SUSAN M. SANCHEZ

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EDUCATION

Ph.D. in Operations Research, Cornell University, August 1986.

> Major: Applied Statistics
> Minors: Mathematical Programming, Mathematics
> Dissertation: *Contributions to the Bernoulli Selection Problem* (advised by R. E. Bechhofer)

M.S. in Operations Research, Cornell University, May 1984.

B.S.E. in Industrial & Operations Engineering, University of Michigan, May 1981 (summa cum laude).

MAJOR FIELD

Design and analysis of large-scale simulation experiments, robust design, and applied statistics. Application areas include military operations, energy, business, quality, manufacturing, and health care.

ACADEMIC EMPLOYMENT

- 9/2020–present: *Distinguished Professor*, Operations Research Department, Naval Postgraduate School, Monterey, CA.

- 6/2006–present: *Co-Director*, Simulation Experiments & Efficient Designs (SEED) Center for Data Farming, Naval Postgraduate School, Monterey, California.

- 4/2011–6/2011: *Visiting Scholar*, Technology and Operations Management Area, INSEAD, Fontainebleau, France.

- 10/2010: *Visiting Professor*, School of Industrial Engineering, Purdue University, West Lafayette, Indiana.

- 8/2000–present: *Professor*, Operations Research Department with a joint appointment in the Graduate School of Defense Management, Naval Postgraduate School, Monterey, California. MOVES Institute (Modeling, Virtual Environments, and Simulation) affiliation, 6/05–present.

- 4/2000–6/2001: *Professor*, Management Science, College of Business Administration, University of Missouri–St. Louis.

- 8/1999–7/2000: *National Research Council Senior Postdoctorate Associate*, Operations Research Department, Naval Postgraduate School, Monterey, California.

- 1/1993–4/2000: *Associate Professor*, Management Science and Information Systems, School of Business Administration, University of Missouri–St. Louis.

- 7/1986–12/1992: *Assistant Professor*, College of Business and Public Administration, University of Arizona, Tucson, Arizona. Teaching and research in applied statistics and operations. Appointments in MIS/Decision Sciences (7/86–6/92) and Management and Policy (7/92–12/92).

- 8/1985–6/1986: *Lecturer*, Department of Management and Policy, College of Business and Public Administration, University of Arizona, Tucson, Arizona.

HONORS AND AWARDS

- Gambrinus Fellowship, Dortmund University, Germany, for travel and research collaboration planned during Spring 2022.

- Invited Plenary Speaker, 10th Simulation Workshop (SW21), Loughborough University, United Kingdom, March 30–April 1, 2021.

- Operations Research Choice Award (ORCA), November 2020, for contributions to the OR Department.

- 2019 Distinguished Service Award from the INFORMS Simulation Society.

- Carl E. and Jessie W. Menneken Faculty Award for Excellence in Scientific Research: Significant and Sustained Contribution, 2019, Naval Postgraduate School. Jointly awarded to Professors Susan M. Sanchez and Thomas W. Lucas as Co-directors of the SEED Center for Data Farming.

- Certificate of Appreciation, Summer 2019, US Army TRADOC Analysis Center–Monterey, for participation in the *TRAC-MTRY Open House for the TRAC Board of Directors*.

- 2019 Defense and Test Analysis (DATA) Workshop. Outstanding Poster Award for "An innovative approach for the development of future Marine Corps amphibious capability" by J. E. Parker and S. M. Sanchez.

- Invited Plenary Speaker, DOExpo, Defence Science and Technology Group, Melbourne, Australia, September 2019.

- 2018 Winter Simulation Conference. Finalist for Best Theoretical Proceedings Paper, for "Gradient based criteria for sequential design" by C. B. Erickson, B. E. Ankenman, M. Plumlee, and S. M. Sanchez.

- 2018 Award for the Advancement of Women in Operations Research and the Management Sciences, from the INFORMS Forum on Women in OR/MS (WORMS).

- INFORMS Fellow, Class of 2017.

- Titan of Simulation at the 2016 Winter Simulation Conference. The 22nd person in the world to receive this recognition. Short video about the award available at https://www.youtube.com/watch?v=sIP1oI_uLg8, link to video of the full talk available at https://www.informs.org/Resource-Center/Video-Library/INFORMS-Meetings-Videos/Presentations-from-Other-INFORMS-Conferences.

- Invited Plenary Speaker, MORS Emerging Techniques Special Meeting (METSM), December 2016, Alexandria, Virginia.

- Invited Keynote Speaker, Conference on Applied Statistics in Defense, October 2016, Washington, D.C.

- International Keynote Speaker, Defence Operations Research Symposium 2015, held concurrently with MODSIM2015, Gold Coast, Australia (invited).

- Gus Schaeffer Award, 2015. Best Paper at the Defence Operations Research Symposium (DORS), held concurrently with MODSIM2015, Gold Coast, Australia, for "Testing aircraft fleet management policies using designed simulation experiments" by D. O. Marlow, S. M. Sanchez, and P. J. Sanchez.

- 2014 Scientific Achievement Award, NATO Science & Technology Organization, team award to *MSG-088: Data Farming in Support of NATO*. Team award. Seven of the ten U.S. awardees are current or former NPS SEED Center members; four of the 26 non-U.S. awardees are NPS alumni.

- Richard W. Hamming Faculty Award for Interdisciplinary Achievement, Naval Postgraduate School, 2014.

- Bernard Koopman Prize, INFORMS Military Applications Society, Fall 2013, for "Designs for large-scale simulation experiments, with applications to defense and homeland security" by S. M. Sanchez, T. W. Lucas, P. J. Sanchez, C. J. Nannini, and H. Wan. Chapter 12 in in *Design and Analysis of Experiments, Volume 3, Special Designs and Applications*, ed. K. Hinkelmann.

- UPS George D. Smith Prize, INFORMS, 2013, awarded to the NPS Department of Operations Research for strengthening ties between academia and industry. The SEED Center gave one of the vignettes in the nomination video.

- Certificate of Appreciation, Spring 2013, NATO Science & Technology Organisation/NATO Modeling & Simulation Group, for service on *MSG-088: Data Farming in Support of NATO*.

- Best Student Paper Award finalist for "Efficient Experimental Design Tools for Exploring Command and Control Organizational Structures" by R. P. T. Oh (student), S. M. Sanchez, H. Wan, and T. W. Lucas, at the *13th International Command and Control Research & Technology Symposium*.

- Edward Kelleher U.S. Army TRADOC Analysis Center–Monterey Director's Award for Research Excellence, Summer 2007.

- Letter of Appreciation in April 2006 from LTC Jeffrey Schamburg, Ph.D. (Director, U.S. Army TRAC-Monterey) for "significant positive impact on TRAC."

- Letter of Appreciation in February 2005 from Mr. Michael Bauman (Director, U.S. Army Training and Doctrine Command Analysis Center) for contributing to TRAC-Monterey receiving the Dr. Wilbur Payne Memorial Award for Excellence in Analysis (Small Group) for the "best analysis work by Army (military or civilian) personnel" during 2004.

- Outstanding OR Teaching List, Winter 2005 and Spring 2005.

- Outstanding Service recognition for "Leading the Transition from College to Society Status" from the INFORMS Simulation Society, December 7, 2004.

- Richard M. Barchi Prize Nomination for "Using Agents to Model Logistics" (E. S. Wolf, S. M. Sanchez, N. C. Goerger, L. P. Brown), presentation received "Best Presentation in Composite Workgroup G: Advances in OR Modeling" at the 71st MORS Symposium, June 2003.

- Meritorious Service Award, *Operations Research* Editorial Board, 1998 and 1999.

- Beta Gamma Sigma inductee, UM-St. Louis, Spring 1998.

- Best Application Paper Award for "A Comprehensive Model for Managing Credit Risk and Forecasting Losses (with L. D. Smith and E. C. Lawrence), 1994 Decision Sciences Institute Meeting.

- Meritorious Service Award, Students with disAbilities Association, UM-St. Louis, Spring 1993.

- Teaching Distinction List, College of Business and Public Admin., University of Arizona, Spring 1990.

- Honor Societies: Tau Beta Pi, Alpha Pi Mu, Mortar Board, Mu Sigma Rho, Beta Gamma Sigma.

- Graduate fellowships: IBM Graduate Manufacturing Fellowship, Cornell University Sage Graduate Fellowship, Tau Beta Pi Graduate Fellowship.

- Undergraduate fellowships: Eastman Kodak Company Fellowship, National Society of Professional Engineers/Burroughs Corporation Fellowship. University of Michigan Regent Alumni Award, William T. Branstrom Freshman Prize, Dean's list every semester.

RESEARCH GRANTS

- I have been a PI or Co-PI on over 80 research grants totaling over $12.5 million. I have been a supporting faculty on over 70 additional research grants totaling over $6.9 million.

- At NPS, I have been funded by Modeling & Simulation Coordination Office, Office of the Assistant Secretary of Defense, Office of Naval Research, and Joint Improvised-Threat Defeat Organization, as well as a variety of organizations from the U.S. Army, U.S. Marine Corps, U.S. Navy, and U.S. Health & Human Services. Most of these projects involve methodological development in the design and analysis of large-scale simulation experiments, or applications of these new methods to simulation models of a wide variety of military operations. Applications include new technology assessment, humanitarian assistance efforts, energy applications, and unmanned systems, to name a few.

- At UMSL, I was funded by a national grocery chain for developing forecasting models to assist in site selection. I also created forecasting models of customer retention, and home mortgage portfolio risk analysis, for two top-ten financial institutions.

- At the University of Arizona, I was funded by the *National Science Foundation* for methodological developments in robust product design, the *Agency for Health Services Research* funded projects on the development of the HMO market, and the *University Medical Center* funded an evaluation of nurse staffing and queueing.

TEACHING GRANTS AND DEVELOPMENT SUPPORT

- At NPS, I received several grants for funding to support international graduate student theses, student labs, and course module development.

- At UMSL, I received a Southwestern Bell Information Technology Grant for "Active Learning in the Virtual Classroom."

PUBLICATIONS

Over 3900 citations in Google Scholar as of November 2021, h-index = 35, i10-index = 51.

Book Contributions

[8] Sanchez, S. M. and P. J. Sánchez (2017). "Better big data via data farming experiments," Chapter 9 in *Advances in Modeling and Simulation—Seminal Research from 50 Years of Winter Simulation Conferences*, eds. A. Tolk, J. Fowler, G. Shao, and E. Yücesan, 159–179. Cham, Switzerland: Springer International Publishing.

[7] Sanchez, S. M., T. W. Lucas, P. J. Sanchez, H. Wan, and C. J. Nannini (2012). "Designs for large-scale simulation experiments, with applications to defense and homeland security," Chapter 12 in *Design and Analysis of Experiments, Volume 3, Special Designs and Applications*, ed. Hinkelmann, K., 413–441. Wiley: New York.

[6] Sanchez, S. M. (2008). "Design of experiments (DOE) appendix" for the Joint Test & Evaluation Methodology (JTEM) Joint Mission Effectiveness (JMe) Analysis Handbook, 42 pages.

