

Dr Jitendra Kumar Jha
Associate Professor

CONTACT:

Department of Industrial & Systems Engineering,
Indian Institute of Technology Kharagpur,
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Education

PhD Industrial and Management Engineering, Indian Institute of Technology Kanpur, 2010.
MTech Industrial Management, Indian Institute of Technology (BHU) Varanasi, 2002.
BSc Engineering Production Engineering, Birsa Institute of Technology (BIT) Sindri, 1999.

Post-PhD Experience

- Associate Professor, Industrial and Systems Engineering, Indian Institute of Technology Kharagpur, April 2018 – Contd.
- Assistant Professor, Industrial and Systems Engineering, Indian Institute of Technology Kharagpur, July 2013 – April 2018.
- Assistant Professor (on tenure track), Industrial and Systems Engineering, Indian Institute of Technology Kharagpur, July 2010 – July 2013.

Administrative Experience

Institute-Level

- Warden: BCR Hall of Residence, IIT Kharagpur, January 2020-December 2022.
- Assistant Warden: BCR Hall of Residence, IIT Kharagpur, November 2015 to December 2019
VS Hall of Residence, IIT Kharagpur, October 2011 to October 2013
- Rector's Nominee (Technology related activities), Technology Students' Gymkhana, IIT Kharagpur, September 2017-October 2020.
- Treasurer, Technology Club, IIT Kharagpur, April 2016- March 2017

Department-level

- UGPEC Departmental Representative, Industrial and Systems Engineering, July 2019- Contd.
- Examination In-charge, Industrial and Systems Engineering, IIT Kharagpur, July 2016- Contd.
- Faculty Advisor: MTech (2012-2020), BTech and Dual (2020-till date)
- Member, Purchase Committee, Industrial and Systems Engineering Department, IIT Kharagpur, August 2013- December, 2018.
- Time Table In-charge, Industrial and Systems Engineering, IIT Kharagpur, April 2012 to September 2016.
- Faculty-coordinator, IEM Society, Industrial and Systems Engineering, IIT Kharagpur, July 2011-June 2015.
- Chairman, OPTIMA-2012, Industrial and Systems Engineering, IIT Kharagpur, March 23-25, 2012.

Scholarships/Awards/Achievement

- Faculty Excellence Award (Associate Professor) for the year 2021, IIT Kharagpur
- Best paper award in XVII Annual International Conference of the Society of Operations Management, December 20-22, 2013, Indian Institute of Technology Madras, Chennai.
- Best paper award in XVI Annual International Conference of the Society of Operations Management, December 21-23, 2012, Indian Institute of Technology Delhi, New Delhi.
- Reviewed the Course “Six Sigma by Prof T P Bagchi” prepared by NPTEL.
- NTU Singapore Post-Doctoral Fellowship 2010-11 (*Declined*).
- Seoul National University, South Korea, Post-Doctoral Fellowship 2010-11 (*Declined*).
- Biography selected and included in Marquis Who's Who in the World (28th Edition) USA 2011.
- Received cash award twice from the Dean Resource Planning and Generation IIT Kanpur for publishing two papers in the journals listed in ISI Web of Science during PhD.

- Selected for the post of Lecturer in Mechanical Engineering at BIT Sindri through Jharkhand Public Service Commission in 2006 (*Declined*).
- Deshpande-Atkinson Scholarship 1997 from BITSAA of North America for being branch topper in the first year of engineering.
- Recipient of S J Jindal Trust Scholarship 1998 New Delhi during engineering.
- Ranked 2nd in the branch based on the performance of four years of engineering, and secured 1st position in the first year and the final year of engineering.

