# CURRICULUM VITAE

**Laura A. Albert**
formerly Laura A. McLay

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## EMPLOYMENT

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| 2019 to Present | Professor, University of Wisconsin-Madison, Industrial & Systems Engineering |
| | • Affiliate, Wisconsin Institute of Discovery, Optimization Group |
| | • Honorary Fellow, Department of Emergency Medicine |
| 2017 to 2019 | Assistant Dean for Graduate Affairs, University of Wisconsin-Madison, College of Engineering |
| 2013 to 2019 | Associate Professor, University of Wisconsin-Madison, Department of Industrial & Systems Engineering |

***Prior Academic Appointments***

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|---|---|
| 2012 to 2013 | Associate Professor, Virginia Commonwealth University, Department of Statistical Sciences & Operations Research. |
| 2006 to 2012 | Assistant Professor, Virginia Commonwealth University, Department of Statistical Sciences & Operations Research. |

## EDUCATION

Ph.D.   Industrial Engineering with Computational Science and Engineering option
University of Illinois at Urbana-Champaign, May 2006

M.S.   General Engineering with Computational Science and Engineering option
University of Illinois at Urbana-Champaign, 2001

B.S.   General Engineering with Honors, International Minor in German
University of Illinois at Urbana-Champaign, 2000.

## AWARDS AND HONORS

Arms, Control, Disarmament and International Security (ACDIS) Thesis Initiation Fellowship, 2002, University of Illinois, Urbana, IL.

Alumni Teaching Fellowship, 2004, Department of Mechanical and Industrial Engineering, University of Illinois, Urbana, IL.

George W. Harper Award for outstanding work in safety engineering, 2005, Department of Mechanical and Industrial Engineering, University of Illinois, Urbana, IL.

Operations Research Challenge Competition Winner, First Symposium on Operations Research and the Criminal Justice System, US National Institute of Justice 2006.

Institute for Operations Research and the Management Sciences (INFORMS) Computing Society Student Paper Competition, Runner-up, 2006.

Fellow, National Science Foundation, Enabling the Next Generation of Hazards and Disasters Researchers Fellows Program, 2009.

Outstanding IIE Publication Award (with Sheldon H. Jacobson), 2009.

Best paper award, 2009 Industrial Engineering Research Conference, Operations Research track (with Sunarin Chanta, Maria Mayorga, and Margaret Wiecek), 2009.

Young Investigator Award, Department of the Army-Materiel Command, Army Research Office, 2010.

NSF CAREER Award, 2011.

Achievement Award Winner for Next-Generation Emergency Medical Response Through Data Analysis & Planning (Best in Category winner, as part of the Hanover County Fire & EMS team), National Association of Counties, 2010.

Excellence in Scholarship Award, College of Humanities and Sciences, Virginia Commonwealth University, 2012.

Best paper award from *Risk Analysis,* Society of Risk Analysis (with Casey Rothschild and Seth Guikema), 2012.

Best Paper Award from *IIE Transactions* Focused Issue on Scheduling and Logistics (with Maria Mayorga), 2014.

INFORMS Moving Spirit Award for service to INFORMS fora, 2014.

Faculty recognition award, Leaders in Engineering Excellence and Diversity, University of Wisconsin-Madison College of Engineering, 2015, 2017, 2018.

Harvey Spangler Award for Technology Enhanced Instruction, University of Wisconsin-Madison College of Engineering, 2017.

Fellow, the Big Ten Academic Alliance-Academic Leadership Program (BTAA-ALP), 2018-19.

Harvey D. Spangler Faculty Scholar, College of Engineering, University of Wisconsin-Madison, 2018 – 2021.

INFORMS Impact Prize, "How Operations Research Changed Aviation Security," with Sheldon Jacobson, Kenneth Fletcher, Adrian Lee, and Alexander Nikolaev, 2018.

Ragnar E. Onstad Service to Society Award, College of Engineering, University of Wisconsin-Madison, 2019.

Advancement of Women in Operations Research/Management Science Award, INFORMS 2019.

Fulbright Award, 2020.

## PUBLICATIONS

### Journal Publications

1. Jacobson, S. H., **L. A. McLay**, S. N. Hall, J. E. Orosz, 2005. Performance Analysis of Cyclical Simulated Annealing Algorithms, *Methodology and Computing in Applied Probability* 7(2) 183 – 201.

2. Jacobson, S. H., J. E. Virta, **L. A. McLay**, J. E. Kobza, 2005. Integer Program Models for the Deployment of Airport Baggage Screening Security Devices, *Optimization and Engineering* 6(3) 339 – 359.

3.  Vaughan, D. E., S. H. Jacobson, S. N. Hall, and **L. A. McLay**, 2005. Simultaneous Generalized Hill Climbing Algorithms for Addressing Sets of Discrete Optimization Problems, *INFORMS Journal on Computing* 17(4) 1 – 12.

4.  Jacobson, S. H., **L. A. McLay**, J. E. Kobza, J. M. Bowman, 2005. Modeling and Analyzing Multiple Station Baggage Screening Security System Performance, *Naval Research Logistics* 52(1), 30 – 45.

5.  **McLay, L. A.** and D. E. Goldberg, 2005. Efficient Genetic Algorithms using Discretization Scheduling, *Evolutionary Computation* 13 (3) 353 – 385.

6.  **McLay, L. A**., S. H. Jacobson, and J. E. Kobza, 2006. A Multilevel Passenger Prescreening Problem for Aviation Security, *Naval Research Logistics* 53 (3), 183 – 197.

7.  Jacobson, S. H., **L. A. McLay**, S. N. Hall, D. Henderson, D. E. Vaughan, 2006. Optimal Search Strategies Using Simultaneous Generalized Hill Climbing Algorithms, *Mathematical and Computer Modelling* 49(9-10), 1061 – 1073

8.  Jacobson, S.H., **L.A. McLay**, 2006. The Economic Impact of Obesity on Automobile Fuel Consumption, *The Engineering Economist* 51(4), 307 – 323.

9.  **McLay, L. A.**, S. H. Jacobson, and J. E. Kobza, 2007. Integer Programming Models and Analysis for a Multilevel Passenger Screening Problem, *IIE Transactions* 39(1), 73 – 81.

10. **McLay, L. A**. and S. H. Jacobson, 2007. Integer Knapsack Problems with Set-up Weights, *Computational Optimization and Applications* 37(1), 35 – 47.

11. **McLay, L. A.** and S. H. Jacobson, 2007. Algorithms for the Bounded Set-Up Knapsack Problem, *Discrete Optimization* 4(2), 206 – 212.

12. Nikolaev, A. G., S. H. Jacobson, and **L. A. McLay**, 2007. A Sequential Stochastic Security System Design Problem for Aviation Security, *Transportation Science* 41(2), 182 – 194.

13. **McLay, L. A.**, S. H. Jacobson and J.E. Kobza, 2008. The Tradeoff between Technology and Prescreening Intelligence in Checked Baggage Screening for Aviation Security, *Journal of Transportation Security* 1(2), 107 – 126.

14. Jacobson, S.H., and **L.A. McLay**, 2009. Applying Statistical Tests to Empirically Compare Tabu Search Parameters for MAX 3-SATISFIABILITY: A Case Study, *Omega* 37(3), 522-534.

15. **McLay, L.A.,** 2009. A Maximum Expected Covering Location Model with Two Types of Servers, *IIE Transactions* 41(8), 730 – 741.

16. Lee, A.J., **L.A. McLay**, and S.H. Jacobson, 2009. Designing Aviation Security Passenger Screening Systems using Nonlinear Control. *SIAM Journal on Control and Optimization* 48(4), 2085 – 2105.

17. **McLay, L. A**., S. H. Jacobson, and A. G. Nikolaev, 2009. A Sequential Stochastic Passenger Screening Problem for Aviation Security, *IIE Transactions* 41(6), 575 – 591.

18. **McLay, L.A**., S.H. Jacobson, A.J. Lee, 2010. Risk-Based Policies for Aviation Security Checkpoint Screening. *Transportation Science* 44(3), 333-349.

19. **McLay, L.A**. and M.E. Mayorga, 2010. Evaluating Emergency Medical Service Performance Measures. *Health Care Management Science* 13(2), 124 - 136.

20. Merrick, J.R.W., **McLay, L.A**., 2010. Is Screening Cargo Containers for Smuggled Nuclear Threats Worthwhile? *Decision Analysis* 7(2), 155 – 171.

21. **McLay, L.A**., Mayorga, M.E., 2011. Evaluating the Impact of Performance Goals on Dispatching Decisions in Emergency Medical Service. *IIE Transactions on Healthcare Service Engineering* 1, 185 – 196.

22. **McLay, L.A**., Foufoulides, C., Merrick, J.R.W., 2011. Using Simulation Optimization to Construct Cost-Effective Screening Strategies for Cervical Cancer. *Health Care Management Science* 13(4), 294 – 318.

23. **McLay, L.A**., Dreiding, R., Howe, G.L. 2011. Rethinking the Encounter Probability for Direct-to-Target Nuclear Attacks for Aviation Security, *Journal of Transportation Security* 4(3), 447 – 480.

24. Chanta, S., Mayorga, M.E., Kurz, M.E., **McLay, L.A**., 2011. The minimum *p*-envy location problem: A new model for equitable distribution of emergency resources. *IIE Transactions on Healthcare Systems Engineering* 1(2), 101 – 115.

25. **McLay, L.A**., J. D. Lloyd, and E. Niman, 2011. Interdicting Nuclear Material on Cargo Containers using Knapsack Problem Models. *Annals of Operations Research* 187(1), 185 – 205.

26. **McLay, L.A**., Moore, H. 2012. Hanover County Improves Its Response to Emergency Medical 911 Calls. *Interfaces* 42(4), 380-394.

27. Rothschild, C., **McLay, L.A**., Guikema, S., 2012. Adversarial risk analysis with incomplete information: A level-*k* approach. *Risk Analysis* 32(7), 1219 – 1231. **This paper was selected as a Best Paper of 2012 for *Risk Analysis*.**

28. Bandara, D., Mayorga, M.E., **McLay, L.A**., 2012. Optimal Dispatching Strategies for Emergency Vehicles to Increase Patient Survivability. *International Journal of Operational Research*.

29. **McLay, L.A**., Dreiding, R., 2012. Multilevel, Threshold-Based Policies for Cargo Container Security Screening Systems. *European Journal of Operational Research* 220, 522 – 529.

30. **McLay, L.A**., Brooks, J.P., Boone, E.L., 2012. Analyzing the Volume and Nature of Emergency Medical Calls during Severe Weather Events using Regression Methodologies. *Socio-Economic Planning Sciences* 46, 55 – 66.

31. **McLay, L.A**., Rothschild, C., Guikema, S., 2012. Robust adversarial risk analysis: A level-*k* approach. *Decision Analysis* 9(1), 41 –54.

