

Lauren M. (Berrings) Davis

Department of Industrial and Systems Engineering
North Carolina A&T State University
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Associate Professor
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EDUCATION

North Carolina State University, Raleigh, NC
Ph.D. in Industrial and Systems Engineering (May 2005)
Concentration: *Production Management and System Analysis & Optimization*;
Thesis: *State Clustering in Markov Decision Processes with an Application in Information Sharing*; Advisor: *Drs. Russell King and Thom Hodgson*

Rensselaer Polytechnic Institute, Troy, NY
M.S. in Industrial and Management Engineering (December 1992)
Project: *A decision support system for the design of batch manufacturing systems*; Advisor: *Dr. Charles Malmborg*

Rochester Institute of Technology, Rochester, NY
B.S. in Computational Mathematics (May 1991)

EXPERIENCE

North Carolina A&T State University, Greensboro, NC
Associate Professor, Industrial and Systems Engineering (2011-Present)

North Carolina A&T State University, Greensboro, NC
Assistant Professor, Industrial and Systems Engineering (2005-2011)

North Carolina State University, Raleigh, NC
Teaching Assistant, Stochastic Processes, (Fall 2002)
Instructor, (Spring 2003)

IBM Corporation, Research Triangle Park, NC
Senior Software Engineer (1993-2005)
SAP Systems Integration Analyst for Worldwide PC Manufacturing (Guadalajara, Mexico; Shenzhen, China; Research Triangle Park, NC)
Technical lead for SAP-Workflow development activities

RESEARCH INTERESTS**Supply Chain Optimization**

Research is largely focused on analyzing the impact of emerging trends (increased availability of information, disruptions caused by supply shortages, and natural or man-made disasters) on *optimal stocking decisions* within a supply chain. The modeling approaches for these problems have largely been *stochastic*, with particular emphasis on the use of *Markov Decision Processes* to represent the system under study. Supply chains in for profit as well as non-profit industries are

considered, with growing interest in supply chains supporting humanitarian relief efforts.

PUBLICATIONS (*graduate students in Davis Research group underlined*)

Peer Reviewed Journal Papers

1. **Davis, L.**, T.J. Hodgson, R.E. King, W. Wei, “A Computationally Efficient Algorithm for Undiscounted Markov Decision Processes with Restricted Observations”. *Naval Research Logistics*, Vol. 56, pp 86-92, 2009.
2. Osman, M., B. Ram, P. Stanfield, F. Samanlioglu, **L. Davis**, J. Bhadury, “Radio Frequency Identification System Optimization Models for Life Cycle of a Durable Product”. *International Journal of Production Research: Special Issue on RFID Technology and Applications in Production and Supply Chain Management* 48(9), 2699-2721, 2010.
3. Helper, C., **Davis, L.**, Wei, W., “Impact of Demand Correlation and Information Sharing in a Capacitated Supply Chain with Multiple Retailers”, *Computers and Industrial Engineering* 59(4), 552-560, 2010.
4. **Davis, L.**, R.E. King, T.J. Hodgson, W. Wei, “Information sharing in Capacity Constrained Supply Chains”, *International Journal of Production Research*, 49(24), 7469-7491, 2011.
5. **Davis, L.**, F. Samanlioglu, X. Jiang, D. Mota, P. Stanfield, “A heuristic approach for allocation of data to RFID tags: A data allocation knapsack problem”, *Computers and Operations Research: Special Issue on Knapsack Problems* 39(1), 93-104, 2012.
6. Abdus-Salaam, H., **L. Davis**, “Impact of Batch Appointments on No-Show Rates: A Public versus Private Clinic Perspective”, *Health Systems* 1(1), 36-45, 2012.
7. Chapman, J., **L. Davis**, F. Samanlioglu, X. Qu, “Evaluating the Effectiveness of Inventory Prepositioning Policies in Response to Natural Disasters”, *International Journal of Operations Research and Information Systems* (2014) 5(2).
8. Qu, X., M. Jackson, **L. Davis**, “Simulation-based evaluation of port evacuation plans for predictable natural disasters”, *Journal of Homeland Security and Emergency Management*, 9(2), 2012.
9. **Davis, L.**, F. Samanlioglu, X. Qu, S., Root. (2013) Inventory Planning and Coordination in disaster relief efforts. *International Journal of Production Economics*. 141(2), 561-573.
10. Bemley, J., **L. Davis**, L. Brock, (2013) “Prepositioning Commodities to Repair Maritime Navigational Aids”, *Journal of Humanitarian Logistics and Supply Chain Management* 3(1). ****Selected as 2014 Outstanding Paper by Journal’s Editorial Team**
11. **Davis, L.**, I. Sengul, J. Ivy, L. Brock, L. Miles, “Scheduling Food Bank Collections and Deliveries to Ensure Food Safety and Improve Access”. *Socio-Economic Planning Sciences*. DOI Information 10.1016/j.seps.2014.04.001.
12. Abdus-Salaam, H., **L. Davis**, “Tactical Allocation and acceptance of multiple patient classes in the presence of no-shows”, *Health Systems*. (doi: 10.1057/hs.2014.18)

