



Ronald MCGARVEY

Ph.D. in Industrial Engineering and Operations Research

Full Professor, Operations Management

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EDUCATION

- 2024** HDR: Network design accounting for disruptions and uncertainty, University of Paul Sabatier, Toulouse 3, France
- 2002** Ph.D. in Industrial Engineering and Operations Research, Pennsylvania State University, USA

PROFESSIONAL EXPERIENCE

ACADEMIC:

- 2022 - Present** Full Professor, IÉSEG School of Management, France
- 2021 - 2022** Visiting Professor, ISAE-SUPAERO, France
- 2013 - 2022** Associate Professor (with tenure) of Industrial Engineering and Public Affairs, University of Missouri, USA
- 2002 - 2022** Senior Operations Researcher, RAND, USA

INTELLECTUAL CONTRIBUTIONS

Papers in refereed journals

Published

- Gutierrez-Lopez J., McGarvey R. G., Noble J. S., Hall D. M., Costello C., (2024), Quantification of social metrics for use in optimization: An application to solid waste management, *Journal of Cleaner Production*, 480(2024), pp. 144111
- Mirzaee A., McGarvey R., Aguilar F., (2024), Feasibility of satisfying projected biopower demands in support of decarbonization interventions: A spatially-explicit cost optimization model applied to woody biomass in the eastern US, *Energy Economics*, 136(2024), pp. 107672
- Gutierrez-Lopez J., McGarvey R., Costello C., Hall D. M., (2023), Decision Support Frameworks in Solid Waste Management: A Systematic Review of Multi-Criteria Decision-Making with Sustainability and Social Indicators, *Sustainability*, 15(18), pp. 13316
- Mirzaee A., McGarvey R. G., Aguilar F. X., Schliep E. M., (2023), Impact of biopower generation on eastern US forests, *Environment, Development and Sustainability*, 25(none), pp. 4087–4105
- Salama M. R., McGarvey R. G., (2023), Resilient supply chain to a global pandemic, *International Journal of Production Research*, 61(8), pp. 2563-2593
- Thorsen M., Harris S., Palacios J., McGarvey R., Thorsen A., (2023), American Indians Travel Great Distances for Obstetrical Care: Examining Rural and Racial Disparities, *Social Science & Medicine*, 325(2023), pp. 115897