32. Kunkel, A., **McLay, L.A**. 2013. Determining minimum staffing levels during snowstorms using an integrated simulation, regression, and reliability model. *Health Care Management Science* 16(1), 14 - 26.

33. **McLay, L.A**., Mayorga, M.E., 2013. A model for optimally dispatching ambulances to emergency calls with classification errors in patient priorities. *IIE Transactions* 45(1), 1—24. **This paper was selected as a Best Paper Award for *IIE Transactions* Focused Issue on Scheduling and Logistics.**

34. Mayorga, M.E., Bandara, D., **McLay, L.A**., 2013. Districting and dispatching policies for emergency medical service systems to improve patient survival, *IIE Transactions on Healthcare Systems Engineering* 3(1), 39 – 56.

35. Toro-Diaz, H., Mayorga, M.E., Chanta, S., **McLay, L.A**., 2013. Joint location and dispatching decisions for Emergency Medical Services. *Computers & Industrial Engineering* 64(4), 917 – 928.

36. Dreiding, R.A., **McLay, L.A.,** 2013. An Integrated Screening Model for Screening Cargo Containers for Nuclear Weapons. *European Journal of Operational Research* 230, 181 – 189.

37. Malhotra, A.K., Goldberg, S.R., **McLay, L**., Martin, N.R., Wolfe, L.G., Levy, M.M., Khiatani, V., Borchers, T.C., Duane, T.M., Aboutanos, M.B., Ivatury, R.R., 2014. DVT Surveillance Program in the ICU: Analysis of cost-effectiveness. *PLOS ONE* 9(9), e106793.

38. Chanta, S., Mayorga, M. E., **McLay, L. A**., 2014. Improving Rural Emergency Services without Sacrificing Coverage: A Bi-Objective Covering Location Model for EMS Systems. *Annals of Operations Research* 221(1), 133 – 159.

39. Sudtachat, K., Mayorga, M.E., **McLay, L.A**. 2014. Recommendations for Dispatching Emergency Vehicles under Multi-tiered Response via Simulation. *International Transactions in Operational Research* 21(4), 581-617.

40. Chanta, S., Mayorga, M.E., **McLay, L.A**., 2014. The minimum p-envy problem with requirement on minimum survival rate. *Computers & Industrial Engineering* 74, 228 – 239.

41. Clarke, J., **McLay, L.A.**, McLeskey, Jr., J.T., 2014. Comparison of genetic algorithm to particle swarm for constrained simulation-based optimization. *Advanced Engineering Informatics* 28, 81 – 90.

42. Bandara, D., Mayorga, M.E., **McLay, L.A.**, 2014. Priority Dispatching Strategies for EMS Systems, *The Journal of the Operational Research Society* 65, 572 – 587.

43. Grannan, B.C., Bastian, N., **McLay, L.A.** 2015. A Maximum Expected Covering Problem for Locating and Dispatching Two Classes of Military Medical Evacuation Air Assets. *Operations Research Letters* 9, 1511-1531.

44. Toro-Diaz, H., Mayorga, M.E., **McLay, L.A.**, Rajagopalan, H., Saydem, C., 2015. Reducing disparities in large scale emergency medical service systems, *Journal of the Operational Research Society* 66, 1169-1181. doi:10.1057/jors.2014.83

45. **McLay, L.A.**, Mayorga, M.E., 2013. A dispatching model for server-to-customer systems that balances efficiency and equity. *Manufacturing & Service Operations Management* 15(2), 205 – 200.

46. Ansari, S., **McLay, L.A.**, Mayorga, M.E., 2015. A Maximum Expected Covering Problem for District Design, *Transportation Science* 51(1), 376 – 390.

47. Sudtachat, K., Mayorga, M.E., **McLay, L.A**., 2016. A Nested-Compliance Table Policy for Emergency Medical Service Systems under Relocation. *OMEGA* 58, 154 – 168.

48. Barker, K., Lambert, J.H., Zobel, C.W., Tapia, A.H., Ramirez-Marques, J.E., **Albert, L.**, Nicholson, C., Caragea, C., 2017. Defining resilience analytics. *Sustainable and Resilient Infrastructure* 2(2), 59 – 67. http://dx.doi.org/10.1080/23789689.2017.1294859

49. Ansari, S., Yoon, S., **Albert, L. A.**, 2017. An approximate Hypercube model for public service systems with co-located servers and multiple response. *Transportation Research Part E: Logistics and Transportation Review*. 103, 143 – 157.

50. Yoon, S., **Albert, L.** 2018. An Expected Coverage Model with a Cutoff Priority Queue. *Health Care Management Science* 21(4), 517 – 533. DOI: https://doi.org/10.1007/s10729-017-9409-3.

51. Enayati, S., Mayorga, M., Toro-Diaz, H., **Albert, L**. 2018. Identifying trade-offs in equity and efficiency for simultaneously optimizing location and multi-priority dispatch of ambulances. *International Transactions in Operational Research 26, 415 – 438.* DOI: 10.1111/itor.12590

52. Iloglu, S., **Albert, L.A.** 2018. An Integrated Network Design and Scheduling Problem for Network Recovery and Emergency Response. *Operations Research Perspectives* 5, 218 – 231.

53. Zheng, K., and **Albert, L.A.** 2018. [An exact algorithm for solving the bilevel facility interdiction and fortification problem](). *Operations Research Letters* 46(6), 573 – 578.

54. Almoghathawia, Y., Barker, K., **Albert, L**. 2019. [Resilience-Driven Restoration Model for Interdependent Infrastructure Networks](), *Reliability Engineering and System Safety*, 185, 12 – 23.

55. Zheng, K., **Albert, L**., Luedtke, J.R., Towle, E. 2019. [A budgeted maximum multiple coverage model for cybersecurity planning and management](), *IISE Transactions* 51(12), 1303-1317.

56. Zheng, K., and **Albert, L.A.** 2019. [A robust approach for mitigating risks in cyber supply chains](), *Risk Analysis* 39(9), 2076-2092.

57. Zheng, K., and **Albert, L.A.** 2019. [Interdiction models for delaying adversarial attacks against critical information technology infrastructure](). *Naval Research Logistics* 66(5), 411 – 429.

58. Yoon, S., and **Albert, L.A.** 2020. A dynamic ambulance routing model with multiple response. To appear in *[Transportation Research Part E: Logistics and Transportation Review](). [https://doi.org/10.1016/j.tre.2019.11.001]()

59. Iloglu, S. and **Albert, L.A.** 2020. [A maximal multiple coverage and network restoration problem for disaster recovery](). To appear in *Operations Research Perspectives*.

60. Sudtachat, K., Mayorga, M.E., Chanta, S., **Albert, L.A.**, 2020. Joint relocation and districting using a nested-compliance model for EMS systems, To appear in *Computers & Industrial Engineering*.

## Book Chapters

1. **McLay, L.A.**, 2010. Emergency Medical Service Systems that Improve Patient Survivability. *Encyclopedia of Operations Research* in the area of "Applications with Societal Impact," eds. J.J. Cochran, L. A. Cox, Jr., P. Keshinocak, J.C. Smith. John Wiley & Sons, Inc., Hoboken, NJ (published online: DOI: 10.1002/9780470400531.eorms0296).

2. **McLay, L.A**, 2011. [Risk-Based Resource Allocation Models for Aviation Security](). *Safety and Risk Modeling and Its Applications*, Springer, p. 243 – 262.

3. Leclerc, P.D., **L.A. McLay**, M.E. Mayorga, 2011. [Modeling equity for allocating public resources](). *Community-Based Operations Research: Decision Modeling for Local Impact and Diverse Populations,* Springer, p. 97 – 118.

4. Merrick, J. and **Albert, L**, 2018. Expert Judgment Based Nuclear Threat Assessment for Vessels Arriving in the US, in: Dias LC, Morton A, Quigley J (eds), Elicitation: The science and art of structuring judgement.  Springer, New York (Chapter 19)

## Books and Conference Volumes edited

1. Borchers, B., Brooks, J.P., and **McLay, L.A**. 2015. Operations Research and Computing: Algorithms and Software for Analytics, 14th INFORMS Computing Society Conference (ICS2015) volume, January 11-13, 2015, Richmond, VA, available open source at: [https://www.informs.org/Pubs/ICS-Proceedings/2015-Conference-Volume]().

## Conference Proceedings

1. **McLay, L.A**., Jacobson, S.H., Kobza, J.E., 2006. "Balancing Technology Capability Enhancement and Passenger Prescreening Information for Aviation Baggage Screening, Proceedings of Safe Skies Symposium, Washington, DC.

2. Jacobson, S.H., Hall, S.N., **McLay, L.A**., 2006, "Visiting Near-Optimal Solutions Using Local Search Algorithms." Proceedings in Computational Statistics, COMPSTAT 2006 (Editors, A. Rizzi, M. Vichi), Physica-Verlag, Springer, Heidelberg, Germany, 471-481.

3.  Chanta, S., Mayorga, M., **McLay, L**., Wiecek, M., 2009, "A Bi-Objective Covering Location Model for EMS Systems." Proceedings of the 2009 Industrial Engineering Research Conference. *Won Best Paper Award in the Operations Research track.*

4.  Buede, D., Mahoney, S., Guikema, S., Ezell, B., **McLay, L**., 2010. "Plural models for adaptive adversary modeling." Proceedings of the Workshop on Grand Challenges in Modeling, Simulation, and Analysis for Homeland Security (MSAHS 2010).

5.  Kao, G., Eames, B., Haas, J., Fisher, A., Michalski, J., Blount, J., Hamlet, J., Lee, E., Gauthier, J., Wyss, G., Helinski, R., Franlin, D., **McLay, L.** 2014. Supply chain Lifecycle Decision Analytics, 2014 International Carnahan Conference on Security Technology (ICCST), Rome, Italy, DOI: 10.1109/CCST.2014.6986979

6.  **Albert McLay, L**., 2015. Discrete optimization models for homeland security and emergency management, TutORial at the 2015 INFORMS Annual Meeting, November 1-4, 2015, Philadelphia, PA.

7.  Otles, E., **McLay, L. A.**, & Patterson, B. W. 2015. Predicting Emergency Department Patient Throughput Times Utilizing Machine Learning. *Annals of Emergency Medicine*, *66*(4), S99-S100. Abstract.

8.  Otles, E. **McLay, L.A.**, Gorski, J.K., and Patterson, B.W.. 2016. Forecasting emergency department patient admissions utilizing machine learning. *Academic Emergency Medicine* 23:S90

## *Op-eds*

1.  **Albert, L**., 2020. Travel bans can't stop this pandemic. The Hill, March 18, 2020.

