Publications of the Chair of Business Informatics & Operations Research (Prof. Koberstein)

(as of April 2026)

International Journals

1. Krueger, T., Koberstein, A. Plant-wide master production scheduling in the automotive industry under component blockings: an MILP-approach and a simulation study. *Journal of Business Economics* (2026). https://doi.org/10.1007/s11573-026-01264-z
2. Dukkanci, O. (2026). A Truck-Drone Delivery Problem with Location and Routing Decisions Under Uncertainty. Omega, 309, 103446. https://doi.org/10.1016/j.omega.2025.103446
3. Blossey, G., Hahn, G. J., Koberstein, A. (2025). Preventing drug shortages through improved demand fulfillment: The untapped potential of postponement and flexibility, International Journal of Production Economics, 109902, https://doi.org/10.1016/j.ijpe.2025.109902
4. Dukkanci, O., Campbell, J.F., Koberstein, A. (2025). Hub location problem with a mixed green fleet. European Journal of Operational Research 330 (1), 84-99. https://doi.org/10.1016/j.ejor.2025.08.033
5. O. Dukkanci, J. F. Campbell, B. Y. Kara. (2024). Facility location decisions for drone delivery with riding: A literature review. Computers & Operations Research, 106672. https://doi.org/10.1016/j.cor.2024.106672
6. Dukkanci, O., Campbell, J. F., & Kara, B. Y. (2024). Facility location decisions for drone delivery: A literature review. European Journal of Operational Research, 316(2), 397-418. https://doi.org/10.1016/j.ejor.2023.10.036
7. Dukkanci, O., Koberstein, A., & Kara, B. Y. (2023). Drones for relief logistics under uncertainty after an earthquake. European Journal of Operational Research, 310(1), 117-132. https://doi.org/10.1016/j.ejor.2023.02.038
8. J. Ksciuk, S. Kuhlemann, K. Tierney, A. Koberstein (2023). Uncertainty in maritime ship routing and scheduling: A Literature review, European Journal of Operational Research, 308 (2), 499-524. https://doi.org/10.1016/j.ejor.2022.08.006
9. P. Glushko, C. I. Fábián, A. Koberstein (2022). An L-shaped method with strengthened lift-and-project cuts. Computational Management Science. https://doi.org/10.1007/s10287-022-00426-y
10. T. Krüger, A. Koberstein, N. Bittner (2022). Anticipating technical car sequencing rules in the master production scheduling of mixed-model assembly lines. Flexible Services and Manufacturing Journal. https://doi.org/10.1007/s10696-021-09443-6
11. G. Blossey, G. J. Hahn, A. Koberstein (2022). Planning pharmaceutical manufacturing networks in the light of uncertain production approval times. International Journal of Production Economics 244:108343. https://doi.org/10.1016/j.ijpe.2021.108343
12. Dukkanci, O., Karsu, Ö., & Kara, B. Y. (2022). Planning Sustainable Routes: Economic, Environmental and Welfare Concerns. European Journal of Operational Research, 301(1), 110-123. https://doi.org/10.1016/j.ejor.2021.09.036