13. Brock, L., **L. Davis**. Estimating Available Supermarket Commodities for Food Bank Collection in the Absence of Information, *Expert Systems With Applications (Accepted November 2014)*.
14. Teasley, R., Bemley, J., **Davis, L.** Chang, Y., Erera, A. "A Markov Chain Model for Quantifying Consumer Risk in Food Supply Chains", *Health Systems. (Accepted September 2015)*

Book Chapters

1. Orgut, I., Brock, L., **Davis, L.**, Ivy, J., Jiang, S., Morgan, S., Uzsoy, R., Hale, C., Middleton, E. (2016) "Achieving Equity, Effectiveness, and Efficiency in Food Bank Operations: Strategies for Feeding America with Implications for Global Hunger Relief" in *Advances in managing humanitarian operations*. (pp 229-256) Springer International Publishing.

Papers in Review

1. Lodree, Emmett, Davis, L., "Empirical analysis of volunteer convergence following the 2011 tornado disaster in Tuscaloosa Alabama", *Natural Hazards (Submitted September 2015, 1st round review)*
2. **Davis, L.**, Jiang, S., Nuahmah, I., Terry, J., Morgan S., "Characterizing the uncertain environment of in-kind donations in hunger relief organizations" *International Journal of Production Economics*. (in 2nd round review)
3. Fianu, S., Davis, L., "A Markov Decision Process model for equitable distribution of supplies under uncertainty", *European Journal of Operational Research* (submitted July 2015).
4. Brock, L., **L. Davis**. "Addressing Distribution and Collection Challenges for Inventoried Food Donations with Heterogeneous Vehicles" *Computers and Industrial Engineering (Submitted June 2015)*.
5. Brock, L., **L. Davis**. "Addressing Food Bank Distribution and Collection Challenges through a Periodic Vehicle Routing Problem with Backhauls" *Transportation Science (Submitted May 2015)*.

Working Papers

1. Mota, D., **L. Davis**, "A stochastic coordinated humanitarian relief supply chain network based on multiple objectives".
2. Bemley, J., **Davis, L.**, Morin, B., Liu, L. , "Quantifying food borne illness using a compartment model"

Peer Reviewed Conference Proceedings

1. Nuamah, I. , Davis, L., Jiang, S., Lane, N., "Predicting donations using a forecasting simulation model", Proceedings of the 2015 Winter Simulation Conference
2. Teasley, R. , J. Bemley., **L. Davis**, A. Errera, C. White, "Assessing consumer morbidity from liquid egg contamination in multiple