## *Professional Publications*

2.  **McLay, L.A**., S.H. Jacobson, and J.E. Kobza, 2005. "Making Skies Safer: Applying Operations Research to Aviation Passenger Prescreening Systems," *ORMS Today*, 32(5), 24-31. Later reprinted in *Analytics*, Spring 2008, 12-17.

3.  **McLay, L.A**., 2009. "Interviewing for an academic position," In *Tips on getting an academic position*, Ed. Z.J. Pei, Lulu, 33 – 36.

4.  **McLay, L.A.** "Beneath and Beyond Blogging for OR," IFORS News 6(3), September 2012, available at http://ifors.org/newsletter/IFORSsept2012.pdf.

5.  **Albert, L.** 2017. "Opportunities for O.R. at the National Science Foundation." ORMS Today 44(3), p. 10.

6.  **Albert, L.** 2019. Securing cyber-infrastructure to keep sensitive data safe. ISE Magazine (from IISE), Volume 51, Number 11, p. 48.

## *Papers under Review and Technical Reports*

1.  Yoon, S. and **Albert, L.A.** 2018. Dynamic Resource Assignment for Emergency Response with Multiple Types of Vehicles, Submitted to *Operations Research*, October 2018.

2.  Yoon, S., and **Albert, L.A.** 2019. A Scenario-Based Ambulance Location Model for Emergency Response with Two Types of Vehicles. Under review at *Transportation Science*, March 2019, revised January 2020.

3.  Dubois, E. **Albert, L.A.** 2020. Dispatching Policies During Prolonged Mass Casualty Incidents. Under review at *SN Operations Research Forum*.

4.  **Albert, L.A.**, Nikolaev, A., Lee, A.J., Fletcher, K., and Jacobson, S.H., 2019. Why TSA PreCheck works, Submitted to *Service Science*, May 2019 (revised January 2020).

5. Schmidt, A. P., and **Albert, L.A.** 2019. Risk management for cyber-infrastructure protection: A bi-objective integer programming approach, under review at *Reliability Engineering & System Safety*.
6. Enayaty-Ahangar, F., **Albert, L.A.,** DuBois, E. 2019. A survey of optimization models and methods for cyberinfrastructure security. Under review at *IISE Transactions.*
7. Iloglu, S., **Albert, L.A.,** Michini, C. 2020. Facility Location and Restoration Games, in final preparation to be submitted to *Operations Research*.

## RESEARCH PRESENTATIONS
### *Keynote, Public, Plenary, Semi-Plenary, and Distinguished Lectures*
1. Semi-Plenary speaker, German Operations Research Society International Conference on Operations Research, "Delivering emergency medical services: Research, application, and outreach," September 2-5, 2014, Aachen, Germany.
2. Fuzzy Vance Lecture in Mathematics, Oberlin College, Department of Mathematics. September 30, 2015. "Locating and dispatching ambulances using discrete optimization methodologies"
3. Keynote talk. "Advanced analytics for supporting public policy, bracketology, and beyond!" WISCNET Connections Conference, May 8-9, 2017, Madison, WI.
4. Keynote talk. "Delivering emergency medical services: Research, theory, and application." 4th International Workshop on Planning of Emergency Services, Delft, the Netherlands, June 19-20, 2017.
5. Keynote speaker, Great Lakes Analytics in Sports Conference, "Forecasting the College Football Playoff Using Markov Chains," University of Wisconsin-Stevens Point, June 21, 2018.
6. Plenary speaker, EURO Working Group on Locational Analysis XXV conference, "On designing public sector systems in emergency medical services, disaster response, and homeland security," June 5-7, 2019, Brussels, Belgium.
7. Keynote speaker, $2^{nd}$ International Institute of Forecasters (IIF) Workshop on Forecasting for Social Good, to occur on June 11-12, 2020, Bordeaux, France.
8. Keynote speaker, Research Symposium on Homeland Security, Kennesaw State University in Kennesaw, GA, to occur on October 15, 2020.

### *Invited Research Seminars and Lectures (\* denote transition to practice talks)*
9. Department of Statistical Sciences and Operations Research, VCU, Fall 2006 Seminar Series, October 16, 2006, "Screening Passengers for Aviation Security."
10. John Tyler Community College, Midlothian, VA, December 3, 2007, "Issues in Terrorism and Homeland Security."
11. Georgetown University, April 11, 2008, "A Maximum Expected Covering Location Model for Emergency Medical Service Systems."
12. Joint Technical Presentation of the Washington, D.C. Chapter of INFORMS and the National Chapter of IIE at George Washington University, December 4, 2008, "Screening Cargo Containers for Nuclear Material."
13. The University of Texas at Austin, January 23, 2009, "Emergency Medical Service Systems that Save Lives."
14. Virginia Commonwealth University, Discrete Mathematics Seminar, September 3, 2009, "Knapsack Problem Variations and Homeland Security: Theory and Application."
15. University of Buffalo (SUNY), November 19, 2009, "Resource Allocation Problems for Nuclear Terrorism."
16. Virginia Commonwealth University, Biomath Seminar, April 16, 2010. "Optimal Emergency Medical Service Dispatching Policies"

17. Virginia Commonwealth University, Mechanical Engineering Seminar, May 3, 2010. "Optimization Models for Emergency Medical Services."
18. George Washington University, School of Business seminar, February 4, 2011. "Optimal dispatching models for server-to-customer systems with classification errors."
19. Rensselaer Polytechnic Institute, October 5, 2011. "A model for optimally dispatching ambulances to emergency calls with classification errors in patient priorities."
20. Panelist, Grace Hopper Celebration of Women in Computing Conference, Baltimore, MD, "Securing our borders - are we there yet?," October 3-6, 2012.
21. Richmond-Tidewater Chapter of INFORMS, May 10, 2012, "Managing Emergency Medical Services During Severe Weather Events."
22. Washington DC Chapter of INFORMS, May 15, 2012, "Managing Emergency Medical Services During Severe Weather Events."
23. University of Oklahoma, September 14, 2012, "Optimal and equitable policies for dispatching ambulances to emergency medical patients."
24. Texas A & M University, November 26, 2012. "Models for jointly locating and dispatching ambulances."
25. Virginia Commonwealth University, Department of Healthcare Policy and Research, November 13, 2012, "Operations research models for emergency medical services."
26. Invited Speaker. 2013 AAAS Annual Meeting, Boston, MA, "Emergency medical and fire calls during severe weather events" in the Symposium entitled Dynamics of Disasters: Harnessing the Science of Networks to Save Lives, February 14-18, 2013.
27. Featured speaker, IEEE Conference on Automation Science and Engineering (CASE) Women in Engineering luncheon, "Five Observations about Women in Engineering," August 19, 2013.
28. Wisconsin Institute of Discovery, University of Wisconsin-Madison, Systems, Information, Learning and Optimization (SILO) seminar, 30 October 2013, "Homeland Security Screening Supply Chain Optimization."
29. University of Michigan, March 27, 2014, "Optimization models for locating and dispatching ambulances."
30. University of Wisconsin-Madison, complex systems seminar, April 1, 2014, "Modeling issues in emergency medical services and their implications."
31. University of Wisconsin-Madison, applied math seminar, April 4, 2014, "Covering optimization models for emergency response, security, and resilience."
32. Illinois Institute of Technology, April 21, 2014, "Covering optimization models for emergency response, security, and resilience."
33. University of Illinois at Urbana-Champaign, April 24, 2014, "Covering optimization models for emergency response, security, and resilience."
34. Northwestern University, Department of Industrial Engineering and Management Sciences, May 6, 2014, "Covering optimization models for emergency response, security, and resilience."
35. University of Wisconsin-Madison, Computation and Informatics in Biology and Medicine (CIBM) Seminar Series, December 2, 2014, "Delivering Emergency Medical Services: Research, Application, and Outreach."
36. Keynote speaker for University of Toronto's Operations Research Group Mini Symposium, February 23, 2015.
37. University of Wisconsin-Madison, Wisconsin Institutes for Discovery, SILO Seminar Series, December 9, 2015, "A Modified Logistic Regression Markov Chain Model for Forecasting the College Football Playoff"
38. University of Wisconsin-Madison, Chaos and Complex Systems Seminar, March 1, 2016, "How to rank sports teams and forecast game outcomes using math models."

39. Lehigh University, March 22, 2016, "Allocating resources for emergency response: theory, practice, and outreach."
40. University of Wisconsin-Madison, Industrial and Systems Engineering 50th Anniversary Reunion, June 4, 2016, "Operations research for homeland security and beyond!"
41. University of Wisconsin-Madison, New Educators Orientation Keynote Speaker, "My teaching journey: there and back again," January 12, 2017.
42. Wisconsin Institute for Discovery, Crossroads of Ideas, "The Math Behind the March Madness Tournament," March 14, 2017.
43. Invited Speaker, International Conference on Risk Analysis, Decision Analysis, and Security, "An Interdiction Model for Delaying Adversarial Attacks in Information Technology Supply Chains," Beijing, China, July 21-23, 2017.
44. UW Now panel sponsored by the Bascom Hill Society and the UW Foundation, New York City, October 25, 2017.
45. University of Chicago Booth School of Business, "Models and algorithms for delivering emergency medical services," November 7, 2017.
46. AAAS Annual Meeting, "Good Security Policy Requires Tradeoffs Between Efficiency, Effectiveness, and Cost," February 17, 2018, Austin, TX.
47. University of Oklahoma, "Designing emergency medical service systems to enhance community resilience," March 26, 2018.
48. * INFORMS Government & Analytics Summit, Opening remarks, "Operations Research & Analytics: Saving Lives, Saving Money, Solving Problems," May 21, 2018, Washington, DC.
49. Carnegie Mellon University, Heinz College, "Models and algorithms for protecting critical information technology infrastructure." September 10, 2018.
50. Purdue University, "Models and algorithms for critical infrastructure planning with application to cyber-security planning," February 8, 2019.
51. University of Wisconsin-Madison, Women in IT group. "Technology driven data analytics for bracketology and ranking sports teams," February 25, 2019.
52. University of Wisconsin-Stout, "Protecting critical infrastructure to enhance cyber-security using optimization and analytics, March 8, 2019.
53. University of Wisconsin-Madison, University Roundtable. "Bracketology 101: how data analytics can rank sports teams," March 13, 2019.
54. University of Illinois at Urbana-Champaign, "A talk with Laura Albert about academic leadership and work-life balance" with the Women in Engineering and GradSWE, April 11, 2019.
55. * Moderator, 2019 INFORMS Government & Analytics Summit panel, Washington, DC., May 20, 2019.
56. * Cybersecurity Transition to Practice Workshop, "Cybersecurity protection," Chicago, IL, June 19, 2019.
57. University of Iowa, Tippie Analytics, "On designing public sector systems for emergency response," September 13, 2019.
58. * Institute for Defense Analyses, Invited talk as the Academic Perspective: "From insights to decisions: how data analytics improves emergency response and security," September 18, 2019.