13. S. Kuhlemann, J. Ksciuk, K. Tierney, A. Koberstein (2021). The stochastic liner shipping fleet repositioning problem with uncertain container demands and travel times. EURO Journal on Transportation and Logistics 10:100052. https://doi.org/10.1016/j.ejtl.2021.100052
14. Dukkanci, O., Kara, B. Y., & Bektaş, T. (2021). Minimizing energy and cost in range-limited drone deliveries with speed optimization. Transportation Research Part C: Emerging Technologies, 125, 102985. https://doi.org/10.1016/j.trc.2021.102985
15. C. Doppstadt, A. Koberstein, D. Vigo (2020). The Hybrid Electric Vehicle-Travelling Salesman Problem with time windows. European Journal of Operational Research 284(2):675-692. https://doi.org/10.1016/j.ejor.2019.12.031
16. A. Yalcin, A. Koberstein, K.-O. Schocke (2019). Motion and layout planning in a grid-based early baggage storage system: Heuristic algorithms and a simulation study. OR Spectrum 41, 683-725. https://doi.org/10.1007/s00291-018-0545-z
17. C. Weskamp, A. Koberstein, F. Schwartz, L. Suhl, S. Voß (2019). A two-stage stochastic programming approach for identifying optimal postponement strategies in supply chains with uncertain demand. Omega 83:123-138. https://doi.org/10.1016/j.omega.2018.02.008.
18. A. Yalcin, A. Koberstein, K.-O. Schocke (2019). An optimal and a heuristic algorithm for the single-item retrieval problem in puzzle-based storage systems with multiple escorts, International Journal of Production Research 57(1), 143-165. DOI: 10.1080/00207543.2018.1461952
19. C. Doppstadt, A. Koberstein, D. Vigo (2016). The Hybrid Electric Vehicle - Traveling Salesman Problem European. European Journal of Operational Research 253, 825-842.
20. C. Fábián, C. Wolf, A. Koberstein, L. Suhl (2015). Risk-averse optimization in two-stage stochastic models: computational aspects and a study. SIAM Journal on Optimization 25(1):28-52.
21. C. Franz, A. Koberstein, L. Suhl (2015). Dynamic resequencing at mixed-model assembly lines. International Journal of Production Research 53 (11).
22. C. Wolf, C. Fábián, A. Koberstein, L. Suhl (2014). Applying oracles of on-demand accuracy in two-stage stochastic programming – a computational study. European Journal of Operational Research 239, 437-448.
23. C. Franz, E.C. Hällgren, A. Koberstein (2014). Resequencing orders on mixed-model assembly lines: Heuristic approaches to minimise the number of overload situations. International Journal of Production Research 52 (19), 5823-5840.
24. T. Schöneberg, A. Koberstein, L. Suhl (2013). A Stochastic Programming Approach to Determine Robust Delivery Profiles in Area Forwarding Inbound Logistics Networks. Operations Research Spectrum 35 (4), 807-834.
25. A. Koberstein, E. Lukas, M. Naumann (2013). Integrated Strategic Planning of Global Production Networks and Financial Hedging under Uncertain Demand and Exchange Rates. Business Research (BuR) 6 (2), 215-240.
26. C. Wolf, A. Koberstein (2013). Dynamic sequencing and cut consolidation for the parallel hybrid-cut nested L-shaped method. European Journal of Operational Research 230:143-156.

27. S. Guericke, A. Koberstein, F. Schwartz, S. Voß (2012). A Stochastic Model for the Implementation of Postponement Strategies in Global Distribution Networks. Decision Support Systems 53 (2): 294–305.
28. A. Koberstein, C. Lucas, C. Wolf, D. König (2011). Modelling and optimising risk in the strategic planning problem of local distribution companies. The Journal of Energy Markets 4: 47-68.
29. F. Wesselmann, A. Koberstein, U. Suhl (2011). Pivot-and-Reduce Cuts: An Approach for Improving Gomory Mixed-Integer Cuts. European Journal of Operational Research 214 (1): 15-26.
30. T. Sillekens, A. Koberstein, L. Suhl (2011). Aggregate production planning in the automotive industry under special consideration of workforce flexibility. International Journal of Production Research 49 (17): 5055-5078.
31. T. Schöneberg, A. Koberstein, L. Suhl (2010). An optimization model for automated selection of economic and ecologic delivery profiles in area forwarding based inbound logistics networks. Flexible Services and Manufacturing Journal 22 (3-4): 214-235.
32. S. Altemeier, M. Helmdach, A. Koberstein, W. Dangelmaier (2010). Reconfiguration of Assembly Lines under the Influence of High Product Variety in the Automotive Industry – A Decision Support System. International Journal of Production Research 48 (21): 6235-6256.
33. R. Bihlmaier, A. Koberstein, R. Obst. Modeling and optimizing of strategic and tactical production planning in the automotive industry under uncertainty (2009). Operations Research Spectrum 31: 311-336.
34. A. Koberstein (2008). Progress in the Dual Simplex Algorithm for Solving Large Scale LP Problems: Techniques for a fast and stable implementation. Computational Optimization and Applications 41 (2): 185-204.
35. A. Koberstein and U. H. Suhl (2007). Progress in the Dual Simplex Algorithm for Solving Large Scale LP Problems: Practical Dual Phase 1 Algorithms. Computational Optimization and Applications 37 (1): 49-65.