- distribution channels”, Proceedings of the 2013 Industrial and Systems Engineers Research Conference, San Juan, PR.
3. Jiang, S., **L. Davis**, H. Tavares deMelo, J. Terry, “Using data mining to analyze donation data for a local food bank”, Proceedings of the 2013 International Conference on Data Mining”, Las Vegas, NV.
 4. Bemley, J., **L. Davis**, E. King, C. Phillips, X. Qu, R. Teasley, ”An interactive decision making tool for port security policy”, Proceedings of the 2013 Industrial and Systems Engineers Research Conference, San Juan, PR.
 5. Phillips, C., E. King, D. Alston, X. Qu, and **L. Davis**, “Evaluating and comparing port security screening policies using simulation”, Proceedings of the 2013 Industrial and Systems Engineering Research Conference, San Juan, PR.
 6. **Davis, L.**, Jiang, S., Morgan, S., Harris, C., ”Forecasting donated goods for a local food bank”, Proceedings of the Southeast Decision Sciences Institute 2013 Annual Meeting, Charleston, SC.
 7. Baker, C., R. Teasley, **L. Davis**, X. Qu, “A dynamic decision model for port hurricane preparation and shutdown”, Proceedings of the Institute of Industrial Engineers Annual Conference 2012, Orlando FL.
 8. Brock, L., **L. Davis**, “Approaches to approximate contributions received from supermarkets by Food Banks”, Proceedings of the Institute of Industrial Engineers Annual Conference, 2012, Orlando FL.
 9. Okore-Hanson, A., H. Winbush, **L. Davis**, S. Jiang, “Empirical modeling of demand for a local food bank”, Proceedings of the Institute of Industrial Engineers Annual Conference, 2012, Orlando, FL.
 10. Abdus-Salaam, H., **L. Davis**, “Examining the impact of dependent demand arrivals at a pediatric dental clinic using Multivariate Statistics”, Proceedings of the Institute of Industrial Engineers Annual Conference 2010, Cancun, Mexico.
 11. Jiang, X., X. Qu, **L. Davis**, “Using Data Mining to Analyze Patient Discharge Data for an Urban Hospital”, Proceedings of the 6th International Conference on Data Mining, Las Vegas, July 2010.
 12. Abdus-Salaam, H., **L. Davis**, D. Mota, “Modeling Dependent Demand Arrivals Within an Open Access Scheduling System”, Proceedings of the 2009 IEEE International Conference on Science and Technology for Humanity, Toronto, September 2009.
 13. Mota, D., **L. Davis**, H. Abdus-Salaam, “Stochastic Model to evaluate RFID Information Value in Maintenance Strategy”, Proceedings of the Institute of Industrial Engineers Annual Conference 2009, Miami, FL, May 2009.
 14. Samanlioglu, F., **L. Davis**, “A heuristic approach for allocation of data to RFID tags”, Proceedings of the Institute of the Industrial Engineers Annual Conference 2009, Miami, FL, May 2009.
 15. Qu, X, **L. Davis**, K. Johnson, C. Benson, “Investigating the relationship between use of Inpatient Care and Chronic Diseases in Urban Hospitals”, Proceedings of the Institute of the Industrial Engineers Annual Conference 2009, Miami, FL, May 2009.

16. Osman, M., B. Ram, J. Bhadury, P. Stanfield, **L. Davis**, F. Samanlioglu, "Optimization Models for Distributed Routing for Disaster Area Logistics", Proceedings of the 2009 IEEE International Conference on Service Operations, Logistics and Informatics, Chicago, July 2009.
17. **Davis**, L., S. Luster-Teasley, F. Samanlioglu, L. Parrish, "AggiEmentor: Improving the retention of undergraduates in STEM areas via e-mentoring", Proceedings of the American Society for Engineering Education Annual Conference 2007, Honolulu, HI, June 2007.
18. **Davis**, L, F. Samanlioglu, P. Stanfield, J. Davis, "Systemized Critical Chain Project Management with Application to Remanufacturing", Proceedings of the Institute of Industrial Engineers Annual Conference 2006, Orlando, FL, May 2006.
19. Stanfield, P., **L. Davis**, F. Samanlioglu, S. Udoka, "Dynamic Allocation of RFID memory across the product life cycle", Proceedings of the Institute of Industrial Engineers Annual Conference 2006, Orlando, FL, May 2006.
20. **Berrings**, L., Y. Fathi, "Tabu Search for the Common Due Date Weighted Tardiness Problem", Proceedings of the 31st Conference on Computers and Industrial Engineering, San Francisco, CA, February 2003.
21. Malmborg, C.J., **L.M. Berrings**, "A decision support system for the design of batch manufacturing systems." Proceedings of 1992 IEEE International Conference on Systems, Man and Cybernetics, Chicago, IL, October 1992.