***Teaching, Mentoring, and Professional Development Seminars, Lectures, and Talks***

1. Sponsored Session, 2007 INFORMS Annual Meeting, November 4-7, 2007, Seattle, WA, "OR in the Classroom: Helping the Homeless."

2. Invited Panel, Blog panel for the Center for Teaching Excellence (at Virginia Commonwealth University) Teaching and Learning with Technology Institute, June 2, 2009.
3. Panelist, "Science Blogging: Laboratory of Ideas or Contaminated Experiment?" Virginia Commonwealth University, February 17, 2010.
4. Panel moderator, 2010 INFORMS Annual Meeting, Austin, TX, "Blogging and tweeting about operations research: A panel discussion about social networking," November 7-10, 2010.
5. Created a lecture on technical writing for STAT/OPER 690, Research and Communications Seminar.
6. Speaker. Virginia Commonwealth University Math Club seminar, October 7, 2011 "So you're thinking about graduate school in the mathematical sciences."
7. Invited Panelist, 2011 INFORMS Annual Meeting, Charlotte, NC, "Blogging for O.R. - Publish Your O.R. Work and Insights Online," November 13-16, 2011.
8. Guest lecturer, "Advice for PhD students about to hit the academic job market" for the "Preparing Future Faculty" program at VCU, December 8, 2011.
9. Seminar for students at the University of Oklahoma, September 14, 2012, "Advice for PhD students, prospective PhD students, and aspiring academics."
10. Speaker. Berglund Honors seminar series at Virginia Commonwealth University, "Applying to graduate school: Tips for navigating (and surviving) the process," October 2, 2012.
11. Panelist, 2012 INFORMS Annual Meeting, Phoenix, AZ, "Bringing O.R. into the 21st Century with Social Networking and Web 2.0 Tools," October 14-17, 2012.
12. Invited Panelist, 2012 INFORMS Annual Meeting, Phoenix, AZ, "Panel Discussion: Effective Strategies for Time Management and Work-life Balance," October 14-17, 2012.
13. Panel Moderator, 2012 INFORMS Annual Meeting, Phoenix, AZ, "Panel Discussion on Women in Engineering: Publishing, Recruitment, and Retention," October 14-17, 2012.
14. Speaker. Engineering Tomorrow's Careers Summer Camp for high school girls at UW-Madison organized by the UW SWE chapter, June 18, 2014.
15. **Distinguished lecturer at Oberlin College** for an undergraduate optimization course in the Department of mathematics, September 29 – October 1, 2015.
    a. Lectures included "Integer programming for locating ambulances" and "Should a football team run or pass? A game theory approach using linear programming."
16. Featured speaker, Women in Science and Engineering (WISE) lecture, University of Wisconsin-Madison, October 4, 2016.
17. **Keynote speaker**, Spring New Educators Orientation, January 12, 2017, University of Wisconsin-Madison.
18. Panelist, "Breaking the Bias Habit: Tips for Inclusive Teaching," March 21, 2017, University of Wisconsin-Madison.
19. **Visiting Professor**, University of Oklahoma, March 26, 2018. Gave a lecture, "Modeling service networks" in the Dream Course on the Analytics of Resilient Cyber-Physical-Social Networks.
    a. Lecture entitled "Modeling service networks."
20. Panelist. "Becoming a More Productive Writer." INFORMS Annual Meeting, November 2-7, 2018, Phoenix, AZ.

21. University of Illinois at Urbana-Champaign. Academic leadership and work-life balance with GradSWE, April 11, 2019.

22. Panelist, Teaching and Student Mentoring panel, New Faculty Colloquium, INFORMS Annual Meeting, October 20-23, 2019, Seattle, WA.

23. Panelist, Serving and networking panel, New Faculty Colloquium, INFORMS Annual Meeting, October 20-23, 2019, Seattle, WA.

24. Panelist, Becoming a great teacher, Doctoral Student Colloquium, INFORMS Annual Meeting, October 20-23, 2019, Seattle, WA.

25. Panelist, Navigating Promotion & Tenure: A Guide for Assistant Professors panel, INFORMS Annual Meeting, October 20-23, 2019, Seattle, WA.

26. Speaker, On academic job searches at the networking breakfast, INFORMS Annual Meeting, October 20-23, 2019, Seattle, WA.

27. **Lecturer at Lancaster University**, UK. STOR-I Masterclass, "Public sector operations research." February 24-25, 2020. Six hour mini-course taught over two days.

### *Contributed Research Talks*

59. Contributed Session (with David E. Goldberg), 2000 Genetic and Evolutionary Computation Conference (GECCO), July 8-12, 2000, Las Vegas, NV, "The Effect of Numerical Integration on Solution Quality of a Genetic Algorithm." In reviewed proceedings.

60. Contributed Session (with David E. Goldberg), 2001 Artificial Neural Networks in Engineering (ANNIE), November 5-7, 2001, St. Louis, MO, "Efficient evaluation relaxation under integrated fitness functions." In reviewed proceedings.

61. Contributed Session (with David E. Goldberg), 2002 Genetic and Evolutionary Computation Conference (GECCO), July 9-13, 2002, New York, NY, "Efficient Discretization Scheduling in Multiple Dimensions." In reviewed proceedings.

62. Speaker, The Fourteenth International Summer Symposium on Science and World Affairs, July 15-21, 2002, Urbana, IL, "Passenger Profiling Issues in Aviation Security."

63. Speaker, Arms, Control, Disarmament, and International Security (ACDIS) Millennium Series, February 19, 2003, Urbana, IL, "Passenger Screening Issues in Aviation Security."

64. Contributed Session (with Sheldon H. Jacobson and John E. Kobza), 2003 INFORMS National Meeting, October 19-22, 2003, Atlanta, GA, "Modeling and Analyzing Checked Baggage Screening Systems."

65. Contributed Session (with Sheldon H. Jacobson), 2004 SIAM Conference on Discrete Mathematics, June 13-16, 2004, Nashville, TN, "Integer Knapsack Problem with Set-up Weights."

66. Contributed Session (with Sheldon H. Jacobson and John E. Kobza), 2005 INFORMS National Meeting, November 13-16, 2005, San Francisco, CA, "Integer Programming Models and Analysis for a Multilevel Passenger Screening Problem"

67. Speaker, 2006 Symposium on Operations Research and the Criminal Justice System, September 28-29, 2006, Arlington, VA, "Balancing COMPSTAT and Community Policing."

68. Speaker (with Sheldon H. Jacobson), 2006 INFORMS National Meeting, November 5-8, 2006, Pittsburgh, PA, "The Economic Impact of Obesity on Automobile Fuel."

69. Speaker (with Sheldon H. Jacobson), 2007 INFORMS International Conference, July 8-11, 2007, Puerto Rico, "A Sequential Stochastic Passenger Screening Problem for Aviation Security."

70. Speaker. Berglund Honors Seminar Series, Virginia Commonwealth University, September 18, 2007, "Issues in Homeland Security and Emergency Response."

71. Speaker, SAMSI Perception, Policy & Practice Workshop, October 3-4, 2007, Research Triangle Park, NC, "Modeling Patient Survivability for Emergency Medical Service Systems."
72. Speaker (with Jason R.W. Merrick), 2007 INFORMS Annual Meeting, November 4-7, 2007, Seattle, WA, "Modeling Survivability for Emergency Medical Service Systems."
73. Sponsored Session (with Sheldon H. Jacobson and Adrian J. Lee), 2007 INFORMS Annual Meeting, November 4-7, 2007, Seattle, WA, "A Problem to Sequentially Screen Passengers for Aviation Security."
74. Speaker. Berglund Honors Seminar Series, Virginia Commonwealth University, October 7, 2008, "Issues in Homeland Security and Emergency Response."
75. Speaker (with Jamie D. Lloyd and Emily Niman), 2008 INFORMS Annual Meeting, October 11-15, 2008, Washington, DC, "Screening Cargo Containers for Nuclear Material."
76. Speaker (with Jason R.W. Merrick, Jamie D. Lloyd, Emily Niman) DIMACS/DyDAn/LPS Workshop on Port Security/Safety, Inspection, Risk Analysis and Modeling, November 17-18, 2008, Piscataway, NJ. "Screening Cargo Containers for Nuclear Material using Knapsack Problem and Bayesian Probability Models
77. Contributed session (with Chris Foufoulides), 2009 Virginia Academy of Science, 87th Annual Meeting, May 26-29, 2009, "Using Simulation Optimization to Construct Efficient Screening Strategies for Cervical Cancer."
78. Speaker. Berglund Honors Seminar Series, Virginia Commonwealth University, September 15, 2009, "Optimally Managing Emergency Medical Service Systems."
79. Speaker (with Chris Foufoulides), 2009 INFORMS Annual Meeting, October 11-14, 2009, San Diego, CA. "Using Simulation Optimization to Construct Efficient Screening Strategies for Cervical Cancer."
80. Speaker (with Maria E. Mayorga), 2009 INFORMS Annual Meeting, October 11-14, 2009, San Diego, CA. "Evaluating Emergency Medical Service Performance Measures."
81. Speaker (with Jason R.W. Merrick), 2009 INFORMS Annual Meeting, October 11-14, 2009, San Diego, CA. "Is Screening Cargo Containers for Smuggled Nuclear Threats Worthwhile?"
82. Speaker (with K. Reggie Moore), DIMACS/CCICADA Workshop on Modeling and Mitigation of the Impacts of Extreme Weather Events to Human Health Risks, Rutgers University, Piscataway, NJ, "How does extreme weather affect the volume and nature of emergency medical 911 calls?", June 3-4, 2010.
83. Speaker (with Maria E. Mayorga), 2010 INFORMS Annual Meeting, Austin, TX, "Optimal Dispatching Policies for Emergency Medical Services," November 7-10, 2010.
84. Speaker (with Maria E. Mayorga), 2010 INFORMS Annual Meeting, Austin, TX, "Equitable Dispatching Policies for Emergency Medical Services," November 7-10, 2010.
85. Speaker (with Maria E. Mayorga), 2011 INFORMS Computing Society Conference, Monterey, CA, "An optimal dispatching model for server-to-customer systems with classification errors," January 9-11, 2011.
86. Speaker (with Sheldon H. Jacobson and Alexander Nikolaev), 2011 INFORMS Computing Society Conference, Monterey, CA, "Sequential, Stochastic Screening Problems," January 9-11, 2011.
87. Speaker. Berglund Honors Seminar Series, Virginia Commonwealth University, February 3, 2011, "Emergency medical services and extreme weather events."
88. Speaker (with Ed Boone and J. Paul Brooks), 2011 Virginia Academy of Science, 89th Annual Meeting, May 24 – 26, 2011, "Estimating the volume and nature of emergency medical calls during severe weather."