Journal Publications

- [1] **Jha, J.K.** and Shanker, K., 2009. Two-echelon supply chain inventory model with controllable lead time and service level constraint. *Computers & Industrial Engineering*, 57(3), pp.1096-1104.
- [2] **Jha, J.K.** and Shanker, K., 2009. A single-vendor single-buyer production-inventory model with controllable lead time and service level constraint for decaying items. *International Journal of Production Research*, 47(24), pp.6875-6898.
- [3] **Jha, J.K.** and Shanker, K., 2013. A coordinated two-phase approach for operational decisions with vehicle routing in a single-vendor multi-buyer system. *International Journal of Production Research*, 51(5), pp.1426-1450.
- [4] **Jha, J.K.** and Shanker, K., 2013. Single-vendor multi-buyer integrated production-inventory model with controllable lead time and service level constraints. *Applied Mathematical Modelling*, 37(4), pp.1753-1767.
- [5] **Jha, J.K.** and Shanker, K., 2014. An integrated inventory problem with transportation in a divergent supply chain under service level constraint. *Journal of Manufacturing Systems*, 33(4), pp.462-475.
- [6] Tanksale, A. and **Jha, J.K.**, 2015. Implementing national food security act in India: issues and challenges. *British Food Journal*, 117(4), pp.1315-1335.
- [7] Tanksale, A.N. and **Jha, J.K.**, 2015. Developing a mathematical model to optimize foodgrains storage and transport for public distribution system in India. *Udyog Pragati: The Journal of Practising Managers*, 39(1), 34–42.
- [8] Mawandiya, B.K., **Jha, J.K.** and Thakkar, J., 2016. Two-echelon closed-loop supply chain deterministic inventory models in a batch production environment. *International Journal of Sustainable Engineering*, 9(5), pp.315-328.
- [9] Tanksale, A. and **Jha, J.K.**, 2016. An effective heuristic for multi-period multi-foodgrain inventory transportation problem in India. *INFOR: Information Systems and Operational Research*, 54(4), pp.355-379.
- [10] Ghosh, A., **Jha, J.K.** and Sarmah, S.P., 2016. Optimizing a two-echelon serial supply chain with different carbon policies. *International Journal of Sustainable Engineering*, 9(6), pp.363-377.
- [11] Ghosh, A., **Jha, J.K.** and Sarmah, S.P., 2017. Optimal lot-sizing under strict carbon cap policy considering stochastic demand. *Applied Mathematical Modelling*, 44, pp.688-704.
- [12] Tanksale, A. and **Jha, J.K.**, 2017. Solving multi-region multi-facility inventory allocation and transportation problem: A case of Indian public distribution system. *Computers & Industrial Engineering*, 110, pp.175-190.
- [13] Sakhala, N.K. and **Jha, J.K.**, 2017. Developing decision support system for heterogeneous fleet vehicle routing problem using hybrid heuristic. *International Journal of Logistics Systems and Management*, 26(2), pp.253-276.
- [14] Raut, S., Ganesan, V.K. and **Jha, J.K.**, 2017. A novel constraint propagation approach for airline schedule design problem. *International Journal of Mathematics in Operational Research*, 10(4), pp.485-501.
- [15] Mawandiya, B.K., **Jha, J.K.** and Thakkar, J., 2017. Production-inventory model for two-echelon closed-loop supply chain with finite manufacturing and remanufacturing rates. *International Journal of Systems Science: Operations & Logistics*, 4(3), pp.199-218.
- [16] Rathore, R., Thakkar, J.J. and **Jha, J.K.**, 2017. A quantitative risk assessment methodology and evaluation of food supply chain. *The International Journal of Logistics Management*, 28(4), pp.1272-1293.
- [17] Gutgutia, A. and **Jha, J.K.**, 2018. A closed-form solution for the distribution free continuous review integrated inventory model. *Operational Research*, 18(1), pp.159-186.
- [18] Ghosh, A., Sarmah, S.P. and **Jha, J.K.**, 2018. Collaborative model for a two-echelon supply chain with uncertain demand under carbon tax policy. *Sādhanā*, 43(9), p.144.