FUNDING

PI, **US Department of Agriculture**, *Collaborative Project: Designing local food supply chains*, \$184,971, 1/2016-12/2017

PI, **Department of Homeland Security**, *Quantifying Vulnerability in Processed Food Supply Chains*, \$50,000, 2/2013-2/2014.

PI, **Department of Homeland Security**, *Interactive Simulation Model for Evaluating the Impact of Port Disruptions*, \$249,204, 2/2010-1/2013.

PI, **National Science Foundation**, *Collaborative Research: Engineering Efficient and Equitable Food Distribution Under Uncertainty*, \$196,247, 5/2010-4/2013. (w/ J. Ivy North Carolina State University)

PI, **Department of Homeland Security**, *Developing Expertise of Minority Students in managing threats and response to emergency situations through Interdisciplinary Research and Education*, \$332,809, 1/2008-12/2010.

PI, **North Carolina A & T State University Futures Ventures Fund**, *AggiEmentor: Increasing the retention of undergraduate students in STEM disciplines*, \$15,000, 7/06-6/07.

Co-PI, **Department Of Defense - Army, AMRDEC Engineering Logistics Support**, \$98,539 5/2009 [*Contribution: Disruptive Technologies*]

PRESENTATIONS (*graduate students in Davis Research group underlined*)

Invited Seminars

1. Davis, L., “Characterizing supply uncertainty in donation-driven supply chains”, Auburn University, September 2015.
2. Davis, L., “Characterizing supply uncertainty in donation-driven supply chains”, Rochester Institute of Technology, March 2013.

Invited (External to NCAT)

1. **Davis, L.**, Nuamah, I., Jiang, S., Lane, N., “Predicting future donations and simulating underserved demand zones”, Institute of Industrial and Systems Engineering Annual Research Conference, 2015. Nashville, TN.
2. Bemley, J. , **Davis, L.**, “Evaluating food contamination progression in consumers”, Institute of Industrial and Systems Engineering Annual Research Conference, 2014. Montreal, CA.
3. Jiang, S., Desai, Y., **Davis, L.**, “Assessment of the fairshare policy of a local food bank using logistic regression”, Institute of Industrial and Systems Engineering Annual Research Conference, 2014. Montreal, CA.
4. **Davis, L.**, Jiang, X.,”Empirical modeling of in-kind donations for a non-profit hunger relief organization”, INFORMS Annual Conference, 2013. Minneapolis, MN.
5. **Davis, L.** Jiang, X. “Empirical modeling of in-kind donations for a non-profit hunger relief organization”, Industry Studies Association Annual Conference, May 2013. Kansas City, MO.
6. **Davis, L.**, “Humanitarian Logistics: Impacting societal systems through engineering”, STEM week all college assembly, Benedict College, April 2013.
7. **Davis, L.**, “Characterizing supply uncertainty in donation driven supply chains”, Graduate Seminar, Rochester Institute of Technology, March 2012.
8. Brock, L., **L. Davis**, “An approach to approximating contributions received through food bank collections at grocery stores”, INFORMS Annual Conference, 2012, Phoenix, AZ.
9. Phillips, C., X. Qu, L. Davis, “An interactive simulation model for evaluating the performance of port security