- Zanjirani Farahani N., Noble J. S., McGarvey R. G., Enayati M., (2023), An advanced intermodal service network model for a practical transition to synchmodal transport in the US Freight System: A case study, *Multimodal Transportation*, 2(1), pp. 100051
- Aguilar F. X., Sudekum H., McGarvey R. G., Knapp B., Domke G., Brandeis C., (2022), Impacts of the US southeast wood pellet industry on local forest carbon stocks, *Scientific Reports*, 12(1), pp. 19449
- Birisci E., McGarvey R. G., (2022), Cost-versus environmentally-optimal production in institutional food service operations, *Socio-Economic Planning Sciences*, 82(2022), pp. 101169
- Dundar B., McGarvey R. G., Aguilar F. X., (2022), Optimal multi-state partnerships for woody biomass co-firing incorporating a demand-response function for biomass procurement, *Optimization Letters*, 16(3), pp. 821-844
- McGarvey R. G., Thorsen A., (2022), Nested-solution facility location models, *Optimization Letters*, 16(2), pp. 497-514
- Salama M. R., McGarvey R. G., (2022), Enhancing mass transit passenger safety during a pandemic via in-vehicle time minimization, *Computers & Operations Research*, 143(July 2022), pp. 105776
- Thorsen M. L., Harris S., McGarvey R. G., Palacios J., Thorsen A., (2022), Evaluating disparities in access to obstetric services for American Indian women across Montana, *The Journal of Rural Health*, 38(1), pp. 151-160
- Al-Amidie M., Al-Asadi A., Humaidi A. J., Al-Dujaili A., Alzubaidi L., Farhan L., Fadhel M. A., McGarvey R. G., Islam N. E., (2021), Robust Spectrum Sensing Detector Based on MIMO Cognitive Radios with Non-Perfect Channel Gain, *Electronics*, 10(5), pp. 529
- Costello C., Oveysi Z., Dundar B., McGarvey R. G., (2021), Assessment of the Effect of Urban Agriculture on Achieving a Localized Food System Centered on Chicago, IL Using Robust Optimization, *Environmental Science & Technology*, 55(4), pp. 2684-2694
- Kambli A., McGarvey R. G., (2021), Network design for local agriculture using robust optimization, *Information Processing in Agriculture*, 8(3), pp. 469-483
- Oveysi Z., McGarvey R. G., Seo K., (2021), An Optimization Model to Address Overcrowding in Emergency Departments Using Patient Transfer, *Advances in Operations Research*, 2021(7120291), pp. 1-11
- Aguilar F. X., Mirzaee A., McGarvey R. G., Shifley S. R., Burtraw D., (2020), Expansion of US wood pellet industry points to positive trends but the need for continued monitoring, *Scientific Reports*, 10(1), pp. 1-17
- Al-Asadi A., Al-Amidie M., Alwane S. K., Albehadili H. M., McGarvey R. G., Islam N. E., (2020), Robust underlay cognitive network download beamforming in multiple users, multiple groups multicell scenario, *IET Communications*, 14(21), pp. 3934-3943
- Chemodanov D., Calyam P., Esposito F., McGarvey R. G., Palaniappan K., Pescapè A., (2020), A Near Optimal Reliable Orchestration Approach for Geo-Distributed Latency-Sensitive SFCs, *IEEE Transactions on Network Science and Engineering*, 7(4), pp. 2730-2745
- Dahal R. P., Aguilar F. X., McGarvey R. G., Becker D., Abt K. L., (2020), Localized economic contributions of renewable wood-based biopower generation, *Energy Economics*, 91(September 2020), pp. 104913
- Thorsen M., McGarvey R. G., Thorsen A., (2020), Diabetes management at community health centers: Examining associations with patient and regional characteristics, efficiency, and staffing patterns, *Social Science & Medicine*, 255(June 2020), pp. 113017
- Al-Asadi A., Al-Amidie M., Micheas A. C., McGarvey R. G., Islam N. E., (2019), Worst case fair beamforming for multiple multicast groups in multicell networks, *IET Communications*, 13(6), pp. 664-671
- Dundar B., McGarvey R. G., Aguilar F. X., (2019), A robust optimisation approach for identifying multi-state collaborations to reduce CO emissions, *Journal of the Operational Research Society*, 70(4), pp. 601-619
- Karakose G., McGarvey R. G., (2019), Optimal Detection of Critical Nodes: Improvements to Model Structure and Performance, *Networks and Spatial Economics*, 19(1), pp. 1-26
- Karakose G., McGarvey R. G., (2019), Optimal K-node disruption on a node-capacitated network, *Optimization Letters*, 13(4), pp. 695-715
- McGarvey R. G., Thorsen A., Thorsen M. L., Reddy R. M., (2019), Measuring efficiency of community health centers: a multi-model approach considering quality of care and heterogeneous operating environments, *Health Care Management Science*, 22(3), pp. 489-511