89. Speaker, International Research Committee on Disasters Researchers Meeting, "An Analysis of the Volume and Nature of Emergency Medical Calls During Severe Weather Events," July 12-13, 2011, Broomfield, CO.
90. Speaker.  Berglund Honors Seminar Series, Virginia Commonwealth University, September 27, 2011, "Staffing ambulances during blizzards."
91. Speaker. "A mixed-integer programming model for enforcing priority list policies in Markov decision process models." Army Conference on Applied Statistics, October 19-21, 2011, Annapolis, MD.
92. Speaker (with Rebecca Dreiding). "Screening cargo containers for nuclear material using a layered, risk-based screening system." Society for Risk Analysis Conference, December 4-7, 2011, Charleston, SC.
93. Speaker (with Casey Rothschild and Seth Guikema), 2011 INFORMS Annual Meeting, Charlotte, NC, "Robust Adversarial Risk Analysis: A Level-k Approach," November 13-16, 2011.
94. Speaker, 2011 INFORMS Annual Meeting, Charlotte, NC, "A mixed-integer programming model for enforcing priority list policies in Markov decision processes," November 13-16, 2011.
95. Speaker (with Edward Boone and J. Paul Brooks), 2011 INFORMS Annual Meeting, Charlotte, NC, "Analyzing the Volume and Nature of Emergency Medical Calls during Severe Weather Events," November 13-16, 2011.
96. Speaker, American Meteorological Society Annual Meeting, "An Analysis of the Volume and Nature of Emergency Medical Calls During Severe Weather Events," January 22-26, 2012, New Orleans, LA.
97. Speaker (with Maria E. Mayorga), "Equitable dispatching policies for emergency medical services," Computational Management Science Conference, April 18-20, 2012, London, UK.
98. Speaker.  Berglund Honors Seminar Series, Virginia Commonwealth University, April 23, 2012, "The effect of Hurricane Irene and Snowmageddon on 911 calls."
99. Speaker, "A mixed-integer programming model for enforcing priority list policies in Markov decision processes," International Symposium of Mathematical Programming, August 20-24, 2012, Berlin.
100. Speaker (with Sardar Ansari and Maria E. Mayorga), "A mixed integer programming model for locating and dispatching ambulances," Army Conference on Applied Statistics, October 24-26, 2012, Monterey, CA.
101. Speaker (with Maria E. Mayorga), 2012 INFORMS Annual Meeting, Phoenix, AZ, "Evaluating the Impact of Performance Goals on Emergency Medical Service Dispatching Decisions," October 14-17, 2012.
102. Speaker (with Richard Garrett), 2012 INFORMS Annual Meeting, Phoenix, AZ, "Predictive Performance of Data Mining and Regression Methodologies On 911 Call Counts," October 14-17, 2012.
103. Speaker (with Sardar Ansari and Maria E. Mayorga), "A mixed integer programming model for locating and dispatching via district design," INFORMS Computing Society Conference, January 6-8, 2013, Santa Fe, NM.
104. Speaker (with Sardar Ansari and Maria Mayorga), "Integrated models for locating and dispatching ambulances." INFORMS Healthcare Conference, June 23-26, 2013, Chicago, IL.
105. Speaker (with Casey Rothschild and Seth Guikema), "Adversarial risk analysis with incomplete information: A level-k approach," Society for Risk Analysis Symposium, December 8-11, 2013, Baltimore, MD.

106. Speaker (with John Angelis), "A sensitivity analysis of three quarterback rating systems," INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN.
107. Speaker (with Soovin Yoon), "The value of patient information in allocating emergency medical service resources," INFORMS Annual Meeting, November 9-12, 2014, San Francisco, CA.
108. Speaker (with Kaiyue Zheng). "Maximal coverage problems for reducing cyber-security vulnerabilities" at the INFORMS Computing Society Conference, January 11-13, 2015, Richmond, VA.
109. TutORial Speaker, "Discrete optimization models for homeland security and disaster management," INFORMS Annual Meeting, "Discrete optimization models for homeland security and emergency management," November 1-4, 2015, Philadelphia, PA.
110. Panelist at the INFORMS Annual Meeting, "Special Panel on 20th Year Anniversary of WORMS: Strategies for Advancing Women in OR/MS," November 1-4, 2015, Philadelphia, PA.
111. Invited speaker, "Maximal coverage models for trustworthy computing," Adversarial risk analysis for critical infrastructure workshop, May 23-27, 2016, Leiden, the Netherlands.
112. Speaker (with Suzan Afacan), "An Integrated Network Design And Scheduling Problem for Network Restoration And Emergency Response," INFORMS International, Hawaii, June 12-15, 2016.
113. Speaker (with Kaiyue Zheng), "A Budgeted Maximum Multiple Coverage Model For Cybersecurity Planning And Management," INFORMS International, Hawaii, June 12-15, 2016.
114. Speaker, "A logistic regression model for forecasting the College Football Playoff," INFORMS Annual Meeting, November 6-9, 2016, Nashville, TN.
115. Speaker, "An Expected Coverage Model With A Cutoff Priority Queue," INFORMS Healthcare Conference, July 24-28, 2017, Rotterdam, Netherlands.
116. Speaker, "Dynamically routing ambulances to patients with multiple types of vehicles and multiple response," EURO Conference, June 24-27, 2019, Dublin, Ireland.
117. Speaker, INFORMS Annual Meeting, October 20-23, 2019, Seattle, WA.

### Posters
118. With Alisha Purohit. 2008 INFORMS Annual Meeting, October 11-15, 2008, Washington, DC, "Designing Next-Generation Emergency Medical Service Systems."
119. With Maria Mayorga. 2009 Virginia Health Equity Conference, September 10-11, 2009, Glen Allen, VA, "Equity in locating ambulances in emergency medical service systems."
120. With James Denison, Rebecca Dreiding, and Maria Mayorga. 2009 INFORMS Annual Meeting, October 11-14, 2009, San Diego, CA. "Evaluating Emergency Medical Service Dispatching Policies."

## RESEARCH AWARDS AND CONTRACTS
### Federal ($2,668,550)
1. National Security Agency, "Distinguished Visiting Professor, Summer Programs in Operations Research Technology (SPORT)," PI, $33,360, 5/16/2007 – 8/31/2007.
2. National Science Foundation, "ARI-SA: Multi-Layered System Level Screening for Port Security," CBET-0735735, PI, $292,077, 9/1/2007 – 8/31/2008. This was continued as Department of Homeland Security, Domestic Nuclear Detection Office, 9/1/2008 – 8/31/2010.
3. Department of Homeland Security, "Plural Models for Adaptive Adversary Modeling," Co-PI, Co-PI, $229,896, 7/1/2010 – 5/1/2011.

4. Department of the Army-Materiel Command, Army Research Office, Young Investigator Award, "Optimally Managing Dynamic Military Server-to-Customer Systems," PI, $150,000, 5/14/2010 – 5/13/2013.

5. National Science Foundation, "CAREER: Extreme Weather Events and Emergency Medical Services: A Discrete Optimization Modeling Framework", #1444219 (originally: #1054148), 6/1/2011 – 5/31/2018, PI, $433,375.

6. Sandia National Laboratories, "Supply Chain Life Cycle Optimization Algorithm Development," 8/1/2013 – 9/30/2013, PI, $9,983. 8/1/2014 – 9/30/2014, PI, $11,500

7. National Science Foundation, "Collaborative Research: Flexible Multi-Scale Models of Transportation Network Service Recovery," #1361448, 5/1/2014 – 4/30/2018, PI, $158,864.

8. National Science Foundation, "SBE: Small: An optimization framework for prioritizing cyber-security mitigations for securing information technology infrastructure," #1422768, 9/1/2014 – 8/31/2019, PI, $455,828.

9. Department of Homeland Security, Subaward from the Center of Excellence for Command, Control, and Interoperability Center (CCICADA) at Rutgers, "Data Analytics for Venue Screening," $32,535. PI.

10. National Science Foundation, "Resilience Analytics: A Data-Driven Approach for Enhanced Interdependent Network Resilience." #1541165, 10/15/2015 – 10/14/2018 Co-PI, $1,381,958 (UW subaward $299,748).

11. National Science Foundation, "EAGER: A Framework For Economical Cyber Security Inspection and Assurance." #1912166, 3/15/2019 – 3/14/2021. Co-PI, $300,000 (UW subaward $100,000).

12. National Science Foundation, "ISN2: Disrupting Opioid Supply Chains through Policing: A Mathematical Modeling Framework," #1935550, PI, $536,849, 1/1/2020 – 12/31/2022.

### Internal ($49,846)

1. American Cancer Society Institutional Research Grant, "Mathematical Modeling of Dynamic Cervical Cancer Screening Policies," PI, $15,740, IRG-73-001-31, 1/1/2007 – 12/31/2007.

2. Virginia Commonwealth University, Honors Summer Undergraduate Research Project, Project advisor, $3000, 5/15/2008 – 7/14/2008.

3. Virginia Commonwealth University, Honors Summer Undergraduate Research Project, Project advisor, $2225, 5/15/2009 – 7/14/2009.

4. Virginia Commonwealth University, Honors Summer Undergraduate Research Project, Project advisor, $1000, 5/15/2010 – 7/14/2010.

5. University of Wisconsin-Madison, Vilas Life Cycle Professorship, $27,881, 9/1/2015 – 6/30/2017.

## TEACHING

### Teaching impact outside of the classroom

- Helped write a best practices document for teaching to a diverse classroom entitled, "Diversity in the Classroom: Considerations of Race, Ethnicity, and Gender Recommendations for Teachers/Instructors." This document was distributed to all College of Engineering faculty and instructors.
- The students in my PhD level seminar on Discrete optimization modeling techniques for public services, homeland security, and disasters (ISYE 823, Spring 2016) wrote a

course blog (https://publicsectororcourse.wordpress.com/) that was the first course blog of its kind in industrial engineering and operations research.

- My blog Punk Rock Operations Research (https://punkrockor.com/) contain many blog posts I use for teaching. Additionally, it is used by peers at other universities.
- The American Society of Engineering Education's Committee on Diversity has reviewed and cited some of my blog posts from Punk Rock Operations Research to support teaching in a diverse and inclusive engineering classroom.