Reviewed Collections, Proceedings and Book Chapters

1. Blossey, G., Hahn, G. J., & Koberstein, A. (2021). Managing Uncertainty in Pharmaceutical Supply Chains: A Structured Review. In *Proceedings of the 54th Hawaii International Conference on System Sciences* (p. 1435).
2. B. Fleischmann, A. Koberstein (2014). Supply Network Design. Stadtler, Meyr, Kilger (Eds). Supply Chain Management and Advanced Planning. 5th edition. Springer, 2014.
3. A. Koberstein, F. Schwartz, S. Voß (2012). A Stochastic Model for Managing Postponement Strategies in Dynamic and Uncertain Environments. Proceedings of the International Conference on Applied Mathematical Optimization and Modelling (APMOD), 2012.
4. T. Schöneberg, A. Koberstein, L. Suhl (2012). A Stochastic Programming Approach to Determine Robust Delivery Profiles for Area Forwarding Inbound Logistics Networks. Proceedings of the International Conference on Applied Mathematical Optimization and Modelling (APMOD), 2012.

5. C. Wolf, A. Koberstein (2012). Multicut Aggregation in Nested Benders Decomposition for multi-stage stochastic linear programs with recourse. Proceedings of the International Conference on Applied Mathematical Optimization and Modelling (APMOD), 2012.
6. S. Guericke, A. Koberstein, S. Schwarz, S. Voss (2011). A Stochastic Model for Implementing Postponement Strategies in Distribution Networks. 44th Hawaii International Conference on System Sciences (HICSS), pp.1-10, 4-7 Jan. 2011.
7. C. Wolf, A. Koberstein, T. Hultberg (2011). Stochastic Extensions to FlopC++. In: B. Hu et al. (eds.) Operations Research Proceedings 2010. Springer-Verlag Berlin Heidelberg. 2011. pp. 333-336.
8. A. Yalcin, A. Koberstein (2010). Optimising procurement portfolios to mitigate risk in supply chains. In: B. Hu et al. (eds.) Operations Research Proceedings 2010. Springer-Verlag Berlin Heidelberg. 2011. pp. 459-464.
9. K. Siefen, L. Suhl, A. Koberstein (2011). A New Model Approach on Cost-Optimal Charging Infrastructure for Electric-Drive Vehicle Fleets. In: B. Hu et al. (eds.) Operations Research Proceedings 2010. Springer-Verlag Berlin Heidelberg. pp. 233-236.
10. J.P. Kempkes, A. Koberstein, L. Suhl (2010). A resource based mixed integer modelling approach for integrated operational logistics planning. Lecture Notes in Business Information Processing 46: 281-294.
11. Koberstein, R. Bihlmaier, R. Obst, L. Suhl (2009). Ein Optimierungssystem für die strategische Produktions- und Kapazitätsplanung in der Automobilindustrie. In: H.R. Hansen, D. Karagiannis, H.-G. Fill. Business Services: Konzepte, Technologien, Anwendungen. 9. Internationale Tagung Wirtschaftsinformatik. Österreichische Computer Gesellschaft 2009.
12. F. Wesselmann, A. Koberstein, U. H. Suhl (2008). Strengthening Gomory Mixed-Integer Cuts. In: Operations Research Proceedings 2008. Selected Papers of the Annual International Conference of the German Operations Research Society, Springer.
13. D. König, L. Suhl, A. Koberstein (2007). Optimierung des Gasbezugs im liberalisierten Gasmarkt unter Berücksichtigung von Röhren- und Untertagespeichern. In: Sammelband zur VDI Tagung „Optimierung in der Energiewirtschaft“ in Leverkusen.
14. J. P. Kempkes, A. Koberstein, A. Sag (2007). Kostenoptimierung für Transporte auf dem europäischen Festland am Beispiel eines Nutzfahrzeugherstellers. In: Hans-Otto Günther, Dirk C. Mattfeld and Leena Suhl, Management logistischer Netzwerke, p. 343-360, Physica-Verlag Heidelberg, 2007.
15. A. Wessel, A. Koberstein, P. Korevaar (2006). Distributionsplanung in Europa im Zuge der Osterweiterung mit dem IBM Warehouse Site Planner, In: D. C. Mattfeld, L. Suhl: Informationssysteme in Transport und Verkehr, DSOR Beiträge zur Wirtschaftsinformatik/DSOR Contributions to Information Systems, Band 4, BoD, 2006.
16. I. Steinzen, A. Koberstein, U. H. Suhl (2004). Ein Entscheidungsunterstützungssystem zur Verschnittoptimierung von Rollenstahl, In: Suhl L., Voß S.: Quantitative Methoden in ERP und SCM, DSOR Beiträge zur Wirtschaftsinformatik/DSOR Contributions to Information Systems, Band 2, BoD, Paderborn, 3 / 2004.