[5] Lucas, T. W., S. M. Sanchez, T. M. Cioppa, and A. Ipekci (2003). "Generating hypotheses on fighting the global war on terrorism," *Manuever Warfare Science 2003*, eds. Horne, G. and Johnson, S., Department of the U.S. Navy, Marine Corps Combat Project Albert: Quantico, VA, 2003: 117–136.

[4] Lucas, T., S. M. Sanchez, L. Brown, W. Vinyard (2002). "Better designs for high-dimensional explorations of distillations." *Manuever Warfare Science 2002*, ed. G. Horne. Department of the U.S. Navy, Marine Corps Combat Development Command Headquarters, Quantico, VA: 17-46.

[3] Sanchez, S. M., P. J. Sanchez, and J. S. Ramberg (1998). "A simulation framework for robust system design." Chapter 12 in *Concurrent Design of Products, Manufacturing Processes and Systems,* ed. B. Wang. Gordon and Breach, NY: 279–314.

[2] Sanchez, S. M., J. S. Ramberg, J. Fiero, and J. J. Pignatiello, Jr. (1993), "Quality by design." Chapter 10 in *Concurrent Engineering: Automation, Tools, and Techniques*, ed. A. Kusiak. John Wiley and Sons: NY, 235–286.

[1] Wholey, D. R., J. B. Christianson and S. M. Sanchez (1990), "The effect of state regulation on development of HMO markets." In *Advances in the Study of Entrepreneurship, Innovation, and Economic Growth*, ed. Gary Libecap, Ch. 8, 181–206, JAI Press: Greenwich, CT.

Articles in Refereed Journals

[37] Erickson, C. B., B. E. Ankenman, M. Plumlee, and S. M. Sanchez (2021). "Gradient based criteria for sequential experiment design," *Quality and Reliability Engineering International*, 1–24. https://doi.org/10.1002/qre.2981

[36] Sanchez, S. M. (2020). "Data farming: methods for the present, opportunities for the future," *ACM Transactions on Modeling and Computer Simulation*, 30(4): Article 22, 22:1–22:30.

[35] Marlow, D. O., S. M. Sanchez, and P. J. Sanchez (2019). "Testing policies and key influences on long-term aircraft fleet management using designed simulation experiments," *Military Operations Research*, 24(3): 5–25.

[34] Sánchez, P. J., and S. M. Sanchez (2019). "Orthogonal second-order space-filling designs with insights from simulation experiments to support test planning," *Quality and Reliability Engineering International*, 35(3), 854–867 (Special Issue on Advancing Statistical Methods for Testing and Evaluating Defense Systems).

[33] Erickson, C., B. E. Ankenman, and S. M. Sanchez (2018). "Comparison of Gaussian process modeling software." *European Journal of Operational Research*, 266(1): 179–192.

[32] Erickson, C., B. E. Ankenman, and S. M. Sanchez (2018). "Data from fitting Gaussian process models to various data sets using eight Gaussian process software packages." *Data in Brief*, 18(June), 684–687.

[31] Sanchez, S. M., "Data farming: reaping insights from simulation models," (2018). *Chance*, 31(2), 45–52.

[30] Morgan, B. L., H. C. Schramm, J. R. Smith, T. W. Lucas, M. L. McDonald, P. J. Sanchez, S. M. Sanchez, and S. C. Upton (2018). "Improving U.S. Navy campaign analysis using big data." *Interfaces* 48(2): 130–146 (Special Issue on Big Data Analytics).

[29] Duan, W., B. E. Ankenman, S. M. Sanchez, and P. J. Sanchez (2017). "Sliced full factorial-based Latin hypercube designs as a framework for a batch sequential design algorithm." *Technometrics*, 59(1), 11–22. (with online supplementary material). Available prior to print edition in: Taylor & Francis Online, http://www.tandfonline.com/doi/full/10.1080/00401706.2015.1108233.

[28] Lucas, T. W., W. D. Kelton, P. J. Sanchez, S. M. Sanchez, and B. L. Anderson (2015). "Changing the paradigm: Simulation, now a method of first resort." *Naval Research Logistics*, 62: 293–305.

[27] Vieira Jr., H., S. M. Sanchez, P. J. Sanchez, K. H. Kienitz, and M. C. M. Belderrain (2014). "A restricted multinomial hybrid selection procedure," *ACM TOMACS*, 10(2), Article 10, 10:1–10:24.

[26] Vieira Jr., H., S. M. Sanchez, K. H. Kienitz, and M. C. M. Belderrain (2013). Efficient, nearly orthogonal-and-balanced, mixed designs: An effective way to conduct trade-off analyses via simulation. *Journal of Simulation* 7: 264-275 (Special Issue on Input/Output Analysis).

[25] Vieira Jr, H., S. M. Sanchez, K. H. Kienitz, and M. C. M. Belderrain (2011). "Generating and improving orthogonal designs using mixed integer programming." *European Journal of Operational Research*, 215: 629-638.

[24] Shen, H., H. Wan, and S. M. Sanchez (2010). "A hybrid method for simulation factor screening." *Naval Research Logistics*, 57(1): 45–57.

[23] Oh, R.P.T., S. M. Sanchez, H. Wan, M. E. Nissen, and T. W. Lucas (2009). "Efficient experimental design tools for exploring large simulation models." *Computational and Mathematical Organizational Theory*, 15(3): 237–257.

[22] Sanchez, S. M., H. Wan, and T. W. Lucas (2009). "A two-phase factor screening procedure for simulation experiments." *ACM Transactions on Modeling and Computer Simulation*, 19(2): Article 7.

[21] Sanchez, S. M., F. Moeeni, and P. J. Sanchez (2006). "So many factors, so little time...a frequency domain approach to simulation experiments." *International Journal of Production Economics*, 103(1): 149–165.

[20] Sanchez, S. M. and P. J. Sanchez (2005). "Very large fractional factorial and central composite designs." *ACM Transactions on Modeling and Computer Simulation*, Vol. 15, No. 4, 362–377.

[19] Kleijnen, J. P. C., S. M. Sanchez, T. W. Lucas and T. M. Cioppa (2005). "A user's guide to the brave new world of designing simulation experiments." *INFORMS Journal on Computing*, Vol. 17, No. 3, 263–289 (with 5 page Online Supplement).

[18] Smith, L. D. and S. M. Sanchez (2003). "Assessment of business potential at retail sites: Empirical findings from a U.S. supermarket chain." *The International Review of Retail, Distribution and Consumer Research*, Vol. 13, No. 1, 37–58..

[17] Sanchez, S. M. and P. Konana (2000). "Efficient data allocation for frequency domain experiments." *Operations Research Letters* 26(2): 81–89.

[16] Moeeni, F., S. M. Sanchez and A. J. Vakharia (1997). "A robust design methodology for kanban system design." *International Journal of Production Research*, Vol. 35, No. 10, 2821–2838.

[15] Sanchez, S. M., P. J. Sanchez, J. S. Ramberg and F. Moeeni (1996). "Effective engineering design through simulation." *International Transactions on Operational Research*, Vol. 3, No. 2, 169–185.

[14] Smith, L. D., S. M. Sanchez and E. Lawrence (1996). "A comprehensive model for managing credit risk and forecasting losses on home mortgage portfolios." *Decision Sciences*, Vol. 27, No. 2, 291–317.

[13] Vakharia, A. J., D. Parmenter and S. M. Sanchez (1996). "The operating impact of parts commonality." *The Journal of Operations Management*, Vol. 14, 3–18.

[12] Kannan, P. K. and S. M. Sanchez (1994). "Competitive market structures: A subset selection analysis." *Management Science* Vol. 40, No. 11, 1484–1499.

[11] Wholey, D. R., J. B. Christianson, and S. M. Sanchez (1993), "The effect of physician and corporate interests in the formation of HMOs." *American Journal of Sociology*, Vol. 99, No. 1, 164–200.

[10] Wholey, D. R., J. B. Christianson, S. M. Sanchez, R. F. Feldman, and M. Peterson (1992), "The voluntary dissemination of performance Information by health care organizations." Lead paper in *Advances in Health Economics and Health Services Research*, Vol. 13, 1–26.

[9] Sanchez, S. M. and J. L. Higle, (1992), "Observational studies of rare events: A subset selection approach." *Journal of the American Statistical Association*, Vol. 87, No. 149, 878–883.

[8] Wholey, D. R., J. B. Christianson, and S. M. Sanchez (1992). "Organizational size and failure among Health Maintenance Organizations." *American Sociological Review*, Vol. 57, 1–14.

[7] Christianson, J. B., D. R. Wholey and S. M. Sanchez (1991), "State responses to HMO failures," *Health Affairs*, special issue on managed care, Vol. 10, No. 4, 78–92.

[6] Wholey, D. R. and S. M. Sanchez (1991), "The effects of regulatory tools on organizational populations." *Academy of Management Review*, Vol. 16, No. 4, 743–767.

[5] Sanchez, P. J. and S. M. Sanchez (1991), "Design of frequency domain experiments for discrete-valued factors," *Applied Mathematics and Computation*, Vol. 42, No. 1, 1–21.

[4] Christianson, J. B., S. M. Sanchez, D. R. Wholey and M. Shadle (1991), "The HMO industry: Evolution in population demographics and market structure," *Medical Care Review*, Vol. 48, No. 1, 3–46.

[3] Sanchez, S. M. (1989), "Unbiased estimation following selection for Bernoulli populations." *Communications in Statistics —Theory and Methods*, Vol. 18, No. 11, 4275–4301.

[2] Sanchez, S. M. (1987), "A modified least-failures sampling procedure for Bernoulli subset selection." *Communications in Statistics—Theory and Methods*, Vol. 16, No. 12, 3609–3629.

[1] Sanchez, S. M. (1987), "Small-sample performance of a modified least-failures sampling procedure for Bernoulli subset selection," in *Communications in Statistics—Simulation and Computation*, Vol. 16, No. 4, 1051–1065.

Articles in Refereed Proceedings

[62] Sanchez, S. M., P. J. Sanchez, and H. Wan (2021). "Work smarter, not harder: A tutorial on designing and conducting simulation experiments." *Proceedings of the 2021 Winter Simulation Conference*, eds. S. Kim, B. Feng, S. Masoud, Z. Zheng, C. Szabo, and M. Loper, Piscataway, NJ: IEEE, forthcoming (updated version of 2020 paper).

[61] Lovejoy, C. V., M. L. McDonald, T. W. Lucas, and S. M. Sanchez (2021). "Investigating an active shooter defeat system with simulation and data farming." *Proceedings of the 2021 Winter Simulation Conference*, eds. S. Kim, B. Feng, S. Masoud, Z. Zheng, C. Szabo, and M. Loper, Piscataway, NJ: IEEE, forthcoming.

[60] Parmar, D., L. E. Morgan, A. C. Titman, R. A. Williams, E. D. Regnier, and S. M. Sanchez (2021). "Comparing data collection strategies via input uncertainty when simulating testing policies using viral load profiles." *Proceedings of the 2021 Winter Simulation Conference*, eds. S. Kim, B. Feng, S. Masoud, Z. Zheng, C. Szabo, and M. Loper, Piscataway, NJ: IEEE, forthcoming.