- screening policies”, INFORMS Annual Conference, Phoenix, AZ.
10. **Davis, L., D. Mota**, “Modeling warehouse coordination in response to predictable disasters”, Industrial and Systems Engineering Annual Conference, Session: Optimization Applications in Supply Chains, 2012, Orlando, FL
 11. Terry, J., **L. Davis**, **S. Jiang**, “Predicting the supply of donated goods”, Industrial and Systems Engineering Annual Conference, Session: Humanitarian Service Systems, 2012, Orlando, FL.
 12. **Ivy, J., Davis, L., Sengul, I.** “Optimally Satisfying Hunger Need through Equitable Food Distribution”, INFORMS Annual Conference, Charlotte, 2011.
 13. Bemley, J., **Davis, L., Qu, X.** “A preposition policy for Port Commodities during a Natural Disaster”, Industrial Engineers Annual Conference, Session: Protecting Inland Waterways and Ports, 2011, Reno, Nevada
 14. Abdus-Salaam, H., **Davis, L.,** “Patient Dependency in Public and Private Pediatric Dental Clinics”, Industrial Engineers Annual Conference, Healthcare Systems Engineering Track, 2011, Reno, Nevada
 15. **Jackson, M., Qu, X., Davis, L.** “Evaluation of Port Evacuation Plans for Predictable Natural Disasters”, Industrial Engineers Annual Conference, Session: Modeling Homeland Security Problems, 2011, Reno, Nevada
 16. Abdus-Salaam, H., **Davis, L.,** “Examining the impact of dependent demand arrivals at a pediatric dental clinic using Multivariate Statistics”, OR in Healthcare, Industrial Engineers Annual Conference 2010, Cancun, Mexico
 17. **Davis, L., N. Applewhaite, D. Mota**, “The effect of unplanned donations on humanitarian logistics coordination, POMS Annual conference”, Orlando, FL. May 2009.
 18. **Davis, L., N. Applewhaite**, “The effect of unplanned donations on humanitarian logistics coordination”, INFORMS Annual Meeting, Session on Humanitarian Relief, Washington, DC. October 2008.
 19. **Davis, L.** “Perspectives on a Faculty Career”, Duke Bouchet Society Third Annual Lecture Series, Duke University, Durham, NC. 2008.
 20. Brock, L., **L. Davis**, “Humanitarian Relief Organizations Procurement Needs in Light of Donor Forecasting” INFORMS Annual Meeting, Session on Supply Chain Decisions under Risk, Washington, DC. October 2008.
 21. Chapman, J., **L. Davis**, **Samanlioglu, F.**, “Network Flow in Emergency Response”, INFORMS Annual Meeting, Session on Emergency Relief and Disaster Logistics Planning, Seattle, WA. October 2007.

1. **Davis, L.** “A Mathematical Model to Quantify the Value of Information Sharing in Supply Chains”, Math Awareness Day, Mathematics Department. April 2009.
2. **Davis, L., X. Qu,** “Operations Research Applications in Homeland Security”, ISE Graduate Seminar, Spring 2009.
3. **Davis, L.,** “Introduction to Operations Research”, Freshman Colloquium, Department of Industrial and Systems Engineering, Fall 2008.
4. **Davis, L.** “Interviewing for Academia”, Human Factors and Ergonomics Society, Spring 2006.
5. **Davis, L.,** “Service Systems Engineering”, Graduate Seminar, Department of Industrial and Systems Engineering, Fall 2006.

Other Technical Presentations

1. Teasley, R., Bemley, J., Davis, L. ,”A Markov chain model to estimate casualties from food supply chain contamination”, National Center for Food Protection and Defense Biennial Meeting, October 2012. (*2nd place winner* – poster competition)
2. Brock, L., Davis, L.,”An approach to approximating contributions received through food bank collections at grocery stores”, INFORMS Annual Conference, October 2012. (*poster finalist*)
3. Bemley, J. , Davis, L.,Qu. X, “Prepositioning Repair items for Aids to Navigation due to Natural Disaster”, INFORMS Annual Conference, November 2011. (*poster semi-finalist*)
4. **Davis,L. Winbush, H., Harris, C., Blumenfeld, S., Ivy, J.,** “Characterizing Uncertainty in Supply and Demand For Non-Profit Food Distribution Organizations”, INFORMS Annual Conference, November 2011. (poster).
5. **Davis, L., L. Brock, J. Ivy, L. Miles,** “A heuristic approach to scheduling food bank collections and deliveries”, Institute of Industrial Engineers Annual Conference, Cancun, MX, June 2010.
6. Brock,L., L. Davis, J. Ivy, L. Miles, “A heuristic approach to scheduling food bank collections and deliveries”, Health and Humanitarian Logistics Conference, Georgia Institute of Technology, March 2010. (poster)
7. Abdus-Salaam, H., L. Davis, Modeling Dependent Demand Arrivals in an Open-Access System, INFORMS Annual Meeting, Washington,DC, 2008. (poster)
8. **Davis, L,** A Markov Decision Model for Quantifying the Value of Information, Women in Industrial Engineering Academia, Turkey, 2008. (poster)
9. **Davis,L., R.E. King, T.J. Hodgson,** “A Markov Decision Model for Supply Chain Information Sharing”. INFORMS Annual Meeting, Seattle, WA, October 2007.
10. Saeed Osman,M., **L. Davis,** B.Ram, , F. Samanlioglu, “Improving Furnace Loading Using optimization models”, INFORMS International Meeting Puerto Rico, 2007.
11. King, R.E., T.J. Hodgson, W. Wei, **L. Davis,** “The value of shared information in a supply chain”. Institute of Industrial Engineers Annual Conference, Orlando, Fl, May 2006.