17. M. Sellmann, G. Kliewer and A. Koberstein (2002). Lagrangian Cardinality Cuts and Variable Fixing for Capacitated Network Design. 10th Annual European Symposium on Algorithms (ESA), Lecture Notes in Computer Science 2461:845–858.
18. G. Kliewer, M. Sellmann and A. Koberstein (2002). Solving the capacitated network design problem in parallel. 3rd meeting of the PAREO Euro working group on Parallel Processing in Operations Research (PAREO), 2002.

Selected Presentations

1. Dukkanci, O., Koberstein A., and Campbell, J. F. 2025. “Hub location problem with a mixed green fleet”, INFORMS Annual Meeting 2025, INFORMS, Atlanta, Georgia, US.
2. Dukkanci, O., Koberstein A., and Campbell, J. F. 2025. “Hub location problem with a mixed green fleet”, International Conference on Operations Research 2025 (OR 2025), University of Bielefeld, Bielefeld, Germany.
3. Schultes, J., Koberstein, A., “A Distributionally Robust Optimization Approach for Liner Shipping Fleet Repositioning”, International Conference on Operations Research (OR 2025), Universität Bielefeld, 02.09-05.09.2025
4. Wendisch, J., Koberstein A., Tierney, K., 2025. “A heuristic for two-stage mixed-binary stochastic programming problems based on scenario decomposition and machine learning techniques”, International Conference on Operations Research 2025 (OR 2025), University of Bielefeld, Bielefeld, Germany.
5. A. Koberstein (joint work with T. Krüger), “Plant-wide master production scheduling in the automotive industry”, 10th VOCAL Optimization Conference: Advanced Algorithms, 5-7 June 2024, Corvinus University of Budapest, Hungary
6. O. Dukkanci (joint work with A. Koberstein and J. F. Campbell), “Hub location problem with a mixed green fleet”, 33rd European Conference on Operational Research, 30 June-3 July 2024, Copenhagen, Denmark
7. Dukkanci, O. (joint work with A. Koberstein and J. F. Campbell). Hub Location Problem with a Mixed Green Fleet. International Symposium on Locational Decisions (ISOLDE XVI), University of Kaiserslautern-Landau, Kaiserslautern & Baden-Baden, 2023.
8. Koberstein, A. (joint work with P. Glushko and Csaba Fábián). Benders' decomposition with strengthened lift-and-project cuts for stochastic programming problems. VOCAL Optimization Conference: Advanced Algorithms, Budapest, 2022 (invited talk)
9. Dukkanci, O. (joint work with Ö. Karsu and B. Kara). Planning Sustainable Routes: Economic, Environmental and Welfare Concerns. EURO Working Group on Vehicle Routing and Logistics Optimization (VeRoLog 2022), Kühne Logistics University and the Helmut Schmidt University, Hamburg, 2022.
10. Dukkanci, O. (joint work with B. Kara and A. Koberstein). Drones for Relief Logistics under Demand Uncertainty. International Network Optimization Conference (INOC) 2022, RWTH Aachen University, Discrete Optimization Group, Online, 2022.
11. Dukkanci, O. (joint work with B. Kara and A. Koberstein). Drones for Relief Logistics under Demand Uncertainty. 22. Doktorandenworkshop Nordost (DoWoNo 2022), Technische Universität Berlin, Stiftung Leucorea, Lutherstadt Wittenberg, 2022.