[59] Parmar, D., L. E. Morgan, A. C. Titman, R. A. Williams, and S. M. Sanchez (2021). "A two-stage algorithm for guiding data collection towards minimising input uncertainty." *Proceedings of the Operational Research Society Simulation Workshop 21 (SW21)*, eds. M. Fakimi, D. Robertson, and T. Boness, pp. 127–136. DOI: https://doi.org/10.36819/SW21.013

[58] Sanchez, S. M. (2021). "Data farming: the meanings and methods behind the metaphor." *Proceedings of the Operational Research Society Simulation Workshop 21 (SW21)*, eds. M. Fakimi, D. Robertson, and T. Boness, pp. 10–17. DOI: https://doi.org/10.36819/SW21.002

[57] Sanchez, S. M. and P. J. Sanchez (2020). "Robustness revisited: simulation optimization viewed through a different lens," *Proceedings of the 2020 Winter Simulation Conference*, eds. K.-H. Bae, B. Feng, S. Kim, S. Lazarova-Molnar, Z. Zheng, T. Roeder, and R. Thiesing, Piscataway, NJ: IEEE, 60–74.

[56] Sanchez, S. M., P. J. Sanchez, and H. Wan (2020). "Work smarter, not harder: A tutorial on designing and conducting simulation experiments." *Proceedings of the 2020 Winter Simulation Conference*, eds. K.-H. Bae, B. Feng, S. Kim, S. Lazarova-Molnar, Z. Zheng, T. Roeder, and R. Thiesing, Piscataway, NJ: IEEE, 1128–1142.

[55] Regnier, E., Sanchez, S. M., and P. J. Sanchez (2020). "Testing-based interventions for COVID pandemic policies." *Proceedings of the 2020 Winter Simulation Conference*, eds. K.-H. Bae, B. Feng, S. Kim, S. Lazarova-Molnar, Z. Zheng, T. Roeder, and R. Thiesing, Piscataway, NJ: IEEE.

[54] Sanchez, S. M. (2018). "Data farming: Better data, not just big data. *Proceedings of the 2018 Winter Simulation Conference*, eds. M. Rabe, A. A. Juan, N. Mustafee, A. Skoogh, S. Jain, and B. Johansson, Piscataway, NJ: IEEE, 425–439, (updated version of 2015 paper).

[53] Sanchez, S. M., P. J. Sanchez, and H. Wan (2018). "Work smarter, not harder: A tutorial on designing and conducting simulation experiments." *Proceedings of the 2018 Winter Simulation Conference*, eds. M. Rabe, A. A. Juan, N. Mustafee, A. Skoogh, S. Jain, and B. Johansson, Piscataway, NJ: IEEE, 237–251 (Invited, updated version of 2015 tutorial).

[52] Erickson, C. B., B. E. Ankenman, M. Plumlee, and S. M. Sanchez (2018). "Gradient based criteria for sequential design." *Proceedings of the 2018 Winter Simulation Conference*, eds. M. Rabe, A. A. Jason, N. Mustafee, A. Skoogh, S. Jain, and B. Johansson. Piscataway, NJ: IEEE, 467–478.

[51] Upton, S. C., M. L. McDonald, S. M. Sanchez, and H.M. Zabinski (2017). "Invoking "ARTeMIS"— the multi-objective hunt for diverse and robust alternative solutions." *Proceedings of the 2017 Winter Simulation Conference*, eds. W. K. V. Chan, A. D'Ambrogio, G. Zacharewicz, N. Mustafee, G. Wainer, and E. Page, Piscataway, NJ: IEEE, 4501–4502.

[50] Marlow, D. O., S. M. Sanchez, and P. J. Sanchez (2017). "Assessing the impact of the bathtub failure rate curve on fleet performance using designed simulation experiments." *Proceedings of the 22nd International Congress on Modelling and Simulation*, 716–722.

[49] MacCalman, A. D., Sanchez, S. M., M. L. McDonald, S. R. Goerger, and A. T. Karl (2016). "Tradespace analysis for multiple performance measures." *Proceedings of the 2016 Winter Simulation Conference*, eds. T. M. K. Roeder, P. I. Frazier, R. Szechtman, E. Zhou, T. Huschka, and S. E. Chick, Piscataway, NJ: IEEE, 3063–3074 (Invited).

[48] Erickson, C., B. E. Ankenman, and S. M. Sanchez (2016). "Comparison of Gaussian process modeling software." Extended abstract for poster session, *Proceedings of the 2016 Winter Simulation Conference*, eds. T. M. K. Roeder, P. I. Frazier, R. Szechtman, E. Zhou, T. Huschka, and S. E. Chick, Piscataway, NJ: IEEE.

[47] Marlow, D. O., S. M. Sanchez, and P. J. Sanchez (2015). "Testing aircraft fleet management policies using designed simulation experiments." Proceedings of the 21st International Congress on Modelling and Simulation, 917–923. Available online at www.mssanz.org.au/modsim2015.

[46] Sanchez, S. M. (2015). "Simulation experiments: Better data, not just big data," *Proceedings of the 2015 Winter Simulation Conference*, eds. L. Yilmaz, W. K V. Chan, I. Moon, T. M. K. Roeder, C. Macal, and M. D. Rossetti, Piscataway, NJ: IEEE, 800–811 (Invited, expanded tutorial version of 2014 paper).

[45] Sanchez, S. M. and H. Wan (2015). "Work smarter, not harder: A tutorial on designing and conducting simulation experiments." *Proceedings of the 2015 Winter Simulation Conference*, eds. L. Yilmaz, W. K V. Chan, I. Moon, T. M. K. Roeder, C. Macal, and M. D. Rossetti, Piscataway, NJ: IEEE, 1795–1809 (Invited, updated version of 2012 tutorial).

[44] Sanchez, P. J. and S. M. Sanchez (2015). "A scalable discrete event stochastic agent-based model of infectious disease propagation." *Proceedings of the 2015 Winter Simulation Conference*, eds. L. Yilmaz, W. K V. Chan, I. Moon, T. M. K. Roeder, C. Macal, and M. D. Rossetti, Piscataway, NJ: IEEE, 151–158 (Invited).

[43] McDonald, M. L., S. C. Upton, C. N. Seymour, T. W. Lucas, S. M. Sanchez, P. J. Sanchez, H. C. Schramm, and J. R. Smith (2014). "Enhancing the analytic utility of the Synthetic Theater Operations Research Model (STORM)." *Proceedings of the 2014 Winter Simulation Conference*, eds. A. Tolk, S. Y. Diallo, I. O. Ryzhov, L. Yilmaz, S. Buckley, and J. A. Miller, 4136–4137.

[42] Elmegreen, B. E., S. M. Sanchez, and A. Szalay (2014). "The future of computerized decision making." *Proceedings of the 2014 Winter Simulation Conference*, eds. A. Tolk, S. D. Diallo, I. O. Ryzhov, L. Yilmaz, S. Buckley, and J. A. Miller, Piscataway, NJ: IEEE, 943–949 (Invited, featured speaker in "Big Data" track).

[41] Sanchez, S. M. (2014). "Simulation experiments: Better data, not just big data," *Proceedings of the 2014 Winter Simulation Conference*, eds. A. Tolk, S. D. Diallo, I. O. Ryzhov, L. Yilmaz, S. Buckley, and J. A. Miller, Piscataway, NJ: IEEE, 805–816 (Invited, featured speaker in "Big Data" track).

[40] Sanchez, S. M., P. J. Sanchez, and H. Wan (2014). "Simulation experiments: Better insights by design." *Proceedings of the 2014 Summer Simulation Multi-Conference, Simulation Series* 46(10): 379-386.

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Articles in Non-refereed Proceedings

[18] Sanchez, S. M., G. E. Lynch, C. Luhrs, and M. L. McDonald (2019). "Networked logistics and additive manufacturing." *Proceedings of the 16th Annual Acquisition Research Symposium*, Monterey, CA.

[17] Sanchez, S. M., M. M. Morse, S. C. Upton, M. L. McDonald, and D. A. Nussbaum (2014). "A robust design approach to cost estimation: Solar energy for Marine Corps expeditionary operations." *Proceedings of the AFCEA Acquisition Research Symposium*, 20 pages.

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[13] Horne, G. E., S. M. Sanchez, S. Seichter, K. Haymann, and D. Nitsch (2009). "Data farming in support of military decision makers." NATO Modelling & Simulation Group Symposium on *Use of M&S in: Support to Operations, Irregular Warfare, Defence against Terrorism and Coalition Tactical Force Integration.* 15–16 October 2009, Brussells, Belgium.

[12] Torres, G., J. Buscemi, K. Pickett, T. Hoivik, S. Sanchez, S. Upton, and H. Wan (2009). "Team 6: Data farming in netcentric systems test planning." *Scythe: Proceedings and Bulletin of the International Data Farming Community* Issue 6: 17–20.

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[8] Oh, R. P. T., S. M. Sanchez, L. Clites, and T. Kaiyang (2008). "Team 5: Sequential screening for organizational performance." *Scythe: Proceedings and Bulletin of the International Data Farming Community*, Issue 3: 20–23.

[7] Beach, T., D. Dryer, S. Sanchez, W. D. Kelton, J. Schamburg, and D. Martin (2007). "Team 6: Joint capability metamodel-test-metamodel integration with data farming." *Scythe: Proceedings and Bulletin of the International Data Farming Community*, Issue 2: 18–23.

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[4] Lucas, T. W. and S. M. Sanchez (2006), "Design of experiments for analyzing systems of systems," *Proceedings of Defense Analysis Seminar XIII*, conference held in Seoul, Korea, 24-27 April 2006, 20 pages.

[3] Sanchez, S. M. and G. Hynes (2001), "Assessment and perception of online communication skill acquisition," in *Proceedings of the Fall 2001 Symposium on Assessing Online Instruction*, Naval Postgraduate School, Monterey, CA. 8 pages.

[2] Sanchez, S. M. (1994), "On-line analysis and robust design," invited paper in *Proceedings of the 20th Annual NSF Conference on Design and Manufacturing Systems Research,* Society of Manufacturing Engineers: Boston, Massachusetts, 277-278.

[1] Sanchez, S. M. (1993), "Issues in automated experimentation for robust product design," invited paper in *Proceedings of the 19th Annual NSF Conference on Design and Manufacturing Systems Research,* Society of Manufacturing Engineers: Charlotte, North Carolina, 1171-1175.

Other Publications

[8] Horne, G. E., B. Akesson, S. Anderson, M. Bottiger, M. Britton, R. Bruun, ..., L. Esher, ..., S. M. Sanchez, ..., A. Zimmermann. 2014. "Data farming in support of NATO." NATO Science & Technology Organization Technical Report TR-MSG-088. Available via https://www.cso.nato.int/Pubs/rdp.asp?RDP=STO-TR-MSG-088 [accessed 23 April 2014]. 226 pages. I was one of four co-authors of the Design of Experiments chapter (25 pages), provided input to the Analysis & Visualization chapter (32 pages), and assisted with the design and analysis for the Force Protection Case Study chapter (30 pages).