- Thorsen M. L., Thorsen A., McGarvey R. G., (2019), Operational efficiency, patient composition and regional context of U.S. health centers: Associations with access to early prenatal care and low birth weight, *Social Science & Medicine*, 226(April 2019), pp. 143-152
- Birisci E., McGarvey R. G., (2018), Optimal production planning utilizing leftovers for an all-you-care-to-eat food service operation, *Journal of Cleaner Production*, 171(10 January 2018), pp. 984-994
- Jiao C., Chen C., McGarvey R. G., Bohlman S., Jiao L., Zare A., (2018), Multiple instance hybrid estimator for hyperspectral target characterization and sub-pixel target detection, *ISPRS Journal of Photogrammetry and Remote Sensing*, 146(2018), pp. 235-250
- Karakose G., McGarvey R. G., (2018), Capacitated path-aggregation constraint model for arc disruption in networks, *Transportation Research Part E: Logistics and Transportation Review*, 109(2019), pp. 225-238
- Karakose G., McGarvey R. G., (2018), Node-securing connectivity-based model to reduce infection spread in contaminated networks, *Computers & Industrial Engineering*, 115(January 2018), pp. 512-519
- McGarvey R. G., (2018), When to call on an advantageous restart option, *Journal of Sports Analytics*, 4(2), pp. 133-143
- Thorsen A., McGarvey R. G., (2018), Efficient frontiers in a frontier state: Viability of mobile dentistry services in rural areas, *European Journal of Operational Research*, 268(3), pp. 1062-1076
- Bergman J. J., Noble J. S., McGarvey R. G., Bradley R. L., (2017), A Bayesian approach to demand forecasting for new equipment programs, *Robotics and Computer-Integrated Manufacturing*, 47(2017), pp. 17-21
- Costello C., McGarvey R. G., Birisci E., (2017), Achieving Sustainability beyond Zero Waste: A Case Study from a College Football Stadium, *Sustainability*, 9(7), pp. 1236
- Dundar B., Costello C., McGarvey R. G., (2017), Robust optimization evaluation of reliance on locally produced foods, *Environment Systems and Decisions*, 37(1), pp. 34-41
- Nikouei Mehr M., McGarvey R. G., (2017), Planning Solid Waste Collection with Robust Optimization: Location-Allocation, Receptacle Type, and Service Frequency, *Advances in Operations Research*, 2017(2912483), pp. 1-14
- Birisci E., McGarvey R. G., (2016), Inferring shortfall costs and integrating environmental costs into optimal production levels for an all-you-care-to-eat food service operation, *International Journal of Production Economics*, 182(2016), pp. 157-164
- Costello C., Birisci E., McGarvey R. G., (2016), Food waste in campus dining operations: Inventory of pre- and post-consumer mass by food category, and estimation of embodied greenhouse gas emissions, *Renewable Agriculture and Food Systems*, 31(3), pp. 191-201
- Dundar B., McGarvey R. G., Aguilar F. X., (2016), Identifying Optimal Multi-state collaborations for reducing CO2 emissions by co-firing biomass in coal-burning power plants, *Computers & Industrial Engineering*, 101(2016), pp. 403-415
- Lang T. E., McGarvey R. G., (2016), Determining Reliable Networks of Prepositioning Materiel Warehouses for Public-Sector Rapid Response Supplies, *Advances in Operations Research*, 2016(1285406), pp. 1-20
- McGarvey R. G., Rieksts B. Q., Ventura J. A., Ahn N., (2016), Binary linear programming models for robust broadcasting in communication networks, *Discrete Applied Mathematics*, 204(2016), pp. 173-184
- McGarvey R. G., Cavalier T. M., (2010), Determining the location and capacity of competitive facilities, *International Journal of Mathematics in Operational Research*, 2(6), pp. 694-723
- Amouzegar M., Tripp R., Feinberg A., McGarvey R. G., (2005), Consolidation of Maintenance Processes for Expeditionary Air Force Operations, *International Journal of Industrial Engineering: Theory, Applications and Practice*, 12(1), pp. 26-34
- McGarvey R. G., Cavalier T. M., (2005), Constrained location of competitive facilities in the plane, *Computers & Operations Research*, 32(2), pp. 359-378
- Brown S. I., McGarvey R. G., Ventura J. A., (2004), Total flowtime and makespan for a no-wait m-machine flowshop with set-up times separated, *Journal of the Operational Research Society*, 55(6), pp. 614-621
- McGarvey R. G., Cavalier T. M., Del Castillo E., Lehtihet E. A., (2004), A unified framework for probabilistic sequential tolerance control, *International Journal of Production Research*, 42(7), pp. 1443-1453
- McGarvey R. G., Cavalier T. M., (2003), A global optimal approach to facility location in the presence of forbidden regions, *Computers & Industrial Engineering*, 45(1), pp. 1-15
- Cavalier T. M., Lehtihet E. A., Castillo E. D., McGarvey R. G., (2002), An adaptive sphere-fitting method for sequential tolerance control, *International Journal of Production Research*, 40(12), pp. 2757-2767