## *Courses at the University of Wisconsin-Madison*

1. ISyE 624, Stochastic Modeling Techniques
   a. Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019
2. ISyE 320/321: Simulation and Probabilistic Modeling
   a. Spring 2014, Spring 2015, Spring 2017
3. EGR 102: Introduction to Society's Engineering Grand Challenges
   a. Spring 2014, Fall 2014, Fall 2015
4. ISyE 601: Topics in Sports Analytics
   a. Spring 2017
5. ISyE 961: Doctoral Student Development Seminar
   a. Fall 2014 (as ISyE 691), Fall 2019
6. ISyE 823: Special Topics: Discrete optimization modeling techniques for public services, homeland security, and disasters
   a. Spring 2016

## *Courses at Virginia Commonwealth University*

1. MATH/OPER 327, Mathematical Modeling (2 times)
   a. Fall 2006, Spring 2013
2. OPER 647, Multiobjective Decision Analysis (3 times)
   a. Spring 2007, Spring 2010, Spring 2012
3. OPER 731, Discrete Optimization (3 times)
   a. Spring 2009, Spring 2011, Fall 2011
4. OPER 791, Supply Chains (1 time)
   a. Fall 2012
5. STAT 541, Applied Statistics for Engineers and Scientists (3 times)
   a. Fall 2007, Fall 2008, Fall 2009
6. STAT 503, Introduction to Stochastic Processes (5 times)
   a. Spring 2007, Spring 2009, Spring 2010, Spring 2011, Spring 2012
7. STAT 613, Stochastic Processes (3 times)
   a. Spring 2010, Spring 2011, Fall 2012
8. SYSM 683, Systems Seminar III (1 time)
   a. Fall 2012

## *Major Curriculum Development at University of Wisconsin-Madison*

1. Development of a 1-credit hour PhD seminar for PhD students professional development (ISYE 691 in Fall 2014 and later 961 in Fall 2019)
2. Development of a 3-credit hour PhD seminar on Discrete optimization modeling techniques for public services, homeland security, and disasters (ISYE 823, Spring 2016). In this course, the students wrote a course blog (https://publicsectororcourse.wordpress.com/)

3. Development of a 3-credit hour senior design election/graduate course Topics in Sports Analytics (ISYE 601, Spring 2017).

## Major Curriculum Development at Virginia Commonwealth University

1. Created new PhD level course OPER 731 (Discrete optimization)
2. Reintroduced courses STAT 503/STAT 613 (on the books but were not in the curriculum)
3. Created a 1 credit hour PhD preparation course on proposal writing (SYSM 683)

## Teaching Self-Development

1. Participated in the 2006 INFORMS Teaching Colloquium.
2. Participated in the 2009-2010 VCU Center for Teaching Excellence Tablet PC Program.
3. Participant in five VCU Center for Teaching Excellence courses (2006-2009).
4. Breaking the Bias Habit, UW-Madison, 2017.

## Current Graduate Students Advising or Mentoring

1. Veronica White, PhD candidate in Industrial and Systems Engineering (advisee), University of Wisconsin-Madison [expected May 2022].
2. Adam Schmidt, PhD candidate in Industrial and Systems Engineering (advisee), University of Wisconsin-Madison [expected August 2022].

## Ph.D. Dissertations Directed

1. Benjamin Grannan, "Dispatch, Delivery, and Location Logistics for the Aeromedical Evacuation of Time-Sensitive Military Casualties Under Uncertainty," PhD in Systems Modeling and Analysis, Virginia Commonwealth University Science, 2014. Working as an Assistant Professor at Furman University.
2. Kaiyue (Kay) Zheng. "Models and algorithms for critical infrastructure protection with an application to cybersecurity planning," PhD in Industrial Engineering, University of Wisconsin-Madison, 2017. Working at Amazon.
3. Soovin Yoon, "Optimal Planning of Tiered Emergency Medical Services," PhD in Industrial Engineering (advisee), University of Wisconsin-Madison, January 2019. Working at Amazon.
3. Suzan Iloglu, "Network optimization models for interdependent infrastructure restoration," PhD in Industrial Engineering (advisee), University of Wisconsin-Madison, August 2019. Working as a Post-doctoral researcher at Yale University.
4. Eric DuBois, "Optimization models with applications to homeland security systems," (advisee), University of Wisconsin-Madison, September 2019. Working at CNA, a nonprofit research and analysis organization located in Arlington, VA.

## M.S. Theses Directed

1. Christopher Foufoulides, MS in Operations Research at Virginia Commonwealth University, "Using simulation optimization to construct efficient screening strategies for cervical cancer," September 2008.
2. Jamie Dauberman Lloyd, MS in Operations Research at Virginia Commonwealth University (co-advised with Jason Merrick), "Making decisions about screening cargo containers for nuclear threats using decision analysis and optimization," December 2010.
3. Rebecca Dreiding, MS in Operations Research at Virginia Commonwealth University, "Allocating homeland security screening resources using knapsack problem models," December 2010.

5. Sardar Ansari, MS in Statistics, Virginia Commonwealth University Science, December 2013.

**M.S. Research**

1. Erkin Otles, MS University of Wisconsin-Madison, Industrial and Systems Engineering, 2016.
2. Huan Liang, MS University of Wisconsin-Madison, Industrial and Systems Engineering, 2019.

**Post-Docs supervised**

1. Forough Enayaty Ahangar, 2017-2019.

**Ph.D. Committees**

1. Sardar Ansari, Virginia Commonwealth University, Computer Science, August 2013.
2. Josh Clarke, Virginia Commonwealth University, Mechanical Engineering, May 2014.
3. James Brooks, Rensselaer Polytechnic Institute, Decision Sciences and Engineering Systems, May 2014.
4. Wairimu Magua, UW-Madison, Industrial and Systems Engineering, August 2014.
5. Mahdi Hamzeei, UW-Madison, Industrial and Systems Engineering, December 2014.
6. James Codella, UW-Madison, Industrial and Systems Engineering, December 2014.
7. Fuat Kosanoglu, UW-Madison, Industrial and Systems Engineering, December 2014.
8. Matthew Gidden, UW-Madison, Nuclear Engineering, May 2015.
9. Hyemin Jeon, UW-Madison, Industrial and Systems Engineering, May 2015.
10. Edmond Ramley, UW-Madison, Industrial and Systems Engineering, January 2016.
11. Namsuk Cho, UW-Madison, Industrial and Systems Engineering, May 2016.
12. Muhacit Cevik, UW-Madison, Industrial and Systems Engineering, May 2016.
13. Amonsiri Vilasdaechanont, UW-Madison, Industrial and Systems Engineering, 2016.
14. Sait Tunc, UW-Madison, Industrial and Systems Engineering, December 2016.
15. Vindhya Venkatraman, UW-Madison, Industrial and Systems Engineering, 2016.
16. Ergun Mehmet, UW-Madison, Industrial and Systems Engineering, 2017.
17. Amanda Smith, UW-Madison, Industrial and Systems Engineering, 2018.
18. Hyo Kyung Lee, UW-Madison, Industrial and Systems Engineering, August 2019.
19. Ho Jae Lee, UW-Madison, Chemical and Biological Engineering, expected December 2019.
20. Ali Hjaar, UW-Madison, Industrial and Systems Engineering, expected May 2020.

**M.S. Committees**

21. Mike Seifert, Applied MS Project in Operations Research at Virginia Commonwealth University, December 2007.
22. Laxi Mullapadi, MS in Chemical and Life Science Engineering at Virginia Commonwealth University, May 2009
23. Kelly Duncan, Applied MS Project in Operations Research at Virginia Commonwealth University, August 2009.

**Undergraduate Student Research**

1. Jamie Dauberman Lloyd, Independent study, Fall 2007.
2. Emily Niman, research on NSF/DNDO grant, Summer 2008.
3. Garrett Howe, research on NSF/DNDO grant, Summer 2009.

4. Alisha Purohit, Honors Summer Undergraduate Research Project in 2008.
5. James Denison, Honors Summer Undergraduate Research Project in 2009.
6. Garrett Howe, Independent study, Spring 2010.
7. James Denison, Honors Summer Undergraduate Research Project in 2010.
8. Garrett Howe, Undergraduate Summer Research Fellowship, 2010-2011.
9. Richard Garrett, undergraduate research, Summer 2011.
10. Amber Kunkel, undergraduate research, Summer 2011.
11. Taylor Richard, NSF REU, Summer 2012.
12. Victor Rivera Rodriguez, Summer 2014.
13. Huimin Ou, Summer 2016.
14. Adam Schmidt, 2017.
15. Meghan Meredith, 2019.

## *Student Awards*

- Student advisor for finalists in IIE/FlexSim Software Student Simulation Competition to be held at the Healthcare Systems Process Improvement Conference in Orlando, FL on February 18-20, 2015. Student members include Erkin Otles, April Soler, Michael Russo, and Samuel Schmitt.

- Suzan Afacan was awarded the Best Poster Award at the Turkish‑American Scientists and Scholars Association (TASSA) Conference in Chicago, IL on April 2-3, 2016 for a poster entitled "An integrated network design and scheduling problem for network restoration."

- Soovin Yoon won the Gustafson Fellowship, ISyE Department, University of Wisconsin-Madison.

- Veronica White won the Gustafson Fellowship (2019), ISyE Department, University of Wisconsin-Madison.

## SERVICE

### *Editorial Boards*

Department editor for *IISE Transactions* in the area of Government, Public Policy and Society, 2013 – present.

Associate editor for *Operations Research Perspectives*, 2019 – present.

Associate editor for *SN Operations Research Forum*, 2019 – present.

Associate editor for *International Transactions on Operational Research*, 2013 – 2016.

Associate editor for *OMEGA*, 2015 – 2016.

Area editor for *Risk Analysis* in the area of Mathematical Modeling, 2013 – 2015.

Area editor for *IIE Transactions* in the area of Homeland Security, 2009 – 2012.

### *Professional Society Committees and Award Committees*

Committee member of the National Research Council Committee on Risk-Based Methods for Insurance Premium of Negatively Elevated Structures in the National Flood Insurance Program, 2014 – 2015.

Chair, best paper awards committee for Institute of Industrial Engineers Transactions (IIET) Focused Issue on Operations Engineering and Analytics, 2013.

INFORMS Edelman Committee, 2016.

INFORMS Ad Hoc Committee on Diversity, 2016 – 2017.

Speakers Chair for the 2017 INFORMS Annual Meeting (2016-2017)

INFORMS Lancaster Award Committee, 2020.

## Professional Society Leadership Positions

INFORMS Vice President of Marketing, Communications, and Outreach, 2016 – 2019.

INFORMS Government and Analytics Summit Chair, 2018 – 2019.

INFORMS Advocacy Governance Committee Chair, 2019.

President-Elect/President/Past-President, INFORMS Section on Public Sector Operations Research (PSOR), 2013 – 2015.

President-Elect/President/Past-President, Women in OR/MS (WORMS), a forum of INFORMS, 2012 – 2014.

- Major initiatives included organizing new activities for the Analytics conference, beginning a student travel scholarship to the Analytics conference, beginning a student childcare travel scholarship to the Annual Meeting (with Susan Martonosi), and fundraising for conference events and travel scholarships.