[7] Alt, J., L. Brown, S. M. Sanchez, P. Sanchez, C. Blais, V. Middleton, and J. Pearman (2007). "Chemical, Biological, Radiological, and Nuclear Tactical Situational Awareness." TRADOC Analysis Center Technical Report TRAC-M-TR-017-016.

[6] Lucas, T. W. and Sanchez, S. M., "Smart experimental designs provide military decision-makers with new insights from agent-based simulations," *Naval Postgraduate School Research Newsletter*, June 2003, pp. 20-21, 57-59, 63.

[5] Lucas, T. W. and Sanchez, S. M., "NPS hosts the Marine Corps Warfighting Laboratory's 6th Project Albert International Workshop," *Naval Postgraduate School Research Newsletter*, June 2003, pp. 45-46.

[4] Sanchez, S. M. "OR teachers: Shall we practice what we preach?" *OR/MS Today*, August 2002.

[3] Sanchez, S. M. "Internet teaching: Interaction without inundation," *Issues in Education* column in *OR/MS Today*, April 2000. Reprinted in Spring 2007 issue of *IFORS Newsletter for Developing Countries*.

[2] Sanchez, S. M. "Publish, don't perish!" Invited article in *OR/MS Tomorrow*, Spring 1997, Vol. 14 No. 1, 3–6.

[1] Lawrence, E. C., L. D. Smith and S. M. Sanchez (1996), "Managing credit risk in a changing economy," *Bankers Magazine*, January/February issue, 58–63 (professional magazine).

KEYNOTES AND MAJOR INVITED PRESENTATIONS (without proceedings)

- Invited Plenary Speaker, DOExpo, Defence Science and Technology Group, Melbourne, Australia.
- Sanchez, S. M., "A data farmer's almanac," Titan talk at the 2016 Winter Simulation Conference, Washington, D.C., December 2016.
- Invited Plenary Speaker, MORS Emerging Techniques Special Meeting (METSM), December 2016, Alexandria, Virginia.
- Invited Keynote Speaker, Conference on Applied Statistics in Defense, October 2016, Washington, D.C.
- International Keynote Speaker, Defence Operations Research Symposium 2015, held concurrently with MODSIM2015, Gold Coast, Australia (invited).

OTHER CONFERENCE PRESENTATIONS (without proceedings)

[103] Sanchez, S. M., "Decisions in an uncertain world: robustness, risk, and research opportunities," 2021 INFORMS Simulation Society Workshop, June 2021 (invited).

[102] Sanchez, S. M., "Data farming and data mining: methods behind the metaphors," INFORMS Annual Meeting, Seattle, Washington, October 2019.

[101] Erickson, C., B. Ankenman, M. Plumlee, and S. M. Sanchez, "Gradient based criteria for sequential experiment design," INFORMS Annual Meeting, Seattle, Washington, October 2019.

[100] Parker, J. D. and S. M. Sanchez, "Agent-based simulation experiments: An innovative approach for the development of future Marine Corps amphibious capability," International Conference on Design of Experiments (ICODOE-2019), Memphis, Tennessee, May 2019.

[99] Sanchez, S. M., "Simulation experiments: Designs for decision making," International Conference on Design of Experiments (ICODOE-2019), Memphis, Arizona, May 2019 (invited).

[98] Erickson, C., B. Ankenman, M. Plumlee, and S. M. Sanchez, "Gradient based criteria for sequential experiment design," INFORMS Annual Meeting, Phoenix, Arizona, November 2018.

[97] Sanchez, S. M., P. J. Sanchez, T. W. Lucas, M. L McDonald, S. C. Upton, and A. S. Hernandez. "Data farming: An introduction to modern design and analysis of high-dimensional computer experiments." 86th MORS Symposium, Monterey, California, June 2018.

[96] Sanchez, S. M., "Data farming research: opportunities for the design and analysis of large-scale simulation experiments," Design and Analysis of Experiments (DAE) Conference, Los Angeles, California, October 2017 (invited).

[95] Sanchez, S. M., "Data farming: methods for the present, opportunities for the future," I-SIM Research Workshop, Durham, United Kingdom, July 2017 (invited).

[94] Sanchez, S. M., "Future simulation research and applications" (invited, panel discussion), Workshop on Future Research Directions in Digital Simulation Methodology for the Next Ten Years, Banff International Research Station, Banff, Canada, April 2017.

[93] Sanchez, S. M., and M. L. McDonald, "Data farming," full day invited tutorial at the 2017 Science of Test Workshop, Springfield, Virginia, April 2017 (invited).

[92] Sanchez, S. M., "Can foresight be 20/20? Envisioning and exploring potential futures via large-scale simulation experiments," Plenary talk, MORS Emerging Techniques Special Meeting, Alexandria, Virginia, December 2016 (invited).

[91] Sanchez, S. M., and P. J. Sanchez, "Simulation of infectious disease propagation," INFORMS Annual Meeting, Nashville, Tennessee, November 2016 (invited).

[90] Nelson, R., H. Zhou, and S. M. Sanchez, "Optimal design of piezoelectric materials for maximal energy harvesting," INFORMS Annual Meeting, Nashville, Tennessee, November 2016.

[89] Erickson, C., B. Ankenman, and S. M. Sanchez, "Comparison of Gaussian process modeling software," INFORMS Annual Meeting, Nashville, Tennessee, November 2016.

[88] Sanchez, S. M., "Data farming: Reaping insights from large-scale simulation experiments," Conference on Applied Statistics in Defense, Washington, D.C., October 2016 (invited plenary session).

[87] Marlow, D. O., S. M. Sanchez, and P. J. Sanchez, "Special session: Australian Defence Operations Research Symposium Prize—Testing aircraft fleet management policies using designed simulation experiments," 84th MORS Symposium, Quantico, Virginia, June 2016. Also presented in Workgroup 17.

[86] Sanchez, S. M. and P. J. Sanchez, "Exploring a scalable discrete event stochastic agent-based model of infectious disease propagation," INFORMS International Meeting, Waikoloa, Hawaii, June 2016 (invited).

[85] Lucas, T. W., M. L. McDonald, B. L. Morgan, P. J. Sanchez, S. M. Sanchez, H. C. Schramm, J. R. Smith, and S. C. Upton, "Improving risk assessment in U.S. Navy campaign analysis," Quality and Productivity Research Conference, Tempe, Arizona, June 2015.

[84] Sanchez, S. M., E. Craparo, and M. Gardner, " Simulation experiments involving stochastic optimization models for disaster relief," INFORMS Annual Meeting, Philadelphia, Pennsylvania, November 2015.

[83] Sanchez, S. M., "Recent breakthroughs in large-scale simulation experiments," INFORMS Annual Meeting, Minneapolis, Minnesota, October 2013.

[82] Xing, D., Wan, H., Zhu, M.Y., Sanchez, S. M., and Kaymal, T., "Simulation screening experiments using lasso-optimal supersaturated design: A maritime operations application," INFORMS Annual Meeting, Minneapolis, Minnesota, October 2013.

[81] Duan, W., Ankenman, B. E., Sanchez, P. J., and Sanchez, S. M., "Sliced full factorial-based Latin hypercube designs as a framework for a batch sequential design algorithm," 20th ASA/IMS Spring Research Conference, UCLA, Los Angeles, California, June 20–22, 2013.

[80] Sanchez, S. M., Lucas, T.W., Sanchez, P. J., and Hernandez, A. S., "Recent breakthroughs in large scale simulation experiments," Army Conference on Applied Statistics, Monterey, California, October 24–26, 2012.

[79] Panelist: Advice on promotion to full from associate professor, Women in OR/MS (WORMS) sponsored session, INFORMS Annual Meeting, Phoenix, Arizona, October 14–17, 2012.

[78] Sanchez, P. J., and Sanchez, S. M., "ABC's of DOE," International Data Farming Workshop 25, Istanbul, Turkey, September 16–21, 2012.

[77] Sanchez, S. M., "Restricted multinomial subset selection," Operations Research Department Seminar, Naval Postgraduate School, Monterey, California, May 10, 2012.

[76] Sanchez, S. M., Lucas, T. W., and Sanchez, P. J., "Data Farming: Designing large scale simulation experiments," Quantitative Methods in Defense and National Statistics Conference, Fairfax, Virginia, April 30–May 1, 2012.

[75] Sanchez, P. J., Sanchez, S. M., and Lucas, T. W., "ABC's of DOE," International Data Farming Workshop 24, Monterey, California, March 25–30, 2012.

[74] Kleijnen, J.P.C., Chick, S., and Sanchez, S.M., "Panel: Input uncertainty and experimental robustness," Seminar on Accelerating Industrial Productivity via Deterministic Computer Experiments and Stochastic Simulation Experiments (invited), Isaac Newton Institute for Mathematical Sciences, Cambridge, U.K., September 5–9, 2011.

[73] Sanchez, S. M., "How simulation experiments can help you save lives, money, time, and the environment," INSEAD Technology and Operations Management Seminar Series, Fontainebleau, France, April 22, 2011.

[72] Sanchez, S. M., Sanchez, P., Lucas, T. W., Vieira Jr., H., and Nannini, C. J., "Designing large-scale simulation experiments," 16th Army Conference on Applied Statistics, Cary, NC, October 20–22, 2010.

[71] Sanchez, S. M., "Designing large-scale simulation experiments," Seminar, Industrial Engineering Department, Purdue University, October 13, 2010.

[70] Lucas, T. W., and Sanchez, S. M., "Breakthroughs in simulation studies: Making our models work for us," Meeting of the Board on Mathematical Sciences and their Applications, National Research Council, Washington, D.C., October 2010.

[69] Sanchez, S. M. and Lucas, T. W., "V&V for combat models: How experimental design can help," Meeting of the Committee on Mathematical Foundation of Verification, Validation, and Uncertainty Quantification, Board on Mathematical Sciences and their Applications, National Research Council, Washington, D.C., August 2010.

[68] Lucas, T. W. and Sanchez, S. M., "Supporting military decision-makers with efficient computational experimentation," Chile-USA Naval Operations Research Workshop, Valparaiso, Chile, December 2009.

[67] Sanchez, S. M., Lucas, T. W., and Sanchez, P. J. "Better than a petaflop: The power of efficient experimental design," International Data Farming Workshop 19, Auckland, New Zealand, 1–6 November 2009.

[66] Lucas, T. W. and Sanchez, S. M. "Supporting military decision makers with efficient computational experimentation: A top-level overview of the SEED Center for Data Farming and recent applications," DSO National Laboratories, Singapore, 23 October 2009.

[65] Marlin, B., Lucas, T. W., Larson, A., and Sanchez, S. M., "Developing and assessing irregular warfare models to support IED interdiction and mitigation," INFORMS Annual Meeting, San Diego, 11–14 October 2009.