McGarvey R. G., Del Castillo E., Cavalier T. M., Lehtihet E. A., (2002), Four-parameter beta distribution estimation and skewness test, *Quality and Reliability Engineering International*, 18(5), pp. 395-402

McGarvey R. G., Lehtihet E. A., Castillo E. D., Cavalier T. M., (2001), On the frequency and location of set point adjustments in sequential tolerance control, *International Journal of Production Research*, 39(12), pp. 2659-2674

Forthcoming

Harris S., McGarvey R. G., Thorsen A., Thorsen M., (2024), Inferred Attractiveness Gravity-Based Models for Estimating Realized Access at Rural Hospitals, *Journal of the Operational Research Society*, 0(0), pp. 0

Other conference and seminar presentations

International

McGarvey R. G., Thorsen A. H., (2023), *Minimizing maximum regret in two-stage facility location with site preparation costs* ISOLDE XVI and EWGLA XXVIII, Kaiserslautern and Baden-Baden, Germany

National

McGarvey R. G., Thorsen A., (2024), *A cumulative opportunities approach to facility location* ROADEF, Amiens, France

Books

Published

McGarvey R. G., Leftwich J. A., Hastings K. C., Kilambi V., Kristin Lynch K. F., Prier S., (2023), *Advancing Combat Support to Sustain Agile Combat Employment Concepts: Integrating Global, Theater, and Unit Capabilities to Improve Support to a High-End Fight*, 1-9774-1105-3, RAND Corporation, Santa Monica, CA, 68 pages

Wirth A. J., Ausink J. A., DeBlois B., Lilly S., Massicot D., McColleston M., McGarvey R. G., Kennedy M., Tierney S., McLane L., (2023), *Replicating Threats in Operational Test and Training Infrastructure: The Investment Required to Keep Pace with Adversary Threat Generation*, 1-9774-1198-3, RAND Corporation, Santa Monica, CA

Lynch K. F., DeCicco A., Bennett B. E., Drew J. G., Kadlec A., Kilambi V., Klein K., Leftwich J. A., Marlier M. E., McGarvey R. G., Mills P., Milonopoulos T., Tripp R. S., Wirth A. J., (2021), *Analysis of Global Management of Air Force War Reserve Materiel to Support Operations in Contested and Degraded Environments*, 9781977403773, RAND Corporation, Santa Monica, CA

DeBlois B., Mills P., Narayanan A., Gold D., Wirth A. J., Ausink J. A., Bennett B. E., McGarvey R. G., Ali R., Syme J., Williams R. H., (2021), *Fighter Basing Options to Improve Access to Advanced Training Ranges*, 9781977406439, RAND Corporation, Santa Monica, CA

Wirth A. J., Light T., Romano D. M., Tierney S., McGarvey R. G., Kim M., Lostumbo M. J., Nguyen A., Emslie P., Drew J. G., (2020), *Evaluating Alternative Maintenance Manpower Force Structure Concepts for the F-35A*, 9781977405340, RAND Corporation, Santa Monica, CA

Gold D., Bennett B. E., DeBlois B., McGarvey R. G., Wirth A. J., (2020), *A Modeling Framework for Optimizing U.S. Air Force Fighter Pilot Access to Advanced Training Ranges*, 9781977405937, RAND Corporation, Santa Monica, CA

McGarvey R. G., Bigelow J. H., Briggs G. J., Buryk P., Conley R. E., Drew J. G., Shameem Firoz P., Kim J., Menthe L., Moore C., Taylor W. W., Williams W. A., (2013), *Assessment of Beddown Alternatives for the F-35*, 9780833078070, RAND Corporation, Santa Monica, CA