12. Hollis, S., F. Samanlioglu, **L. Davis**, “A genetic algorithm for data allocation on RFID tags”, INFORMS Annual Meeting, Seattle, WA, October 2007.
13. Dinkins, A., **L. Davis**, F. Samanlioglu, , “A model for quantifying the value of RFID Information in determining an Effective Maintenance Strategy”. Industrial Engineers Annual Conference, Vancouver, B.C. May 2008.
14. **Davis, L.**, F. Samanlioglu, B. Ram, “Operations Research in Healthcare”, Public Health Forum, North Carolina A&T State University, April 2006.
15. **Davis, L.** “A Markov Decision Model for Quantifying the Value of Information”, NSF Bridges to Engineering Research Conference, 2008. (poster)
16. Udoka, S., **L. Davis**, F. Samanlioglu, P. Stanfield, “Application of Radio Frequency Identification (RFID) to Enhance Remanufacturing Operations”, Proceedings of the Institute of Industrial Engineers Annual Conference 2006, Orlando, FL, May 2006.

HONORS/AWARDS

1. Outstanding paper of 2013 for Journal of Humanitarian Logistics and Supply Chain Management
2. **DHS Summer Research Program for Minority Serving Institutions – National Center for Food Protection and Defense**,
Oak Ridge Institute for Science and Education, 2012
3. **Outstanding Young Investigator Award**,
North Carolina A&T State University, 2010
4. **Division of Research Summer Faculty Fellowship Award**,
North Carolina A&T State University, 2007
5. **Graduate Degrees for Minorities in Engineering and Sciences Fellow**, *Rensselaer Polytechnic Institute, 1991-1992*
6. **Preparing for the Professoriate**
North Carolina State University, 2002-2003
7. **IBM Excellence Award**, 1998, 1999, 2002
Outstanding Service on SAP Development Project

SERVICE

Department

1. Undergraduate Committee (2005-2008)
2. Graduate Committee (2005-2006, 2008-Present)
3. INEN270 Course Committee (2005-Present)
4. INEN335 Course Committee (2005-Present)
5. Department Library Liaison (2005-2007)
6. Faculty Search Committee (2006)
7. Senior Design Project Advisor (2005,2006 2 groups)
8. Institute of Industrial Engineers Faculty Advisor (2007-2010)
9. Search committee, Chair of the department of Industrial and Systems Engineering (2012)
10. Laboratory committee chair, (2012)