INFORMS Computing Society Board of Directors, 2016 – 2017.

Member of the INFORMS Strategic Planning Committee, INFORMS, 2015 – 2017.

Vice-President of Meetings, Women in OR/MS (WORMS), a forum of INFORMS, 2008-2010.

Vice-President of Communications, INFORMS Section on Public Programs, Service and Needs (SPPSN), 2010 – 2012.

Member of the IT committee, INFORMS, 2011 – 2015.

Member of the Finance Committee, INFORMS, 2015.

Member, INFORMS Speaker Program, appointed in 2012.

Cluster chair, Women in OR/MS (WORMS), 2012 INFORMS Annual Meeting, Phoenix, AZ, October 2012.

Member of the INFORMS nominating committee, 2013.

Cluster chair for the Healthcare systems/Informatics, INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN.

Cluster chair in Homeland security, INFORMS Computing Society Conference, January 11-13, 2015, Richmond, VA.

Member of the INFORMS Doing Good with Good O.R. Committee, INFORMS, 2012 – 2014, and co-chair of the committee in 2013.

Committee member of the Editor-in-Chief Review Committee for *Decision Analysis*, 2015.

## Professional Societies Service

Wrote the newsletter and updated the web page for the OR/MS Applied to Public Programs, Service and Needs in INFORMS, April 2011, October 2011, April 2012, October 2012.

## Journal Reviews

I have performed reviews for: *Annals of Operations Research, Computers & Operations Research, Decision Analysis, European Journal of Operational Research, Health Care Management Science, IIE Transactions, IIE Transactions on Healthcare Systems Engineering, Interfaces, The Journal of the Operational Research Society, Management Science, Operations Research, Naval Research Logistics, Reliability Engineering & System Safety, Risk Analysis, Socio-Economic Planning Sciences, Transportation Science.*

### *Proposal Reviews*

NSF panels (7)

NSF proposal reviews, not as part of a panel (4)

### *Academic Conference Leadership*

Member of the organizing committee, INFORMS Computing Conference, January 9-12, 2015, Richmond, VA. Committee duties included editing the conference volume, organizing sessions, website management, and conference guide.

INFORMS Annual Meeting Organizing Committee, Speakers Chair, 2017

### *Academic Conferences*

Session chair, "Service Industry II," 2003 INFORMS National Meeting, October 19-22, 2003, Atlanta, GA.

Organized and chaired a session, "Homeland Security and Risk Applications," 2007 INFORMS International Conference, July 8-11, 2007, Puerto Rico.

Organized and chaired a session, "Aviation Security Applications," 2007 INFORMS Annual Meeting, November 4-7, 2007, Seattle, WA.

Invited Speaker for the INFORMS Future Academicians Colloquium, October 10, 2008.

Organized and chaired a session, "New Challenges and Metrics in Homeland Security," 2008 INFORMS Annual Meeting, October 11-15, Washington, DC.

Planned a reception for Women in OR/MS, a forum of INFORMS, 2008 INFORMS Annual Meeting, October 11-15, Washington, DC. The reception was attended by 194 people.

Planned a luncheon for Women in OR/MS, a forum of INFORMS, 2008 INFORMS Annual Meeting, October 11-15, Washington, DC. The luncheon was attended by 184 people.

Organized and chaired a session, "Port Security and Nuclear Interdiction," for the 2009 INFORMS Annual Meeting, October 11-14, 2009, San Diego, CA.

Organized and chaired a session, "Treating Emergency Medical Patients," for the 2009 INFORMS Annual Meeting, October 11-14, 2009, San Diego, CA.

Planned a luncheon for Women in OR/MS, a forum of INFORMS, 2009 INFORMS Annual Meeting, October 11-14, 2009, San Diego, CA. The luncheon was attended by 200 people. Albert (then McLay) led a fundraising effort that raised $9800 in sponsorships.

Reviewer, student paper competition in the Data Mining Section of INFORMS, 2010.

Organized and chaired a panel discussion, "Blogging and tweeting about operations research: A panel discussion about social networking," INFORMS Annual Meeting, Austin, TX, November 7-10, 2010.

Organized and chaired a session, "Emergency medical services: New directions," INFORMS Annual Meeting, Austin, TX, November 7-10, 2010.

Organized and chaired a session, "Sensors, Servers, and Screening," 2011 INFORMS Computing Society Conference, January 9-11, 2011, Monterey, CA.

Organized and chaired a session, "Fairness and Equity in OR Models," 2011 INFORMS Annual Meeting, November 13-16, 2011, Charlotte, NC.

Organized and chaired a session, "New Directions in Emergency Medical Services," 2011 INFORMS Annual Meeting, November 13-16, 2011, Charlotte, NC.

Organized a session on emergency medical services for the 2012 INFORMS Annual Meeting, Phoenix, AZ, October 2012.

Organized and chaired a session, "Incentive auctions and interdiction models," INFORMS Computing Society Conference, January 6-8, 2013, Santa Fe, NM.

Chaired a session, "Doing Good with Good OR," INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN.

Organized a session, "Best of WORMS," INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN.

Organized and chaired a session, "New directions in emergency medical services," INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN.

Planned a luncheon for 200 attendees for Women in OR/MS, a forum of INFORMS, 2013 INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN. Albert led a fundraising effort that raised $9750 in sponsorships.

Organized and chaired a session, "Public services and operations research," INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN.

Organized a session, "Fire and emergency medical services," INFORMS Annual Meeting, November 9-12, 2014, San Francisco, CA.

Stream chair, INFORMS Computing Society Conference, January 9-12, 2015, Richmond, VA.

Organized a session for the INFORMS Computing Conference, January 9-12, 2015, Richmond, VA.

Organized and chair a session for the INFORMS Annual Meeting, "Cyber Security," November 1-4, 2015, Philadelphia, PA.

Organized and chair a session for the INFORMS Annual Meeting, "Fire and Emergency Medical Services," November 1-4, 2015, Philadelphia, PA.

Cluster Chair for the INFORMS Computing Conference, Security and Military Applications cluster, 2017.

### Wisconsin: ISyE Department

Student and Alumni Affairs Committee, 2013 – present.

Faculty Affairs Committee, 2013 – 2014.

Academic Affairs Committee, 2014 – 2015.

Search Committee for Associate Chair for Undergraduate Affairs, 2018.

Faculty Search Committee, 2019-20.

Mentoring Committee (Kaibo Liu), 2015.

Mentoring Committee (Gabriel Zayas-Caban), 2017 – present.

Mentoring Committee (Carla Michini), 2018 – present.

INFORMS Student Chapter advisor (2015 – present).

### Wisconsin: College of Engineering and Physical Sciences

Assistant Dean for Graduate Affairs, 2017 – 2019.

Physical Sciences Divisional Committee, 2016 – 2017.

College of Engineering Equity and Diversity Committee, 2016 – 2019.

College of Engineering Academic Planning Committee, 2017 – 2019.

College of Engineering Leadership Council, 2017 – 2019.

Women's Faculty Mentoring Program, 2018-2019.

Graduate Engineering Research Scholars (GERS) Director, 2018 – 2019.

Delta Program steering committee, 2018, 2019.

### Wisconsin: Campus and other

Big Ten Academic Leadership Program, 2018 – 2019.

Graduate Research Scholar Executive Committee, 2018 – present.

***VCU: Department, College, and University***

VCU College Research Advisory Committee, 2007.

Chair, VCU College of Humanities and Sciences Library Committee, 2011 – 2012.

VCU College of Humanities and Sciences Library Committee, 2006 – 2007, 2008 to present. Also met with all four candidates for the Associate University Librarian for Public Services position in Fall 2010.

VCU Libraries Advisory Committee, 2011 – 2012.

Chair, search committee for three positions at VCU, Statistical Sciences and Operations Research, VCU, 2011 – 2012.

VCU Search committee member for the Dean of Engineering, VCU, 2011 – 2012.

VCU Women's Studies Planning Committee, 2008 – 2009.

VCU Operations Research Curriculum Revision Committee, 2009 – 2010.

Panelist for the VCU Center for Teaching Excellence's *Teaching and Learning with Technology Institute*, Virginia Commonwealth University, 2 June 2009.

***Service to colleagues***

Award nominations (6).

***Service for other universities***

Promotion and tenure letters (6)

## OUTREACH AND ADVOCACY

***Press, news, trade journal, and blog coverage***

I write a professional operations research blog and twitter feed entitled ***Punk Rock Operations Research***.

I write ***Badger Bracketology***, a sports analytics and bracketology blog.

**You can watch [YouTube videos I've appeared here](#).**

Op-Ed: [Travel bans can't stop this pandemic](#). The Hill, March 18, 2020.

March 20, 2020. Featured in [How to Triage Patients who need critical care](#) by Jim Daley, Scientific American.

October 29, 2019. [Algorithms gone awry: The impact of inappropriate data use](#). The Badger Herald.

October 5, 2019. "[UW sports analytics, bracketology and solving the opioid crisis](#)," feature article about me in Bucky's 5th Quarter on SBNation.

October 5, 2019. "[UW sports analytics, bracketology and solving the opioid crisis](#)," feature article about me in Bucky's 5th Quarter on SBNation.

August 12, 2019. I was on [WORT-FM](#) (89.9 FM in Madison, WI) to discuss cyber-security and women in engineering.

June 13, 2019. I was on the [MIT Sports Analytics Podcast "Counterpoints" to discuss the College Football Playoff](#).

March 27, 2019. I was on WTMJ 620 news radio in Milwaukee to discuss [Powerball odds and why I don't play the lottery](#).

March 20, 2019. [Using Mathematical Models To Fill Out Your March Madness Bracket](#), Wisconsin Public Radio (WPR), Central Time.

March 19, 2019. Filling out your NCAA bracket: Do you go with your gut or look at the statistics? Evening news segment on WISC-TV (CBS affiliate in Madison).

November 12, 2018. Special report: Secrets of the Lottery on CBS 58 10pm news in Milwaukee, WI.

May 21, 2018. I gave the opening remarks entitled "Operations Research & Analytics: Saving Lives, Saving Money, Solving Problems" (viewable on YouTube) at the INFORMS Government & Analytics Summit in Washington, D.C.

May 12, 2018. Whad'ya Know podcast interview with Michael Feldman.

March 30, 2018. Know your Madisonian: Analytics keep UW-Madison professor running, Wisconsin State Journal by Rob Schultz.

March 14, 2018. "WN@TL – Advanced Analytics for Emergency Response, Bracketology, & Beyond" lecture viewable on YouTube. **Note: this episode aired on Wisconsin Public Television's University Place series on July 23, 2018 at 4:07pm on the Wisconsin Channel**.

March 8, 2018. Interest Down Ahead of NCAA Tournament, But Bracket Playing About Steady by Edward Graham, Morning Consult.