McGarvey R. G., Light T., Thomas B., Sanchez R., (2013), *Commercial Intratheater Airlift: Cost-Effectiveness Analysis of Use in U.S. Central Command*, 9780833078377, RAND Corporation, Santa Monica, CA

Drew J. G., McGarvey R. G., Buryk P., (2013), *Enabling Early Sustainment Decisions: Application to F-35 Depot-Level Maintenance*, 9780833081650, RAND Corporation, Santa Monica, CA

Van Roo B. D., Carrillo M. J., Drew J. G., Lang T., Maletic A. L., Massey H. G., Masters J. M., McGarvey R. G., Sollinger J. M., Thomas B., Tripp R. S., (2011), *Analysis of the Air Force Logistics Enterprise: Evaluation of Global Repair Network Options for Supporting the C-130*, 9780833049575, RAND Corporation, Santa Monica, CA

Tripp R. S., McGarvey R. G., Van Roo B. D., Masters J. M., Sollinger J. M., (2010), *A Repair Network Concept for Air Force Maintenance: Conclusions from Analysis of C-130, F-16, and KC-135 Fleets*, 9780833048042, RAND Corporation, Santa Monica, CA

McGarvey R. G., Tripp R. S., Rue R., Lang T., Sollinger J. M., Conner W. A., Luangkesorn L., (2010), *Global Combat Support Basing: Robust Prepositioning Strategies for Air Force War Reserve Materiel*, 9780833047663, RAND Corporation, Santa Monica, CA

McGarvey R. G., Carrillo M. J., Cato Jr. D. C., Drew J. G., Lang T., Lynch K. F., Maletic A. L., Massey H. G., Masters J. M., Pyles R. A., Sanchez R., Sollinger J. M., Thomas B., Tripp R. S., Van Roo B. D., (2009), *Analysis of the Air Force Logistics Enterprise: Evaluation of Global Repair Network Options for Supporting the F-16 and KC-135*, 9780833047403, RAND Corporation, Santa Monica, CA

McGarvey R. G., Masters J. M., Luangkesorn L., Sheehy S., Drew J. G., Kerchner R., Van Roo B. D., Roll Jr. C. R., (2008), *Supporting Air and Space Expeditionary Forces: Analysis of CONUS Centralized Intermediate Repair Facilities*, 9780833042903, RAND Corporation, Santa Monica, CA

Amouzegar M. A., McGarvey R. G., Tripp R. S., Luangkesorn L., Lang T., Roll Jr. C. R., (2006), *Evaluation of Options for Overseas Combat Support Basing*, 978-0-8330-3874-6, RAND Corporation, Santa Monica, CA

Tripp R. S., Lynch K. F., McGarvey R. G., Snyder D., Pyles R. A., Williams W. A., Roll Jr. C. R., (2006), *Strategic Analysis of Air National Guard Combat Support and Reachback Functions*, 978-0-8330-3884-5, RAND Corporation, Santa Monica, CA

Tripp R. S., Amouzegar M. A., McGarvey R. G., Bereit R., George D. W., Cornuet J., (2006), *Sense and Respond Logistics: Integrating Prediction, Responsiveness, and Control Capabilities*, 978-0-8330-3978-1, RAND Corporation, Santa Monica, CA

Amouzegar M. A., Tripp R. S., McGarvey R. G., Chan E. W., Roll Jr. C. R., (2004), *Supporting Air and Space Expeditionary Forces: Analysis of Combat Support Basing Options*, 0-8330-3675-0, RAND Corporation, Santa Monica, CA

RESEARCH ACTIVITIES

Supervision of Ph.D. Thesis:

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| 2024 | Director, Engaging communities to discover environmentally and socially optimal waste management decisions, University of Missouri |
| 2023 | Co-director, Achieving Sustainability Through Re-municipalized Energy Services: Exploring Formation, Efficacy, and Impacts of Community Choice Aggregations, University of Missouri |
| 2023 | Director, Assessing Strategies For Achieving Environmentally Sustainable Food Systems Using Robust Optimization, University of Missouri |