11. Senior Design Project Advisor (Fall 2015, Fairystone Project)
- College
1. Statistics Common Course Committee (2007-Present)
 2. NSF Bridges to Engineering Research Conference Organizing Committee (2008)
 3. College Research Awards Committee (2010-2011)
 4. College RPT committee (2010-2012)
 5. Department of Engineering Computing Search Committee member
- University
1. Junior Faculty Task Force (2007)
 2. NC First Lego Robotics Tournament, Judge (2005)
 3. Faculty Grievance Committee (2013,2014)
- Professional
1. Co-Session Chair, *Joint Session WORMS/MIF: Panel Discussion with Department Chairs: How to Recruit, Retain, and Support Minority Students*, INFORMS Annual Meeting (2014)
 2. Session Chair, *Transportation and Food Systems Modeling*, Institute of Industrial and Systems Engineering Annual Research Conference (2015)
 3. Co Session Chair, *Joint Session JFIG/MIF: Department Chair Panel Discussion on Tenure and Promotion*, INFORMS Annual Conference (2015)
 4. Session Chair, *Improving Service Delivery in the Public Sector*, Institute of Industrial and Systems Engineering Annual Research Conference (2014).
 5. Session Chair, *Mathematical Modeling of Food and Health Services*, Institute of Industrial and Systems Engineering Annual Research Conference (2014).
 6. Session Chair, *Risk and Decision Making in Food Supply Chains*, Institute of Industrial and Systems Engineering Annual Research Conference (2013).
 7. Session Chair, *Managing operations in non-profit food distribution*, Society for Public Programs, Service, and Needs, INFORMS Annual Meeting (2012).
 8. President, Minority Issues Forum, INFORMS(2013 – Present)
 9. Vice president, Minority Issues Forum, INFORMS (2011-2013)
 10. Associate Editor, Interfaces Special Issue: *Humanitarian Applications: Doing Good with Good OR*. (2009)
 11. Reviewer , Computers and Industrial Engineering (2008-Present)
 12. Reviewer, Operations Research (2009)
 13. Editorial Board Member, International Journal of Operations Research and Information Systems
 14. Reviewer, Transportation Research Part B (2007).
 15. Reviewer, International Journal of Manufacturing and Technology Management (2008)
 16. Session Chair, *Humanitarian Logistics*, Society for Public Programs, Service, and Needs, Informs Annual Meeting (2010).
 17. Session Chair, *Supply Chain Risk Management*, MSOM Cluster, Informs Annual Meeting (2010).

18. Session Chair, Planning under uncertainty, Institute of Industrial Engineering Annual Research Conference, Cancun, MX (2010).
19. Session Chair, *Improvement of Accessibility in Healthcare Services*, Institute of Industrial Engineering Annual Research Conference, Miami Fl. (2009)
20. Invited Panelist, North Carolina State University, Preparing for the Professoriate Seminar Series. (2008,2010)
21. NSF Panel Reviewer, NSF Education I-P070797 SBIR/STTR (2006)
22. Scribe, Women in Industrial Engineering Academia, Turkey, 2008.
23. Discussant, Healthcare Engineering Symposium on The interface of Health Services Research and Healthcare Engineering, 2008.

Community

1. SEE (Science in Everyday Experiences) Summer Day Camp (2008,2009,2014)
Developed engineering activities for the camp

STUDENTS (2 International, 5 Female - underrepresented minority, 6 Male - URM)

Ph.D.

1. Husniyah Abdus-Salaam, *Modeling dependent demand arrivals under an open-access scheduling system*, Completed 5/2011. Winner of Best Doctoral Dissertation Award- NCAT Division of Research.
2. Luther Brock, *Meta-heuristic approaches for estimating in-kind food donations and scheduling food bank vehicles*, Completed 6/2014.
3. Jessye Bemley
4. Isaac Nuamah
5. Nicole Lane

M.S. (thesis)

*-Conferece paper †-Journal paper

1. Rodney Middlebrooks
2. Hussain Abulkhair
3. Isaiah Dais
4. Sefakor Fianu, "*Inventory management modeling with Markov Decision Process for equitable distribution of supplies under uncertainty*", May 2015
5. Megan Watkins, "*Modeling consumer behavior for high risk foods*", May 2015.
6. Raquel Teasley*†, "*Are we sick yet? Assessing consumer mortality from food contamination in multiple distribution channels*". May 2013.
7. Jessica Terry†, "*Eliminating the shortage factor: Modeling the behavior of future donations using forecasting techniques to improve the distribution efficacy of a food bank*". May 2013
8. Marluce Moreira, "*Designing a global supply chain network for a perishable product*", May 2013.
9. Hoshna Ovi, "*Process modeling of coordinated and collaborative humanitarian supply chains*", May 2013.
10. Jessye Bemley†, "*A stochastic facility location model for pre-positioning port commodities during a disaster*". August 2011.