[64] Sanchez, S. M., "SEED Center for Data Farming: Top-level overview," JIEDDO Agent-based Modeling Workshop, Carderock, VA, 22–23 September 2009.

[63] Sanchez, S. M., Lucas, T. W., and Sanchez, P. J., "Design of experiments," International Data Farming Workshop 18, Monterey, California, 22–27 March 2009.

[62] Lucas, T.W., and S. M. Sanchez, "Efficient design of experiments at the Naval Postgraduate School," Universität der Bundeswehr, Munich, Germany, September 2008.

[61] Lucas, T.W., and S. M. Sanchez, "Better than a petaflop: The power of efficient experimental design," International Data Farming Workshop 17, Garmisch-Partenkirchen, Germany, September 2008.

[60] Sanchez, S. M. and T. W. Lucas, "Better than a petaflop: The power of efficient experimental design," invited talk, Computational Science & Engineering (CSE) Technical Forum, Kirtland AFB, Albuquerque, NM, July 2008.

[59] Sanchez, S. M. and T. W. Lucas, "Getting the most from high performance computing by efficient design of experiments," half day tutorial, Department of Defense High Performance Computing Modernization Program User's Group Conference, Seattle, WA, July 2008.

[58] Tollefson, E. T., J. Schamburg, and S. M. Sanchez, "Joint Test and Evaluation Methodology (JTEM) analysis support." 76th Military Operations Research Society Symposium, New London, CT, June 2008.

[57] Lucas, T. W., and S. M. Sanchez, "Agent-based models in the Department of Defense: Motivation, history, and applications," NISS Agent-based Modeling Workshop, National Institute of Statistical Sciences, Research Triangle Park, NC, November 2008.

[56] Alt, J., S. M. Sanchez, C. Blais, G. Pearman. "Rapid scenario generation and scenario reuse for constructive simulation." 76th Military Operations Research Society Symposium, New London, CT, June 2008.

[55] Lucas, T. W., and S. M. Sanchez, "Using simulation experiments and efficient design to enhance the operational effectiveness of the Ground-Based Operational Surveillance System (G-BOSS)," JIEDDO Seminar, Crystal City, Virginia, June 2008.

[54] Sanchez, S. M. and T. W. Lucas. "Design of experiments." International Data Farming Workshop 16, Monterey, California, April 2008.

[53] Oh, R., S. M. Sanchez, T. W. Lucas, and M. E. Nissen. "Efficient factor screening through divide and discard." Edge Workshop, Naval Postgraduate School, Monterey, California, February 2008.

[52] Sanchez, S. M. and T. W. Lucas, "Experiments at NPS." International Data Farming Workshop 14, April 2007, Monterey, California.

[51] Sanchez, S. M. and T. W. Lucas. "Multi-agent simulations and design of experiments for analyzing complex systems." Homeland Security Innovation and Technology Conference, August 21-24, 2007, Naval Postgraduate School.

[50] "Experiments at NPS" (with T. Lucas). Project Albert International Workshop 13, Scheveningen, The Netherlands, November 12-17, 2006.

[49] "Factors here, factors there, interactions everywhere!" (with P. J. Sanchez), INFORMS Annual Meeting, Pittsburgh, PA, November 5-8, 2006.

[48] "Using simulation to study the protection of maritime assets" (with T. W. Lucas and F. Martinez Tiburcio), International Maritime Protection Symposium, Honolulu, HI, December 13, 2005.

[47] "Exploring edge models for network-centric operations," (with A. Forsyth and H. Wan). Edge Project Workshop, Naval Postgraduate School, Monterey, California, December 9, 2005.

[46] "Insights from agent-based models of election peace support operations" (with G. Schwarz, S. K. Gun, and H. H. Ang). MORS Symposium on *Agent-based models and other analytic tools in support of stability operations*," SAIC, MacLean, VA, October 25–27, 2005.

[45] "Experimental designs for large-scale military simulation studies." Army Conference on Applied Statistics, Monterey, California, October 20–22, 2005.

[44] "Experiments at NPS" (with T. Lucas). Project Albert International Workshop 10, Pre-conference Technical Session Briefing, Stockholm, Sweden, May 16–22, 2005. A shorter version also briefed to Critical Infrastructure Protection (CIP) Roundtable participants, Project Albert International Workshop 9.5, Referentia, Inc., Honolulu, Hawaii, February 15–25, 2004.

[43] "Advances in large-scale simulation experiments" (with T. Cioppa and T. Lucas). Full day tutorial, MORS Mini-Symposium on "New Analysis Techniques: understanding and applications." Johns Hopkins University Applied Physics Lab, January 25–27, 2005. (CD-ROM distributed with materials.)

[42] "The BEST method for stochastic integer programming" (with K. Wood). 39th Annual Conference of the Operations Research Society of New Zealand, University of Auckland, Auckland, New Zealand, November 28-29, 2004.

[41] "Experimental designs and analysis in the data-farming environment," with T. Lucas. Plenary session, Project Albert International Workshop 9, Wellington, New Zealand, November 6-12, 2004.

[40] "Accidental VV&A" (with T. Lucas, B. Widdowson). INFORMS Annual Meeting, Denver, CO, October 24-27, 2004.

[39] "Agent-based simulation of unmanned surface vehicles: a force in the fleet" (with M. Steele, R. Gottfried). 72nd MORS Symposium, Naval Postgraduate School, Monterey, California, June 22-24, 2004.

[38] "Simulation experiments: Past, present, and future" Operations Research Department Seminar Series, University of California – Berkeley, Berkeley, California, May 9, 2004.

[37] "Experimental designs and analysis in the data-farming environment" (with T. Lucas). Project Albert International Workshop 8, Singapore, April 18-23, 2004.

[36] "Using agent-based models for expeditionary logistics" (with E. S. Wolf). INFORMS Annual Meeting, Atlanta, GA, October 19–22, 2003.

[35] "Sleep patterns and fatigue among U.S. Navy sailors: Working the night shift during combat operations aboard the USS STENNIS during *Operation Enduring Freedom*" (with N. L. Miller, J. L. Nguyen, and J. C. Miller). Presented at the Aerospace Medical Association 74th Annual Scientific Meeting, San Antonio, TX, May 2003.

[34] "Timing of the major sleep period as fatigue countermeasure in U.S. Navy recruits" (with N. L. Miller, B. Baldus, H. Coard, L. Whitaker, and D. Redmond). Aerospace Medical Association 74th Annual Scientific Meeting, San Antonio, TX, May 2003.

[33] "The BEST algorithm for solving stochastic integer programs" (with K. Wood). Presented at the Fall 2002 INFORMS meeting in San Jose, CA.

[32] "Getting the most from your distillations" (with T. Lucas). Presented at the Fifth Project Albert International Workshop in Uberlingen, Germany, July 1-5 2002.

[31] "Agent-based simulations: Simple models, complex analyses" (with T. Lucas). Presented at the Fall 2001 INFORMS meeting in Miami, FL.

[30] "Adaptive exploration of agent-based simulations" (with T. Lucas). Presented at the Fall 2001 INFORMS meeting in Miami, FL.

[29] "Solving stochastic network interdiction with the BEST algorithm" (with K. Wood). Presented at a Mathematics Dept. Seminar, UC Davis, 5 October 2001, and AFOSR PI meeting in Minnowbrook, NY.

[28] "Stochastic network interdiction" (with K. Wood). Summer 2001 INFORMS meeting, Wailea, Hawaii.

[27] "Adaptive exploration of command and control simulations" (with T. Lucas). Presented at the Spring 2001 4MAS Conference in Quantico, VA and the Summer 2001 INFORMS meeting in Wailea, Hawaii.

[26] Discussant for "Spreadsheet models & management science principles," INFORM-ED sponsored session at the Fall 2000 INFORMS meeting, San Antonio, Texas.

[25] "Beyond selection: why is this system best?" Invited paper for a College on Simulation sponsored session, Fall 2000 INFORMS meeting, San Antonio, Texas.

[24] "Robust system selection." Presented at the Spring 2000 INFORMS meeting in Salt Lake City, Utah.

[23] "Leveraging the internet for active learning." Invited workshop at the INFORM-ED sponsored *Teaching Effectiveness Colloquium II*, Spring 2000 INFORMS meeting in Salt Lake City, Utah.

[22] "Effects of internet delivery on learning management communication skills," with G. E. Hynes. Presented at the Fall 1999 *Association for Business Communication 64th Annual Convention*.

[21] "Trials and triumphs teaching team-based business statistics," Presented at the Spring 1999 INFORMS meeting in Cincinnati, Ohio.

[20] "Selection for rare event simulation experiments," sponsored session at the Spring 1999 INFORMS meeting in Cincinnati, Ohio.

[19] "Active learning in the virtual classroom." Presented at the October 1998 International Conference on the Social Impact of Information Technologies in St. Louis, Missouri.

[18] "Internet course design and pedagogy" (with D. Kummer). Sponsored workshop at the AACSB 1998 Continuous Improvement Symposium in Dallas, Texas. (Audio tape available for purchase.)

[17] "Robust design methods for analyzing simulation experiments." Invited presentation at the Spring 1998 INFORMS meeting in Tel Aviv, Israel.

[16] "Models for risk management and establishing loss reserves for loans secured by residential real estate," with L. D. Smith and E. C. Lawrence. Invited presentation at the Fall 1996 INFORMS meeting in Atlanta, GA.

[15] "Effective engineering design through simulation," with P. J. Sanchez. Invited tutorial presented at the October 1995 IFORS SPC-4 Conference on OR and Engineering Design in St. Louis, Missouri.

[14] "Markovian models and robust estimation procedures for residential mortgage portfolios," with L. D. Smith and E. C. Lawrence. Presented at the October 1994 ORSA/TIMS meetings in Detroit, Michigan.

[13] "Data allocation and robust system identification for discrete event simulation." Presented at the August 1993 SIAM Conference on Simulation and Monte Carlo Methods in San Francisco, California.

[12] "Robust JIT systems: Insights and examples, II" with F. Moeeni and A. J. Vakharia. Presented at the May 1993 TIMS/ORSA meetings in Chicago, Illinois.

[11] "Robust JIT systems: Insights and examples," with F. Moeeni. Presented at the November 1992 ORSA/TIMS meetings in San Francisco, California.

[10] "Health Maintenance Organization size and failure," with D. R. Wholey and J. B. Christianson. Presented at the June 1992 Group Health Institute in Minneapolis, Minnesota and the June 1992 AHSR Meetings in Chicago, Illinois.

[9] "Implementing JIT in uncertain manufacturing environments," with F. Moeeni. Presented at the November 1991 ORSA/TIMS meetings in Anaheim, California.

[8] "Competitive market structures: A subset selection analysis," with P. K. Kannan. Presented at the October 1990 ORSA/TIMS meetings in Philadelphia, PA and at the TIMS Marketing Science Conference (sponsored by Du Pont) in Wilmington, Delaware, March 1991.

[7] "The diffusion of HMOs: Density, competitive, and institutional determinants of entry," with D. R. Wholey and J. B. Christianson. Presented at the June 1990 AHSR/FHSR meeting in Arlington, VA.

