. Rajagopalan R. and T. T. Allen. Multi-Fidelity Inverse Engineering With Nanotechnology and Other Applications. INFORMS Annual Meeting 10/06.
62. Brady, J., T. T. Allen, and J. Schenk. Meso-Analysis Analysis of Six Sigma Projects and Resilience Modeling. INFORMS Annual Meeting 10/06.
63. Allen, T. T., M. Bernshteyn, S. Hertzberg. High Quality Voting Machine Allocation Applied in Ohio. INFORMS Annual Meeting 10/06.
64. Zheng, N. and T. T. Allen. Fast Optimal DOE Using Search Engine Technology. INFORMS Annual Meeting 10/06.
65. Huang, D., T. T. Allen, and R. E. West. Artificial Intelligence and Algorithms to Optimize Expensive BlackBox Functions. INFORMS Annual Meeting 10/06.
66. Allen, T. T. and M. Megimose-McClay. Improving the Hospital Discharge Process: A Case Study. ASQ Fall Technical Conference, Columbus, Ohio 10/06.
67. Allen, T. T., M. Bernshteyn, and S. Hertzberg. Optimally Allocating Voting Machines to Precincts In Future Presidential Elections. INFORMS Invited Presentation, San Francisco,
68. Allen, T. T., New Practical Solution Methods, Objectives, and Fractional Factorials. ASQ Fall Technical Conference, Roanoke, Virginia 10/04.
69. Chantarat, N., T. T. Allen, N. Zheng. A New Class of Response Surface Designs for Systems Involving Quantitative and Qualitative Factors. INFORMS Annual conference, Atlanta, G
70. Allen, T. T. and J. Brady. Deriving DMAIC Using Markov Decision Processes. ASQ Fall Technical Conference, El Paso, Texas 10/03.
71. Allen, T. T.. Design Issues in Split Plot Experimentation. American Statistical Association Joint Statistical Meeting, San Francisco, California - Invited Paper Presentation,
72. Allen, T. T.. Roles for Simulation Optimization in the 'Next Generation' of Experimental Planning Techniques. Invited Session Sponsored By College of Simulation, INFORMS.
73. Allen, T. T.. The Foundations of Design of Experiments: A Review. INFORMS Conference, San Jose, California, 11/02.
74. Allen, T. T. and M. Bernshteyn. A Comparison of Alternative Methods for Constructing Meta-Models for Computer Experiments. INFORMS in Miami, 11/01.
75. Bernshteyn, M. and T. T. Allen. Heuristics for Simulation Optimization: Methods and Review. INFORMS in Miami, 11/0.
76. Schmitz, J., M. Bernshteyn, and T. T. Allen. Sequential Methods for Mixture Experiments With Process Variables. INFORMS in Miami, 11/01.
77. Chantarat, N. and T. T. Allen. Sequential Methods for Mixture Experiments With Process Variables. INFORMS in Miami, 11/01.
78. Bernshteyn, M. and T. T. Allen. Supersaturated Designs that Directly Maximize the Probability of Identifying Active Factors. INFORMS in San Antonio, 11/00.
79. Ribardo, C. and T. T. Allen. Desirability-Based Methods that Address Process Variability and Methods Comparison for Arc Welding Parameter Optimization. INFORMS in San Antonio,
80. Ittiwattana, W. and T. T. Allen. Robust Optimization to Achieve the Appropriate Sigma Level. INFORMS in San Antonio, 11/00.

81. Allen, T. T.. Roles for Simulation Optimization & Methods Development within the Six Sigma Framework. INFORMS in San Antonio, 11/00.
82. Brady, J. and T. T. Allen. Optimal Tolerance Design of RF Circuits. INFORMS in Salt Lake City, 5/00.
83. Bernshteyn, M. and T. T. Allen. Low Cost Alternatives to Simplex Designs Based on Stochastic Optimization of the EIMSE Objective. INFORMS in Salt Lake City, 5/00.
84. Ittiwattana, W. and T. T. Allen. An Expert System to Support Statistics & Optimization Applications in Welding Process Design. INFORMS in Salt Lake City, 5/00.
85. Allen, T. T.. Applications of Low Cost Response Surface Methods (LCRSM) and Stochastic Optimization for Robust Machine Design (RMD). INFORMS in Salt Lake City, 5/00.
86. Allen, T. T.. A New Look at Optimal Design of Experiments. The ASA Spring Research Conference, 6/99.
87. Bernshteyn, M. and T. T. Allen. Design of Experiments from the Stochastic Programming Point of View. The ASA Spring Research Conference, 6/99
88. Yu, L. and T. T. Allen. Low Cost Response Surface Methods. The ASA Spring Research Conference, 6/99.
89. Allen, T. T.. A New Look at Optimal Design of Experiments. INFORMS Conference, Cincinnati, Ohio, 5/99.
90. Allen, Theodore T.. The Future of Optimal Experimental Design. INFORMS Conference, Seattle, Washington, 11/98.
91. Allen, T. T. and G. Herrin. "The Applicability of Commonly Used Experimental Designs. INFORMS Conference, Detroit, Michigan, 10/94.