11. Christopher Baker*, *A dynamic decision model for port hurricane preparation and shutdown*. December 2009.
12. Daniel de-Oliveira Mota, *A Stochastic Coordinated Humanitarian Relief Supply Chain Network based on multiple objectives*. December 2009.
13. Chanel Helper†, *Information Sharing in a supply chain and its value to the retailer*, August 2008.
14. Andrea Dinkins, *Quantifying the value of radio frequency identification information in maintenance modeling*, May 2008.
15. Jarrett Chapman†, *Utilizing stochastic linear programming and network flow to model pre-positioning and emergency response*, December 2007. (w. F. Samanlioglu)

MS (Project)

16. Almuttaz Senani
17. Abdulrahman Alesia, “*Inventory Allocation for a Food Bank*”, December 2014.
18. D’Javon Alston*, *An Interactive Simulation Model for Evaluating the Impact of Port Disruptions*. December 2011.
19. Nolan Applewhaite, *The effect of unplanned donations on humanitarian logistics coordination*, May 2009.
20. Stacey Hollis, *Inventory Scheduling and Cash Management in Bank of America’s Supply Chain*, December 2008.
21. Sylvester Winbush*, *A Predictive Model to Determine Monthly Demand Estimates for the Durham Branch of the Food Bank of Central and Eastern North Carolina*, August 2011.
22. Christina Harris*, *Forecasting Supply of Donated Goods*, August 2011.
23. Tamario Howze, *Maximizing profit in make versus buy situations*, May 2008.
24. Deanna Tinnin, *Cultural Differences in the perception of quality in the healthcare sector*, May 2007. (deceased)
25. Ubong Effanga, *A decision support tool for location of information and technology in Akwa Ibom State, Nigeria*, May 2007 (w S. Udoka).

PROFESSIONAL AFFILIATIONS

1. Institute of Industrial Engineers
2. INFORMS
3. ASEE
4. Manufacturing and Service Operations Management (INFORMS Society)
5. Public Programs, Service, and Needs (INFORMS Society)
6. WORMS (INFORMS FORA)
7. Minority Issues Forum (INFORMS FORA)

COURSES

Undergraduate

1. INEN270: Engineering Statistics
Discrete and Continuous Probability Distributions, Sampling distributions, hypothesis testing

2. INEN435: Stochastic Operations Research
Markov Processes, Queuing theory, Decision Making under Uncertainty
 3. INEN455/655: Production Control
Forecasting, aggregate planning, inventory management, scheduling
 4. IE401: Stochastic Processes (at NC State)
Markov Processes, Queuing Theory, Dynamic Programming, Reliability
- Graduate
1. INEN854: Inventory and Warehouse Systems
Deterministic and Stochastic Inventory Theory, Facility Location
 2. INEN831: Service Sector Engineering
Service System Design, Service Quality, service operations Management
 3. INEN833: Supply Chain Systems Engineering
Network Design Models, Inventory management and Coordination
 4. INEN843, Queueing Theory
- Developed Graduate
1. INEN885: Advanced Stochastic Processes
Discrete and Continuous time Markov Chains, Markov Decision Processes
 2. INEN685/885: Homeland Security
Engineering applications in Homeland Security – Survey Course
 3. INEN885: Agent Based Simulation in Service Industries
Agent-based simulation modeling using Anylogic
 4. INEN885: Stochastic Programming
Advanced stochastic optimization course, modeling and solution techniques
- PROFESSIONAL DEVELOPMENT**
1. Minority Faculty Development Workshop: Engineering Enterprise and Innovation, Atlanta GA (March 2012).
 2. Summer 2009 Advance Peer Mentoring Conference for Underrepresented Minority Women Engineering Faculty, Pasadena, CA (August 2009)
 3. Humanitarian Logistics Conference, Georgia Tech (2009,2010)
 4. Women in Industrial Engineering Academia, Istanbul, Turkey (July 2008)
 5. Advance Faculty Career Success Workshop, Rice University (April 2008)
 6. Writing Winning Grants , NCAT Division of Research (October 2006)
 7. Academy for Teaching and Learning Summer Teaching Institute: Creating significant learning experiences in your courses, NCAT (May 2006)
 8. Eric Mazur’s teaching/learning seminars, NCAT (November 2005)

9. 4th Annual New Faculty Colloquium, Institute of Industrial Engineers Research Conference, (May 2006)
10. Academy for Teaching and Learning New Faculty Lunch Series, NCAT, (2005-2006)
11. SAS Data mining for Educators, SAS Institute (2007)
12. SAS Exploring interacting and Visual Data Mining with JMP, SAS Institute, (2009)
13. GIS Workshop, Elon University, (2009)