[6] "A selection procedure for traffic hazard analysis," with J. L. Higle. Presented at the October 1989 ORSA/TIMS meetings in New York City.

[5] "Automated design and analysis of 2^k factorial experiments," with P. J. Sanchez. Presented at the May 1989 CORS/TIMS/ORSA meetings in Vancouver, B.C.

[4] "Acquiring legitimacy: Information dissemination by HMOs," with D. R. Wholey and J. B. Christianson. Presented at the August 1988 Academy of Management meetings in Anaheim, California.

[3] "Using dynamic models in health services research: Community correlates of HMO foundings," with D. R. Wholey and J. B. Christianson. Presented at the August 1988 Academy of Management meetings in Anaheim, California.

[2] "Robustness of a sequential decision model for physician diagnoses," with W. R. Ferrell. Presented at the Spring 1987 TIMS/ORSA meetings in New Orleans, Louisiana.

[1] "A new Bernoulli selection procedure." Presented at the Fall 1986 ORSA/TIMS meetings in Miami, Florida.

PROFESSIONAL ACTIVITIES

American Statistical Association

- Section on Statistics in Defense and Homeland Security. Chair-Elect, 2012; Chair, 2013; Past Chair, 2014.
- ASA Representative/Alternate to the Winter Simulation Conference Board of Directors, 2004–2011.

INFORMS Simulation Society

- Chair, Distinguished Service Award Committee, 2021
- Member, Distinguished Service Award Committee, 2020
- Nomination committee, October 2016–October 2018.
- Council member (as immediate Past President), July 2004–June 2006.
- Outstanding Service recognition for "Leading the Transition from College to Society Status," 2004.

INFORMS (formerly Operations Research Society of America/The Institute of Management Sciences)

- Chair, WORMS Award Committee, 2019.
- Chair, INFORMS Impact Prize Committee, 2018.
- Participant, WORMS Mentorship Network, 2015–present.
- Member, INFORMS Teaching of OR/MS Practice Prize Committee, 2015.
- Member, Military Applications Society's Koopman Prize Committee, 2014.
- Panelist, "WORMS: Advice on Promotion from Associate to Full Professor," INFORMS Annual Meeting, October 2012.
- Chair, Award Committee, Forum on Women in OR/MS, 2007.
- Subdivision Council Representative, 2004-2005.
- President, INFORMS College on Simulation, 2002–2004.
- Forum on Women in OR/MS: President (2003), Vice-President/President-Elect (2002).
- Member, Student Affairs Committee, 2002–2003.
- Chair, Combined Colloquia, 2002.
- Member, Education Committee, 2001–2002.
- Member, Bylaws, Policies and Procedures Committee, 2000–2001.
- Vice-President/President-Elect, INFORMS College on Simulation, 2000–2002.
- Secretary/Treasurer, INFORMS College on Simulation, 1998-2000.
- Chair, A Roundtable Discussion on Academic Centers for Applied OR/MS, INFORM-ED sponsored session, Fall 1999 INFORMS meeting, Philadelphia, Pennsylvania.
- Speaker, INFORMS Doctoral Colloquium, November 1996.
- Chair, ORSA Ad Hoc Committee on Women in Operations Research, 1993–1995. (Led to establishment of the Forum on Women in OR/MS.)
- President, TIMS/ORSA Gateway Chapter of St. Louis, 1994–1995.

- Vice President/President Elect, TIMS/ORSA Gateway Chapter of St. Louis, 1993–1994.
- Member, INFORMS College on Simulation Committee on Underrepresented Minorities and Women, 1996–1997.
- Chair, TIMS College on Simulation Committee on Underrepresented Minorities and Women, 1995.
- Member, TIMS College on Simulation Committee on Underrepresented Minorities and Women, 1994.
- Vice-chair, committee to reactivate TIMS/ORSA Gateway Chapter of St. Louis, 1993.
- Session Chair, Health Care Modeling, Spring 1987 TIMS/ORSA meetings, New Orleans, Louisiana.
- Session Chair, Business Applications of Statistics, Spring 1989 CORS/TIMS/ORSA meetings, Vancouver, British Columbia.

Invited Participant, Acquisition Innovation Research Forum, April 2021.

NATO

- Chair, Design of Experiments Subgroup, NATO Modeling & Simulation Group (NMSG) Technical Activity *MSG-088: Data Farming in Support of NATO*, May 2010–May 2013.
- Member, NATO Modeling & Simulation Group (NMSG) Exploratory Team *ET-029: Data Farming*, October 2008–March 2010.
- Instructor (with G. Horne and S. Upton), "Data Farming 101" four-day short course to NATO C3 Agency in The Hague, The Netherlands, June 2009.

Winter Simulation Conference

- WSC Foundation Board of Directors, 2016–2020.
- Co-Chair, Advanced Tutorials Track, 2018.
- Agent-Based Modeling track, Program Committee Member, 2015.
- Analysis Methodology track, Program Committee Member, 2014, 2015.
- Board of Directors: member/alternate, 2004–2011; Board liaison for web pages and conference proceedings, 2005–2011; Board Secretary, 2006; Board Vice President, 2007; Board Chair, 2009; Liaison to WSC Foundation, 2010.
- Track Coordinator, Introductory Tutorials, 2003.
- Track Coordinator, Business Process/Health Care/Service Industry track, 2000.
- Session Organizer and Chair: Input Modeling (1998), Simulation Selection Procedures (1998), Experimental Design (1995, 1996).

Professional Society Memberships: INFORMS, American Statistical Association (ASA)

Local Organizing Committee for Project Albert International Workshop 6 (Invited workshop sponsored by the U.S. Marine Corps Warfighting Laboratory), March 9–14, 2003.

International Federation of Operational Research Societies

- Local Organizing Committee (Administration), OR and Engineering Design Specialty Conference, October 24–27, 1995.

INFORMS Journal on Computing

- Simulation Area Editor, January 2001–December 2006.

Naval Research Logistics

- Deputy Editor, January 2002–June 2003.
- Guest Editor-In-Chief, December 2000–January 2002.
- Associate Editor, Statistics and Forecasting, January 1994–December 2000.

Operations Research

- Associate Editor, Simulation Area, August 1994–December 2000.

National Science Foundation Review Panelist (twice), Reviewer (once).

National Research Council, Reviewer for *Assessing the reliability of complex models: The mathematical and statistical foundations of verification, validation, and uncertainty quantification*, 2011.

Paper Referee

> *Communications in Statistics*; *European Journal of Operational Research*; *IEEE Transactions on Systems, Man and Cybernetics*; *IIE Transactions*; *INFORMS Journal on Computing*, *Interfaces*; *International Transactions on Operational Research*; *Management Science*; *Naval Research Logistics*; *NSF Engineering Design Conference Proceedings*; *Operations Research*; *Proceedings of the Winter Simulation Conference*; *Simulation*; *Telecommunication Systems*.

Book reviewer, Wadsworth Publishing Company.

TEACHING RESPONSIBILITIES

Short courses

- Tutorials and short courses on data farming. A variety of offerings for different audiences, ranging from two hours to five days.

Naval Postgraduate School (graduate courses):

- Analytic Tools for Management Decisions (for students in business & public policy)
- Data Analysis (for students in Modeling, Virtual Environments, & Simulation (MOVES) and Human Systems Integration (HSI))
- Introduction to Management Science (for students in Information System Operations)
- Simulation Analysis
- Statistics and Experimental Design (for students in MOVES and HSI)
- Statistics (for students in operations research)
- Statistics for Technical Management

University of Missouri–St. Louis:

- Business Statistics II (undergrad)
- Business Forecasting (undergrad)
- Advanced Forecasting Models (undergrad independent study)
- An Analysis of Goodwill Industries (undergrad independent study, primary supervisor: R. J. Banis)
- Production and Operations Management: Manufacturing Strategy (undergrad/grad)
- Statistical Decision-Making (grad)
- Business Forecasting (grad)
- Statistical Decision-Making (grad, online)
- Management Science Elective (grad, online)
- Frontiers in Quality Management (professional, Mini-MBA program)

University of Arizona:

- Basic Operations Management (undergrad)
- Productivity Improvement (undergrad)
- Multivariate Statistics I: Linear Regression (grad)
- Multivariate Statistics II: Experimental Design (grad)
- Statistical Process Control (professional, co-instructor)

ADVISING

Doctoral Committee Chair:

[1] Farhad Moeeni, 1992, "A Taguchi Framework for Designing Robust Just-In-Time Systems with Kanban." Ph.D. in Management, University of Arizona.

Doctoral Dissertation Committee Member:

[13] Drupad Parmar, Ph.D. in Statistics and Operations Research, Lancaster University, U.K., in process. Degree expected in summer 2022.

[12] Michael Garee, U.S. Air Force. "Complexity measurement of macroscopic opinion dynamics to infer mechanisms within social influence networks," Ph.D. in Industrial Engineering, Purdue University, May 2020.

[11] Collin Erickson, "Adaptive computer experiments for metamodeling," Ph.D. in Industrial Engineering & Management Science, Northwestern University, June 2019.

[10] Paul T. Beery, "A model based systems engineering methodology for employing architecture in systems analysis: developing simulation models using systems modeling language products to link architecture and analysis," Ph.D. in Systems Engineering, Naval Postgraduate School, June 2016.

[9] Eric Tollefson, Major, U.S. Army, "Formulations for optimal multinomial selection," H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, May 2012.

[8] Alejandro Hernandez, Lieutenant Colonel, U.S. Army, "Breaking barriers to design dimensions in nearly orthogonal Latin hypercubes," Ph.D. in Operations Research, Naval Postgraduate School, December 2008.

[7] Thomas E. Cioppa, Lieutenant Colonel, U.S. Army, "Efficient nearly orthogonal and space-filling experimental designs for high-dimensional complex models. Ph.D. in Operations Research, Naval Postgraduate School, September 2002.

[6] David A. Parmenter, "The operational impact of increased component part commonality in a MRP system," Ph.D. in Decision Sciences, University of Arizona, 1992.

[5] Hong Shik Park, "Reexamining the relationship between demographic similarity and turnover: the case of top management groups," Ph.D. in Management and Policy, University of Arizona, 1991.

[4] Alan R. Dennis, "Parallelism, anonymity, structure, and group size in electronic meetings." Ph.D. in Management Information Systems, University of Arizona, 1991.

[3] Heeseok Lee, "Data allocation design in computer networks," Ph.D. in Decision Sciences, University of Arizona, 1991.

[2] George K. Easton, "Group decision support systems versus face-to-face communication for collaborative group work: an experimental investigation," Ph.D. in Management Information Systems, University of Arizona, 1988.

[1] Annette C. Easton, "An experimental investigation of automated versus manual support for stakeholder identification and assumption surfacing in small groups," Ph.D. in Management Information Systems, University of Arizona, 1988.

Master's Thesis Advisor/Co-advisor:

[49] Brandy A. Allain, Lieutenant, U.S. Navy. "Optimizing the design of multi-layer Copper Indium Gallium Selenide (CIGS) thin film solar cells." M.S. in Electrical Engineering, degree expected June 2022.