- [19] Ranjan, A. and **Jha, J.K.**, 2019. Pricing and coordination strategies of a dual-channel supply chain considering green quality and sales effort. *Journal of Cleaner Production*, 218, pp.409-424.
- [20] Jha, S.B., **Jha, J.K.** and Tiwari, M.K., 2019. A multi-objective meta-heuristic approach for transit network design and frequency setting problem in a bus transit system. *Computers & Industrial Engineering*, 130, pp.166-186.
- [21] Sakhala, N.K., Tanksale, A. and **Jha, J.K.**, 2019. Path anticipation and prioritized conflict-free train re-scheduling on a linear network. *International Journal of Operational Research*, 36(4), pp.496-517.
- [22] Tanksale, A. and **Jha, J.K.**, 2020. Benders decomposition approach with heuristic improvements for the robust foodgrain supply network design problem. *Journal of the Operational Research Society*, 71(1), pp. 16-36.
- [23] Saha, M., **Jha J.K.** and Maiti J., 2020. Modelling management responses and online reviews for improved financial performance of hospitals. *JBI Evidence Implementation*, 18(1), pp.138-154.
- [24] Tanksale, A. and **Jha, J.K.**, 2020. A hybrid fix-and-optimize heuristic for integrated inventory-transportation problem in a multi-region multi-facility supply chain. *RAIRO-Operations Research*, 54, pp.749-782.
- [25] Ghosh A., **Jha J.K.** and Sarmah S.P., 2020. Production-Inventory models considering different carbon policies: A review. *International Journal of Productivity and Quality Management*, 30(1), pp.1-27.
- [26] Ghosh A., **Jha J.K.** and Sarmah S.P., 2020. An integrated supply chain with uncertain demand and random defect rate under carbon cap-and-trade policy. *International Journal of Industrial Engineering: Theory, Applications and Practice*, 27(2), pp.209-228.
- [27] Mawandiya, B.K., **Jha, J.K.** and Thakkar, J.J., 2020. Optimal production-inventory policy for closed-loop supply chain with remanufacturing under random demand and return. *Operational Research*, 20(3), pp.1623-1664.
- [28] Rathore, R., Thakkar, J.J. and **Jha, J.K.**, 2021. Impact of risks in foodgrains transportation system: a system dynamics approach. *International Journal of Production Research*, 59(6), pp.1814-1833.
- [29] Rathore, R., Thakkar, J.J. and **Jha, J.K.**, 2021. Evaluation of risks in foodgrains supply chain using failure mode effect analysis and fuzzy VIKOR. *International Journal of Quality & Reliability Management*, 38(2), pp.551-580.
- [30] Nadar, R.A., **Jha, J.K.** and Thakkar, J.J., 2021. Strategic location of ambulances under temporal variation in demand and travel time using variable neighbourhood search based approach. *Computers & Industrial Engineering*. 162, 107780.
- [31] Patra, T.D.P. and **Jha, J.K.**, 2021. A two-period newsvendor model for prepositioning with a post-disaster replenishment using Bayesian demand update. *Socio-Economic Planning Sciences*. 78, 101080.
- [32] Patra, T.D.P. and **Jha, J.K.**, 2022. Bidirectional option contract for prepositioning of relief supplies under demand uncertainty. *Computers & Industrial Engineering*. 163, 107861.
- [33] Mahapatra, M.S., Pradhan, P.C. and **Jha, J.K.**, 2022. Sourcing decisions with order allocation under supply disruption risk considering quantitative and qualitative criteria. *Operational Research*. 22, 3291-3333.
- [34] Nadar, R.A., **Jha, J.K.** and Thakkar, J.J., 2022. Ambulance location under temporal variation in demand using a mixed coded memetic algorithm. *RAIRO-Operations Research*. 56, 2967-2997.
- [35] Ranjan A. and **Jha, J.K.**, 2022. Multi-period dynamic pricing model for deteriorating products in a supply chain with preservation technology investment and carbon emission. *Computers & Industrial Engineering*. 174, 108817.