January 2018, ASEE PRISM Magazine. "Organized chaos: From the classroom to research on emergency response to guiding graduate students, a systems engineer finds imaginative ways to make things work" by Jennifer Pocock.

August 23, 2017: Wisconsin hopes to win big in Powerball jackpot, evening news segment on WISC-TV (CBS affiliate in Madison).

July 30, 2017. The Evolution of Aviation Security, University of the Air, an hour-long interview on Wisconsin Public Radio.

March 30, 2017. 30 minute interview on WORT FM Radio 89.9 Madison on "Perpetual Notion Machine."

March 20, 2017. "Republicans Press Professors to Spend More Time Teaching" *New York Times*.

March 20, 2017. "Just Ask Us: When did it become popular to make March Madness brackets?" Wisconsin State Journal.

March 14, 2017. NBC15 in Madison. 6 o'clock and 10 o'lock news segment "UW professor talks NCAA bracket odds"

March 14, 2017. "Live at Four" WISC-TV (CBS affiliate in Madison, WI) to talk about bracketology. "Professor helps you build the perfect bracket."

March 13, 2017. WKOW 10 o'clock evening news segment. "UW bracketology expert surprised by Badgers' 8 seed" My blog post about this is here

March 13, 2017. Wisconsin State Journal: "University of Wisconsin professor offers tips for a winning March Madness bracket," by Nico Savidge.

2016. I am featured in the book *Algorithms to Live By: the Computer Science of Human Decisions* by Brian Christian and Tom Griffiths. See the blog post about this book here.

September 4, 2016. Radio interview about election forecasting models for news radio WTMJ in Milwaukee, WI.

August 16, 2016. UWMadScience "More than one way to play presidential pick 'em"

August 4, 2016. Radio interview about Powerball odds for news radio WTMJ in Milwaukee, WI.

Guest on "Live at Four" WISC-TV (CBS affiliate in Madison, WI) to talk about airport security queues, May 31, 2016.

Guest on "Live at Four" WISC-TV (CBS affiliate in Madison, WI) to talk about March Madness and bracket tips, March 15, 2016. Blog post here.

Ask the Experts UW-Madison video on bracketology, March 13, 2016

Q & A interview article in the *On Wisconsin* alumni magazine, Spring 2016 issue.

Q & A interview article in the Capital Times, February 14, 2016 (online), February 17, 2016 (print)

Guest on Wharton Moneyball on Wharton Business Radio (SiriusXM), February 3, 2016.

Guest on the Relatively Prime math podcast on the episode entitled "Just choose a spot Bob" about how to optimally choose a parking spot, January 13, 2016

Guest on "Live at Four" WISC-TV (CBS affiliate in Madison, WI) to talk about Powerball, January 13, 2016.

Guest on "Central Time" on Wisconsin Public Radio in Madison, WI to talk about Powerball, January 13. 2016.

Guest on newsradio WTMJ 620 in Milwaukee to talk about Powerball odds and strategy, January 12, 2016 and January 13, 2016.

Featured guest on the Advanced Football Analytics Podcast, January 6, 2015.

WID Series: Tools for Discovery feature, December 30, 2015

What's your stORy feature in *OR/MS Today*, October 2015.

Interview on the math podcast The Other Half in episode 2 "The Road Trip," July 21, 2015.

The inaugural episode of the YouTube show " ORiginals: outstanding research in everyday language" (Season 1, Episode 1) is an interview with me about my research, July 7, 2015.

UW-Madison Press Release: "Bracketology 101: What McLay reads in the seeds," March 17, 2015.

Interview on the Madison NBC affiliate about state lottery entitled "Three lottery tickets worth $350,000 each sold in Dane County", January 28, 2015.

Quoted in an article by Shilagh Mirgain in *Brava Magazine* entitled "Confidence: Why are women less than sure of themselves?" in the November 2014 issue.

Quoted in an article entitled "Ebola concerns raise questions about travel" in the Badger Herald, October 27, 2014.

Laura's Badger Bracketology work featured in "Computer model picks Gophers in top seven for college football playoff" in the StarTribune by Michael Rand, October 23, 2014.

Quoted in an article "Cell phone alerts provide quick notice during storms" in the Wisconsin State Journal about tornadoes, cell phone apps, and risk communication, syndicated by the Associated Press, June 22, 2014.

Interview on the Madison NBC affiliate about the NCAA men's basketball tournament entitled "Odds of winning lottery 1,000x greater than picking perfect NCAA bracket", March 18, 2014.

One of my research papers featured in a Washington Post Syndicate article by Esther Cepeda entitled "Add a bus stop to your diet," syndicated and published in several online newspapers, March 12, 2014.

Feature story at the University of Wisconsin-Madison web site, "Laura McLay: Crunching data on high-risk scenarios." October 24, 2013.

Feature story in Perspective, alumni magazine for the University of Wisconsin-Madison College of Engineering, "Her response: Increase the 'reward' in high-risk scenarios." September 27, 2013.

Interview on "The Stigler Diet" blog, "Should I do a Ph.D.", September 19, 2013.

Interview on the "MathBlogging.org" blog, "Laura McLay – Punk Rock OR", December 21, 2012.

In Carl Bialik's "The Numbers Guy" blog in the Wall Street Journal in an article entitled "The Waiting Game," May 4, 2012.

Featured on an INFORMS Science of Better Podcast in an episode entitled "Punk Rock Blogging," released on December 8, 2011.

Featured in a VCU News article entitled, "VCU statistics professor discusses the improbability of the Rams' Final Four Run," April 1, 2011.

Featured in a VCU News article entitled, "Solving Complex Problems Using Math," April 12, 2011.

Featured in a VCU News article entitled, "VCU Researcher finds Right Mix of Resources is Critical in Reducing Emergency Medical Service Response Times to Save Lives in Cardiac Arrest," August 19, 2011.

Featured in a segment on Richmond's NPR affiliate, 2008.

Press release on 11/1/2006 based on my article entitled "The Economic Impact of Obesity on Automobile Fuel Consumption" in the October-December issue of *The Engineering Economist*, received a large amount of attention from the popular press. The results of this research were featured in news articles in more than 400 online and print newspapers and magazines, and was featured on several national cable news shows and regional radio shows. My interview with WDBJ7, a CBS affiliate in Roanoke, Virginia, appeared on the evening news.

Invited guest (with graduate advisor Sheldon H. Jacobson), on the hour-long Focus 580 public radio program on AM580 to discuss research activities on aviation security, February 18, 2003, Urbana, IL.

***Engineering Outreach to Broaden Participation and Improve Retention***

Speaker to women industrial engineering students at Texas A & M University, 2012.

Speaker to women and underrepresented industrial engineering students at the University of Michigan, 2014.

Speaker, Engineering Tomorrow's Careers Summer Camp for high school girls at UW-Madison organized by the UW SWE chapter, 2014, 2018.

Talked to a class of high school students at the South Carolina Governor's School for Science and Mathematics about data analytics, December 14, 2015.

Speaker, Women in Science and Engineering (WISE), 2016, 2019.

Speaker, Engineering Summer Program Lunch and Learn for underrepresented minority students in high school, 2017, 2018, 2019.

Faculty lunch participant, STEM Immersion program for incoming first-year and transfer students at the University of Wisconsin-Madison who are underrepresented in engineering. Direct connections with faculty are one of the most critical factors in student retention. August 30, 2018.

University of Illinois at Urbana-Champaign, "A talk with Laura Albert about academic leadership and work-life balance" with the Women in Engineering and GradSWE, April 11, 2019.

University of Wisconsin-Madison, Women in IT group. "Technology driven data analytics for bracketology and ranking sports teams," February 25, 2019.

### Engineering Outreach to the Public

Wisconsin Institute for Discovery, Crossroads of Ideas, "The Math Behind the March Madness Tournament," March 14, 2017.

UW Now panel sponsored by the Bascom Hill Society and the UW Foundation, New York City, October 25, 2017

Public talk at the Middleton, Wisconsin library on applications of industrial engineering. "Advanced analytics for supporting public policy, bracketology, and beyond!" September 22, 2017 (UW-Madison Speakers series).

Public talk, Wednesday Nite at The Lab, UW-Extension, "Advanced analytics for supporting emergency response, bracketology, and beyond!" March 21, 2017.

Badger Café to UW-Madison alumni group, "Industrial and systems engineering for emergency response, bracketology, and beyond!, October 30, 2018.

Public talk at the Beaverton, Wisconsin Lions Club about applications of industrial engineering. April 3, 2019 (UW-Madison Speakers series).

University Roundtable, "Bracketology 101: how data analytics can rank sports teams," March 13, 2019.

INFORMS Government & Analytics Summit, Opening remarks, "Operations Research & Analytics: Saving Lives, Saving Money, Solving Problems," May 21, 2018, Washington, DC.

Moderator, 2019 INFORMS Government & Analytics Summit panel, Washington, DC., May 20, 2019.

### Community Service and Outreach

Worked with Hanover County Fire and EMS to improve ambulance responses. Modeling efforts that have been implemented by Hanover County have significantly improved their ambulance response times. The improvements resulted in a National Association of Counties award, Best in Category and were published in an *Interfaces* article in 2012 and discussed with a Richmond area fire chiefs meeting in Richmond, VA.

Analyzed call volumes and provided guidance to New Kent County Fire and EMS (in the metro Richmond area) and presented findings to the county board of supervisors, June 2012.

Research model and algorithm from TRB-E 2017 is used in emergency dispatch software in Canada to route fire engines to calls.

Public Safety Committee in Middleton, WI (2018 – 2019).

Police Commission member in Middleton, WI (2019 – present).

Board member for the Wisconsin Emergency Medical Services Board, 2019 – present.

### Advocacy

INFORMS Government and Analytics Summit Chair, 2018 – present.

INFORMS Advocacy Governance Committee Chair, 2019.

Meeting with the US Senate Committee on Homeland Security & Government Affairs about aviation security, homeland security, and border security:

Roy Awabdeh, Minority Counsel: July 11, 2019; Sept. 18, 2019,

Chris Boness, Majority Professional Staff, Sept. 18, 2019.

Meeting with US House Homeland Security Subcommittee on Emergency Preparedness, Response, and Recovery (Laura McClain, September 18, 2019).

Meeting with Rep Gallagher's Office (House Transportation Committee), Sept. 19, 2019.

Meeting with Office of Senator Ron Johnson (staff member Michael Weiss) to discuss border and homeland security, June 2019, Sept. 19, 2019.

## PROFESSIONAL MEMBERSHIPS

The Institute For Operations Research and the Management Sciences (INFORMS)

Institute of Industrial and Systems Engineers (IISE)

American Association for the Advancement of Science (AAAS)

Tau Beta Pi (Engineering honor society)

Alpha Pi Mu. (Industrial engineering honor society)