[48] Michael A. Weisman, Lieutenant Commander, U.S. Navy. "Supplying bulk liquids for humanitarian response." Master of Business Administration, degree expected December 2021.

[47] Charles M. Lovejoy, Major, U.S. Army. "Joint Armed Shooter Prevention and Response (JASPR) scenario modeling in support of base force protection response times." M.S. in Operations Research, June 2020 (MORS/Tisdale Finalist, Outstanding Thesis recognition).

[46] Gregory Lynch, Major, U.S. Marine Corps. "Networked logistics: turning the iron mountain into the iron network." M.S. in Operations Research, June 2019. (MORS/Tisdale Finalist, Outstanding Thesis recognition)

[45] Joshua Gordon, Captain, U.S. Marine Corps. "Simulation analysis of tactical unmanned aerial systems in support of the Marine Air Ground Task Force." M.S. in Operations Research, June 2019.

[44] Ashley S. Brown, Captain, U.S. Marine Corps. "Effective humanitarian logistics delivery using space-filling curves." M.S. in Operations Research, March 2019. (MORS/Tisdale Finalist, Outstanding Thesis recognition)

[43] Licun Edwin Cai, Major, Singapore Army. "Exploring characteristics of an effective mix of precision and volume indirect fire in urban operations using agent-based simulation," M.S. in Operations Research, September 2018. (MORS/Tisdale Finalist, Outstanding Thesis recognition)

[42] Devon G. Cobbs, Lieutenant, U.S. Navy. "The influence of command and control thresholds on campaign outcomes utilizing the Synthetic Theater Operations Research Model," M.S. in Operations Research, June 2018. (SECRET)

[41] Wei Sheng Jeremy Kang, Republic of Singapore Navy, "An engineered resupply system for humanitarian assistance and disaster relief operations," M.S. in Systems Engineering, September 2017.

[40] Elle Ekman, Captain, U.S. Marine Corps. "Simulating sustainment for an unmanned logistic system concept of operation in support of distributed operations," M. S. in Operations Research, June 2017. (MORS/Tisdale Finalist, Outstanding Thesis recognition)

[39] Easley, Scott, Captain, U.S. Marine Corps. "Modeling the future of the Amphibious Assault Vehicle," M. S. in Operations Research, June 2017.

[38] John A. Olabode, Lieutenant Commander, U.S. Navy. "Analysis of the performance of an optimization model for time-shiftable electrical load scheduling under uncertainty," M.S. in Operations Research, December 2016.

[37] Whye Kin Melvin Cheang, Lieutenant Colonel, Republic of Singapore Navy. "Operational energy capability portfolio for protection of maritime forces against small boat swarms," M.S. in Systems Engineering, September 2016.

[36] Ahmed Raza Tahir, Lieutenant Commander, Pakistan Navy. "An adaptive method for scheduling the sequence and route of builder trials for a new ship," M.S. in Operations Research, September 2015. (MORS/Tisdale Finalist, Outstanding Thesis recognition)

[35] Jeffrey D. Parker, Captain, U.S. Marine Corps. "An innovative approach for the development of future Marine Corps amphibious capability," M.S. in Operations Research, June 2015. (MORS/Tisdale Finalist, Outstanding Thesis recognition)

[34] Hung-xin Li, 1st Lieutenant, Republic of China Army. "Improving the Taiwan military's disaster relief response to typhoons," M.S. in Operations Research, June 2015. (Thesis received an Award for Military Problem Solving from the Taiwan Ministry of Defense)

[33] Aaron Y. Baker, Lieutenant, U.S. Navy. "Testing the Peace Support Operations Model with a scenario representing the instability in Sudan," M.S. in Operations Research, March 2015 (awarded retroactively).

[32] Maxine J. Gardner, Lieutenant Commander, U.S. Navy, "Investigating the naval logistics role in humanitarian assistance activities," M.S. in Operations Research, March 2015.

[31] Andrew Thompson, Lieutenant, U.S. Navy, "Evaluating the combined UUV efforts in a large-scale mine warfare environment," M.S. in Operations Research, March 2015.

[30] Turgut Kaymal, Lieutenant j.g., Turkish Navy, "Assessing the operational effectiveness of a small surface combat ship in an anti-surface warfare environment," M.S. in Operations Research, June 2013. (Outstanding Thesis Recognition)

[29] Mohammed J. Ashpari, Lieutenant, U.S. Navy, "A capability based approach to analyzing the effectiveness and robustness of an offshore patrol vessel in the search and rescue mission," M.S. in Operations Research, December 2012.

[28] Clifford C. Wakeman, Captain, U.S. Marine Corps. "Discrete event simulation modeling and analysis of key leader engagements," M.S. in Operations Research, September 2012.

[27] Matthew J. Powers, Lieutenant Commander, U.S. Navy. "The exponential expansion of simulation: How simulation has grown as a research tool," M.S. in Operations Research, September 2012. (Outstanding Thesis Recognition)

[26] Carsten Schulz, Commander j.g., German Navy, "Study of transportation and its planning resources in the German Joint Support Service." M.S. in Operations Research, June 2010.

[25] W. Keith Littrell, Lieutenant Commander, U.S. Navy, "Collaborative On-line Reconnaissance Provider Operationally Responsive Attack Link (CORPORAL): Determining networking effects on ground forces in an urban environment." (FOUO) M.S. in Operations Research, March 2010.

[24] Travis J. Gill, Lieutenant, U.S. Navy, "Carrier air wing tactics incorporating the Navy unmanned combat air system (NUCAS)," M.S. in Operations Research, March 2010.

[23] Edward Valdez, Lieutenant, U.S. Navy, "Analysis of change in population stance on infrastructure using a cultural geography model for stability operations," M.S. in Operations Research, September 2009.

[22] Francisco R. Baez, Major, U.S. Army, "Combat service support soldier network enabled operations (CSNEO)," M.S. in Operations Research, June 2008.

[21] John B. Jackson, III, Major, U.S. Marine Corps, "Exploring the importance of information superiority to the decision maker," M.S. in Operations Research, June 2008.

[20] Thorsten Seitz, Commander, German Navy, "Representing urban cultural geography in stabilization operations: Analysis of a social network representation in Pythagoras." M.S. in Operations Research, June 2008.

[19] Regine Pei Tze Oh, Defense Systems Organization, Republic of Singapore, "Fractional factorial controlled sequential bifurcation: Efficient screening through divide and discard," M.S. in Operations Research, December 2007. (MORS/Tisdale Finalist, 13th ICCRTS "Best Student Paper" Finalist)

[18] Si-Won Park, 1st Lieutenant, Republic of Korea Army, "Analysis of interactions of logistics elements of K-1 tracked vehicles in the Republic of Korea Army by using simulation model," M.S. in Operations Research, June 2007.

[17] Derek Oliver, Major, U.S. Air Force, "Assignment scheduling capability for unmanned aerial vehicles (ASC-U): Evolution, evaluation, and experimental design," M.S. in Operations Research, June 2007. (Outstanding Thesis Recognition)

[16] Sze-Tek (Terence) Ho, Captain, Republic of Singapore Army, "Swarm tactics for unmanned ground vehicles," M.S. in Operations Research, December 2006. (Outstanding Thesis Recognition)

[15] Lisa Sickinger, Lieutenant, U.S. Naval Reserve, "Effects of non-lethal capabilities in a maritime environment," M.S. in Operations Research, September 2006. (MORS/Tisdale Finalist, Surface Navy Association Award for Academic Excellence)

[14] Earl Richardson, Captain, U.S. Marine Corps, "Analyzing the distributed capabilities of the future force warrior small combat unit," M.S. in Operations Research, September 2006. (Marine Corps Association Superior Service Award).

[13] Christopher Nannini, Major, U.S. Army, "Analysis of the assignment scheduling capability for UAVs (ASC-U) simulation tool," M.S. in Operations Research, June 2006. (MORS/Tisdale Finalist)

[12] Kerry Bosché, Ensign, U.S. Naval Reserve, "Performance of a two-phase screening procedure for simulation experiments," M.S. in Operations Research, Naval Postgraduate School, June 2006.

[11] Kok Meng Chang, Republic of Singapore Defense Science and Technology Agency, "The performance of edge organizations in a collaborative task," M.S. in Operations Research, Naval Postgraduate School, December 2005.

[10] Lawrence Liang, Republic of Singapore Ministry of Defense, "Cooperative sensing of the battlefield," M.S. in Operations Research, December 2005.

[9] Han Hiong (Victor) Ang, Republic of Singapore Ministry of Defense, "Effects of military tactics, techniques, and procedures on peace support operations in representative Iraqi towns," M.S. in Operations Research, Naval Postgraduate School, December 2005.

[8] Suat Kursat Gun, First Lieutenant, Turkish Army, "Evaluating Sunni participation in an election in a representative Iraqi town," M.S. in MOVES, Naval Postgraduate School, September 2005.

[7] Peng Soon Tan, Republic of Singapore Ministry of Defense, "The impact of martial law on a representative Iraqi town," M.S. in Operations Research, Naval Postgraduate School, December 2004.

[6] R. Kemp Cason, Captain, U.S. Marine Corps, "An analysis of the use of unmanned aerial vehicles in small unit defensive operations in an urban environment," M.S. in Operations Research, Naval Postgraduate School, September 2004.

[5] Melissa J. Steele, Ensign, U.S. Navy, "Agent-based simulation of unmanned surface vehicles as a force in the fleet," M.S. in Operations Research, Naval Postgraduate School, June 2004.

[4] Rebecca Milton, Lieutenant Commander, U.S. Navy, "Using agent-based modeling to examine the logistical chain of the seabase," M.S. in Operations Research, Naval Postgraduate School, March 2004. (MORS/Tisdale Finalist)

[3] Eric Wolf, Captain, U.S. Marine Corps, "Using agent-based distillations to explore logistics support to humanitarian assistance/disaster relief scenarios," M.S. in Operations Research, Naval Postgraduate School, September 2003. (Winner, Best Paper in Composite Workgroup G, 71st MORS Symposium).

[2] Harvey Denison, Major, U.S. Army, "A framework for Army Reserve recruiting analysis: Enlistment to initial training," M.S. in Operations Research, Naval Postgraduate School, June 2003.

[1] Hsin-Fu Wu, Lieutenant, U.S. Navy, "Factor screening by sonification in frequency domain experiments," M.S. in Operations Research, Naval Postgraduate School, September 2002.

Master's Thesis Second Reader/Associate Advisor:

[20] Brandy A. Allain, Lieutenant, U.S. Navy. "Optimizing the design of multilayer copper indium gallium selenide (CIGS) thin film solar cells." M.S. in Electrical Engineering, degree expected June 2022.

[19] Julia Weber, Major, U.S. Marine Corps. "Training Pipeline Modeling and Analysis for the USMC Automotive Maintenance Technician's Basic Course (AMTBC)," M.S. in Operations Research, June 2000.

[18] Tai-Shan Lin, Lieutenant, U.S. Navy, "Unmanned surface logistics concept of support," M.S. in Operations Research, March 2019.