Conferences/Workshops

- [1] Ranjan, A. and Jha, J.K. Optimal dynamic pricing and preservation technology investment for a centralised supply chain considering carbon emission, The POMS India International Conference, S.P. Jain Institute of Management & Research, Mumbai, India, December 22-24, 2021.
- [2] Ranjan, A. and Jha, J.K. Analysis of government tariffs for substitute products in a dual-channel supply chain, The POMS India International Conference, S.P. Jain Institute of Management & Research, Mumbai, India, December 22-24, 2021.

- [3] Patra, T.D.P. and Jha, J.K. A newsvendor approach with replenishment opportunity for prepositioning of relief items. *XXIV Annual International Conference of the Society of Operations Management*, XLRI Jamshedpur, Jamshedpur, India, November 12-15, 2021.
- [4] Nadar, R.A., Jha, J.K. and Thakkar J.J. VNS based approach for locating ambulances considering hourly variations in demand and travel time. *XXIV Annual International Conference of the Society of Operations Management*, XLRI Jamshedpur, Jamshedpur, India, November 12-15, 2021.
- [5] Ranjan, A. and Jha, J.K. Modelling and analysis of pricing strategies in dual-channel green supply chain. *XXIV Annual International Conference of the Society of Operations Management*, XLRI Jamshedpur, Jamshedpur, India, November 12-15, 2021.
- [6] Patra, T.D.P. and Jha, J.K. Bidirectional option contract for prepositioning of relief supplies considering uniform demand distribution. *INFORMS Annual Meeting-2021*, Anaheim, California, USA, October 24-27, 2021.
- [7] Nadar, R.A., Jha, J.K. and Thakkar, J.J. Location of ambulances considering temporal demand variation using a genetic algorithm based approach. *The First Indian International Conference on Industrial Engineering and Operations Management*, Bangalore, India, August 16-18, 2021.
- [8] Mishra P.S. and Jha J.K. Customer visit segmentation in an online retail market, *5th International Conference on Industrial Engineering and Operations Management*, IEOM Society, Bangkok, Thailand, Mar 5-7, 2019.
- [9] Rathore R., Thakkar, J.J. and Jha, J.K. System dynamics approach for risk assessment in foodgrains supply chain, *25th Annual Euroma conference*, Budapest, Hungary, June 24-26, 2018.
- [10] Rathore R., Thakkar, J. and Jha, J.K. Assessment of risks for transportation of foodgrain in India: A Grey-DEMATEL approach, *POMS Annual Conference*, Seattle, Washington, USA, May 5-8, 2017.
- [11] Tanksale A. and Jha J.K. A fix & optimize heuristic for capacitated foodgrain inventory multi-modal transportation problem in Indian public distribution system, *INFORMS Annual Meeting 2016*, Nashville, USA, Nov 13-16, 2016.
- [12] Ghosh A, Jha J.K. and Sarmah S.P. Optimal production and lot-sizing under carbon tax policy considering stochastic demand, *46th International Conference on Computers & Industrial Engineering*, Chinese Industrial Engineering Institution, CMES, China, Engineering and Management Institute, SMSE, China, College of Management and Economics, Tianjin University, China, Tianjin, China, Oct 29-31, 2016.
- [13] Jha, S.B., Jha, J.K., and Tiwari M.K. A multi-criteria round-based algorithm for public transit routing – RAPTOR, International Conference on E-Business and Supply Chain Competitiveness, *POMS-IIT Kharagpur Conference*, Indian Institute of Technology Kharagpur, Kharagpur, India Feb 14-16, 2016.
- [14] Tanksale, A. and Jha J.K. Modeling the inter-state foodgrain inventory transportation problem in Indian PDS. *XIX Annual International Conference of the Society of Operations Management*, IIM Calcutta, Kolkata, India, Dec 11-13, 2015.
- [15] Ghosh A, Jha J.K. and Sarmah S.P. Production-Inventory Policy for a Supply Chain under Strict Carbon Cap with Defective Items and Demand Uncertainty. *XIX Annual International Conference of the Society of Operations Management*, IIM Calcutta, Kolkata, India, Dec 11-13, 2015.
- [16] Rathore R., Jha, J.K. and Thakkar, J. Integrated inventory transportation model with configurable vehicle capacity: a case of Indian food grain supply chain. *XIX Annual International Conference of the Society of Operations Management*, IIM Calcutta, Kolkata, India, Dec 11-13, 2015.
- [17] Mawandiya B.K., Jha J.K. and Thakkar, J. Optimizing policy variables for a closed-loop supply chain in a manufacturer, remanufacturer and retailer. *XIX Annual International Conference of the Society of Operations Management*, IIM Calcutta, Kolkata, India, Dec 11-13, 2015.
- [18] Tanksale, A. and Jha J.K. A MIP model for multi-period multi-item capacitated inventory transportation problem of foodgrains for Indian PDS. *45th International Conference on Computers & Industrial Engineering*, Metz, France, Oct 28-30, 2015.
- [19] Ghosh A, Jha J.K. and Sarmah S.P. Optimal production-inventory policy under strict carbon cap in a supply chain with backorders and lost sales. *5th International Conference on Industrial Engineering and Operations Management*, IEOM Society, Dubai, Mar 3-5, 2015.
- [20] Tanksale, A. and Jha J.K. Developing a mathematical model to optimize foodgrains storage and transport for public distribution system in India. *NITIE-POMS Conference*, NITIE, Mumbai, India, Dec 18-21, 2014.

- [21] Ghosh, A., Jha, J.K., and Sarmah S. P. Optimal production-inventory policy under strict carbon cap in a supply chain. *XVII Annual International Conference of the Society of Operations Management*, Indian Institute of Technology Madras, Chennai, Dec 20-22, 2013. (*Best paper award*)
- [22] Gutgutia, A. and Jha, J.K. Vendor-buyer model for distribution free demand under imperfect production process and service level constraint. *XVI Annual International Conference of the Society of Operations Management*, December 21-23, 2012, Indian Institute of Technology Delhi. (*Best Paper award*)
- [23] Jha, J.K. and Shanker, K. Integrating the supply chain functions in a single-vendor multi-buyer system under controllable lead time. *VIII Triennial Conference of Association of Asia Pacific Operational Research Societies*, December 06-09, 2009, Jaipur, India.
- [24] Jha, J.K. and Shanker, K. An integrated single-vendor multi-buyer model with variable lead time and service constraint. *XII Annual International Conference of the Society of Operations Management*, December 19-21, 2008, Indian Institute of Technology Kanpur.
- [25] Jha, J.K. and Shanker, K. A single-vendor single-buyer production-inventory model with controllable lead time and service level constraint for decaying items. *2nd Joint Workshop in Mechanical, Aerospace and Industrial Engineering*, April 05-06, 2008, Indian Institute of Technology Kanpur.
- [26] Sivakumar, I.A., Shanker, K., Mittal, A., Mehta, P., Jha, J.K., and Pal, R. Developing responsive supply chains involving special economic zones and industrial zones in India with Singapore transshipments. *2nd Joint Workshop in Mechanical, Aerospace and Industrial Engineering*, April 05-06, 2008, Indian Institute of Technology Kanpur.
- [27] Jha, J.K. and Agrawal, A.K. Performance analysis of a random FMS through simulation under certain conditions. Proceedings of the *National Seminar on Emerging Convergent Technologies and Systems*, Agra, India, 2002, 289-296.
- [28] Summer Research Workshop in Operations Management, Society of Operations Management, Indian Institute of Management Bangalore, June 22 - July 10, 2009.