[17] Manuel Loewer, Major, German Army. "An analysis of the German attack helicopter fleet," M.S. in Operations Research, June 2017. (MORS/Tisdale Winner, Outstanding Thesis recognition)

[16] James G. Sheatzley, Captain, U.S. Marine Corps, "Discrete event simulation for the analysis of artillery fired projectiles from shore," M.S. in MOVES, June 2017.

[15] Michael Schambach, Lieutenant, U.S. Navy, "Analysis of a long-range undersea strike weapon," M.S. in Operations Research, September 2016 (RESTRICTED).

[14] Russell Nelson, Captain, U.S. Army. "Optimal design of piezoelectric materials for maximal energy harvesting," M.S. in Applied Mathematics, June 2015.

[13] Emmaline J. Hill, Captain, U.S. Marine Corps, and Nicole A. Simoncini, Captain, U.S. Army, "Readiness risk analysis for the Joint Light Tactical Vehicle," M.B.A., March 2015. (Outstanding Thesis recognition; Capt. Hill received the Rear Admiral Donald R. Eaton Logistics. Award for Outstanding Achievement)

[12] Scott Futrelle, Lieutenant Commander, U.S. Navy, and Christopher Nelson, Major, U.S. Marine Corps, "Readiness and life cycle cost trade-off analysis and management," M.B.A., December 2013. (Outstanding Thesis recognition)

[11] Omer Arslan and Ernur Kamik, 1st Lieutenants, Turkish Air Force, "Modeling reconnaissance squadron workflow using discrete event simulation (DES) and analyzing several measures of effectiveness," M.S. in MOVES, September 2010.

[10] Serhat Camur, Lieutenant, Turkish Air Force, "A simulation tool for the duties of computer specialist non-commissioned officers on a Turkish Air Force Base," M.S. in Modeling, Virtual Environments, and Simulation, September 2009.

[9] Pamelyn L. Maynard, Lieutenant, U.S. Navy, "Marine aviation weapons and tactics squadron one (MAWTS-1): Sleep, fatigue, and aviator performance study." M.S. in Human Systems Integration, December 2008.

[8] Mustafa Azimetl, Lieutenant, Turkish Air Force, "Simulation of flight operations and pilot duties in LANTIRN fighter squadrons using Simkit." M.S. in Modeling, Virtual Environments. and Simulation, June 2008.

[7] Roger D. Musselman, Lieutenant Commander, U.S. Navy, "Robustness: a better measure of algorithm performance." M.S. in Operations Research, September 2007.

[6] Christopher Waldron, Lieutenant Commander, U.S. Navy, "Logistically supporting afloat-staged Special Operations Forces through an LPD-17 class single-ship seabase," M.S. in Operations Research, March 2007. (MORS/Tisdale Finalist)

[5] Timothy Allen, Lieutenant, U.S. Navy, "An analysis of the navigational accuracy of the REMUS autonomous underwater vehicle," M.S. in Operations Research, June 2004. (MORS/Tisdale Finalist)

[4] Joseph A. Baird, Captain, U.S. Army, "Measuring information gain in the objective force," M.S. in Operations Research, June 2003. (MORS/Tisdale finalist)

[3] John Nguyen, Lieutenant, U.S. Navy, "Effect of night-inversion schedule on sleep and fatigue for the USS Stennis," M.S. in Operations Research, Naval Postgraduate School, September 2002 (MORS/Tisdale finalist).

[2] Mason Crow, Captain, U.S. Army, "Multiple sensor credit apportionment: An information value approach," M.S. in Operations Research, Naval Postgraduate School, June 2002.

[1] Theodore M. Perryman, Major, U.S. Army, "Applying industrial design best practices in the development of soldier equipment," M.S. in Systems Management, Naval Postgraduate School, March 2002.

UNIVERSITY SERVICE

Naval Postgraduate School

- Operations Research Department
  - Mentor, Naval Research Enterprise Intern Program (NREIP) for undergraduate and graduate students, (ten week summer internships), 2015 (1F, 2M), 2016 (1M).
  - Mentor, Science and Engineering Apprentice Program (SEAP) for high school students, (eight week summer internships), 2014 (1F, 1M), 2015 (2F, 1M), 2016 (2F, 1M).
  - Mentor, Hartnell Community College Catalyst (3C) program for minority students, (eight week summer internships), 2015 (2M).
  - Mentor, Dashi Singham, Fall 2010–present.
  - Promotion and tenure Departmental Evaluation Committee, 2009–2011, 2013–2014, 2016.
  - Simulation recruiting committee, Summer 2002–Spring 2004, 2006, 2009–2011.
  - Associate Chair for Research, October 2006–September 2009.
  - Simulation curriculum committee, Fall 2004.
  - SEED Center for Data Farming web page updates, Summer 2006.
  - SEED lab web page development and updates, Spring 2003–Summer 2006.
  - Associate Chair for Instruction, Operations Research Department, April 2002–June 2003.
  - Curriculum Committee, January 2002–June 2003.
  - ISO Curriculum Liaison, Fall 2000–Spring 2002.
  - Faculty Council Representative (replacement), Spring-Summer 2002.
  - Judge, MORS/Tisdale Thesis Competition, Spring 2000 and Fall 2000.
- Graduate School of Operations and Information Sciences
  - MOVES Faculty Search Committee, 2021.
  - Promotion and tenure Evaluation Committee, 2016.
  - Distributed Learning Council representative, 2001–2004.
- Graduate School of Defense Management (formerly Graduate School of Business and Public Policy)
  - Promotion and tenure School Evaluation Committee, 2006–2009, 2011–2013.
  - Promotion and tenure Departmental Evaluation Committee (Defense Resource Management Institute), 2005–2006.
  - Strategic Planning Committee, Winter 2007.
  - Mentor, Daniel Reich, Fall 2019–present.
  - Mentor, Jenni Heissel, Fall 2018–present
  - Mentor, Aruna Apte, Fall 2005–present.
  - Mentor, Eva Regnier, Fall 2001–present.
  - Faculty Research Committee, Fall 2004–present.
  - Ph.D. Review Committee, Fall 2004.
  - Senior Faculty Council, Fall 2000–present.
  - Thesis Award Committee, Fall 2001-2003.
  - Executive MBA Review Committee, Spring 2002.
- Graduate School of Engineering and Applied Sciences
  - Promotion and tenure Departmental Evaluation Committee, 2013–2014.

- Campus
  - SEED Center for Data Farming
    * Co-director, SEED Center for Data Farming, 2006–present.
    * Organizing Committee, International Data Farming Workshops (IDFWs), Springs of 2007, 2008, 2009, 2010, 2011, and 2012.
    * IDFW Support, Falls of 2007, 2008, 2009, 2010, 2011, and 2012.
  - Assistant Provost Search Committee, 2021.
  - GSBPP Dean Search Committee, 2018.
  - Menneken Award Committee, Chair, 2020.
  - Richard W. Hamming Faculty Award for Interdisciplinary Achievement Evaluation Committee, Chair (2015), Member (2016).
  - Workplace Equal Employment Opportunity Focus Group, Member, Summer 2014.
  - Academic Restructuring Committee, 2012.
  - Faculty Focus Group, Strategic Plan Theme 3–Supporting the Academic Enterprise, 2009-2010.
  - Sabbatical Committee (Chair), 2008–2009, 2012–2013, 2021.
  - Research Council, 2006–2008.
  - Research Board Representative, Faculty Council, 2000–2003.
  - Speaker at the NPS Instructional Workshop, January 2001.

United States Military Academy, West Point

- Member, Board of Advisors, Systems Engineering Department, 2005–2012.

University of Missouri–St. Louis

- Campus
  - Intellectual Property Committee, member, 1997–1998.
  - Senate, 1995–2001.
  - Senate Committees:
    * Computing Committee: chair 1995–1999, member 1994–1995.
    * Executive Committee, 1995–1999.
    * Ad Hoc Committee on Integrated Technology, 1995–1996.
    * Ad Hoc Committee on the Assessment of Educational Outcomes, 1993–1994.
  - Moderator, panel discussion on "Successful women in the male dominated work environment," March, 1998. (Event sponsored by UMSL Office of Equal Opportunity.)
  - Referee, UM-System Research Board awards, Spring 1996–Fall 1997 and Spring 1999.
  - High School Recruitment visitor, 1996.
  - Faculty Council, 1993–1995.
  - Campus Computing Committee, 1993–1994.
  - Graduate Council Rules and Regulations Committee, 1993–1994.
- School of Business Administration committees
  - Instruction Committee: chair, 1998-1999.
  - Research Task Force, Strategic Planning: co-chair, 1998.
  - Faculty Research and Development Committee: chair 1995–1997, member 1994–1995, 1997–1998.
  - Promotion and Tenure Guidelines Task Force: member, 1997–1998.
- School of Business Administration Seminar Series
  - Established and coordinated Thursday Roundtable, 1997–1998.
  - Friday Seminar Series coordinator (1996) and co-coordinator (Spring 1997).
- Webmaster, Logistics & Operations Management web pages, 1997-2000.

University of Arizona

- College of Business and Public Administration
  - Faculty Governance Committee, 1990-1992.
  - Graduate Professional Programs Committee, 1988-1992.
- Decision Sciences Group
  - Coordinator Search Committee, 1989-90.
  - Assorted administrative duties, 1989-90.
  - Decision Sciences Seminar organizer, 1988-90.
  - Doctoral program coordinator, 1986-90. g
- Curriculum revision for Operations Management undergraduate and graduate programs, 1985-88.
- Assistant Director of the Doctoral Program, Management and Policy Department, 1985-86.

PROFESSIONAL COMMUNITY SERVICE

'Gummy Bears in Space!' one-hour statistics-in-action for Ross Elementary School second and fifth grades, fall 1998.

'Math is Fun!' one-hour program for Ross Elementary School first grade, spring 1998.

'Expanding Your Horizons in Science and Mathematics,' half-day program for 8th-10th grade girls interested in careers related to math and science

- Panelist, St. Louis Community College, Florissant Valley Campus, March 1996.
- Facilitator, Belleville Area Community College, May 1995.
- Panelist, UMSL campus, March 1995.

Coordinated several student projects (1994–1998) and provided *pro bono* assistance for designing the Comprehensive Survey (1999) for the Epilepsy Foundation, Clayton, Missouri.

Participant in United Way's Management Assistance Center coordination of program assessment and volunteer expertise, Spring 1995.

Panelist, Gateway Chapter Workshop for High School Mathematics Teachers, February 1994.

OTHER COMMUNITY SERVICE

Pacific Grove High School Music Boosters, 2002–2009 (parent helper for special events).

Big Sur Marathon volunteer (2006–2008).

Pacific Grove Middle School Music Boosters, 1999–2005 (parent helper for special events).

Pacific Grove Middle School drama parent helper, 2002 (set painting), 2003–2005 (costumes).

Art Appreciation volunteer, Ross Elementary School, Creve Coeur, MO, 1996–1997 (presentations to 3rd and 4th grade classrooms).