Thesis Supervision (PhD/MTech)

PhD: Completed – 06 Ongoing – 05

- [1] T Devi Prasad Patra, Prepositioning strategies for relief supplies with replenishment and option contracts in humanitarian logistics, 2022. (Micron Technology Operations India LLP, Hyderabad)
- [2] Nadar Raviarun Arumugaraj, Modelling and analysis of ambulance location-allocation problem in emergency medical services, 2022. (Blue Power Partners, Chennai)
- [3] Rishabh Rathore, Modelling of risks for foodgrains supply chain in India, 2020. (IBS Hyderabad)
- [4] Ajinkya Nandkumar Tanksale, Procurement and logistics planning in a multi-region multi-facility supply chain, 2017. (Clarkson University, Potsdam, New York)
- [5] Arindam Ghosh, Modelling of a two-echelon supply chain under different carbon policies, 2017. (IBS Hyderabad)
- [6] Bimal Kumar Mawandiya, Modelling of production-inventory problems in a two-echelon closed-loop supply chain, 2016. (Nirma University Ahmedabad)

MTech/MS: Completed – 13

Editorial/Reviewer

- Editorial Board Member, International Journal of Industrial Engineering: Theory, Applications and Practice
- Reviewer: Transportation Research Part E, Computers and Industrial Engineering, International Journal of Production Research, Journal of Operational Research Society, Applied Mathematical Modelling, Operational Research, Computers and Operations Research, and several other journals

Consultancy/Sponsored Projects

- Revisit of Normative Rates Derived by IIT Kharagpur in Respect of Loading and Transportation of Coal by Ex-Serviceman Transport Companies for CIL, Coal India Limited Kolkata
- Study for development of new normative rates of loading & transportation of Coal done by Ex-Service men Transport Companies for Coal India Limited, Coal India Limited Kolkata
- Computerization of Corporate Contracts Management System for NLC, Neyveli Lignite Corporation
- Development of Diesel Price Escalation Formulae for HEMM Contract, CMPDI Ranchi

- Implementation of Reverse Auction Software in NLC, Neyveli Lignite Corporation Limited
- Transportation management to implement NFSA, MHRD, New Delhi
- E-Business Center of Excellence, MHRD, New Delhi

Short Term Courses/Workshop/Conferences Organized

Short Term Courses/Workshops

- Coordinator for QIP short term course on “Decision Modelling through CPLEX”, December 14-18, 2020, IIT Kharagpur
- Principal Coordinator, Short-Term course for TEQIP-III Institutions "Data Analytics with R", November 20-22, 2019, IIT Kharagpur
- Coordinator, Self-financed short-Term course on "Data Analytics with SAS", January 29-31, 2018, IIT Kharagpur
- Coordinator, short-Term course for TEQIP-II Institutions on "Data Analytics with SAS", March 22-24, 2017, IIT Kharagpur
- Principal coordinator, Workshop on “Decision Support Models in E-business and Supply Chain Management”, February 11-12, 2017
- Coordinator, short term course for TEQIP-II Institution on “Applied Machine Learning”, September 12-16, 2016, IIT Kharagpur
- Principal Coordinator, QIP short term course on “Quantitative Decision Modeling”, July 4-8, 2016, IIT Kharagpur
- Coordinator for a self-financed short-Term course on "Data Analytics with SAS", July 1-4, 2015, IIT Kharagpur
- Coordinator for a self-financed short-Term course on "Data Analytics with SAS", January 13-15, 2015, IIT Kharagpur
- Coordinator for QIP short term course on “Service Science”, July 08-12, 2013, IIT Kharagpur
- Principal Coordinator for QIP short term course on “Decision Modeling in Facility Planning”, July 04-08, 2011, IIT Kharagpur

Conferences

- Organizing Secretary, International Conference on Management of Ergonomic Design, Industrial Safety and Healthcare Systems (MESH 2016), December 20-23, 2016, Department of Industrial & Systems Engineering, IIT Kharagpur
- Joint Secretary, International Conference on E-Business and Supply Chain Competitiveness (EBSCC 2016), February 12-14, 2016, Jointly organized by POMS India Chapter & E-Business Centre of Excellence, Department of Industrial & Systems Engineering, IIT Kharagpur

Courses Taught/Teaching to UG/PG/PhD Students

- Operations Research
- Statistical Decision Modelling
- Facility Layout and Design
- Industrial Management
- Statistical Process Control

Professional Membership

- Life membership of Indian Society for Technical Education, New Delhi
- Life membership of Indian Institution of Industrial Engineering, Navi Mumbai

(J K JHA)