12. Dukkanci, O. (joint work with B. Kara and A. Koberstein). Drones for Relief Logistics under Demand Uncertainty. International Conference on Operations Research (OR 2021), University of Bern, Chair of Quantitative Methods in Business Administration, Online, 2021.
13. Dukkanci, O. (joint work with B. Kara and A. Koberstein). Drones for Relief Logistics under Demand Uncertainty. International Symposium on Locational Decisions ISOLDE XV, University of Wuppertal, Online, 2021.
14. Dukkanci, O. (joint work with B. Kara and T. Bektas). Minimizing Energy and Cost in Range-Limited Drone Deliveries with Speed Optimization. 30th QBWL Workshop, Chair of Supply and Value Chain Management at TUM, Online, 2021.
15. Koberstein, A. (joint work with C. Fábián and C. Wolf). PNBSolver: A modelling and solution system for two and multi-stage stochastic programming problems. 7th VOCAL Optimization Conference on Advanced Algorithms, Esztergom, 2016. (invited talk)
16. Koberstein, A. (joint work with C. Fábián and C. Wolf). PNBSolver: A modelling and solution system for two and multi-stage stochastic programming problems. International Conference on Applied Mathematical Optimization and Modelling (APMOD), Brno, 2016. (invited talk)
17. A Stochastic Programming Approach to Determine Robust Delivery Profiles in Area Forwarding Inbound Logistics Networks. IFORS conference, Barcelona, 2014. (invited talk)
18. Applying oracles of on-demand accuracy in two-stage stochastic programming – a computational study. International Conference on Applied Mathematical Optimization and Modelling (APMOD), Warwick, 2014. (invited talk)
19. Integrated Strategic Planning of Global Production Networks and Financial Hedging under Uncertain Demand and Exchange Rates. 25th European Conference on Operational Research, Rome 2013. (invited talk)
20. Integrated Strategic Planning of Global Production Networks and Financial Hedging under Uncertain Demand and Exchange Rates. WKOR Tagung Wuppertal, 1.-2. Februar 2013. (invited talk)
21. Dynamic sequencing and cut consolidation for the parallel hybridcut nested L-shaped method. Veszprém Optimization Conference: Advanced Algorithms (VOCAL), Vecsprém, Ungarn, 11.-14. Dezember 2012. (invited talk)
22. Stochastic Modeling of Postponement Strategies in Uncertain Environments. 12'th Conference of the IFIP Working Group 7.6 on Advanced Analytics, Aachen, August, 29 – 31, 2012. (invited talk)
23. On integrating financial hedging decisions into a model for global production network design. 25th European Conference on Operational Research, Vilnius 2012. (invited talk)
24. A Stochastic Model for Managing Postponement Strategies in Uncertain Environments. International Conference on Applied Mathematical Optimization and Modelling (APMOD), Paderborn, 2012.
25. SAPHIR – Ein Entscheidungsunterstützungssystem zur Gasbezugsplanung unter Preis- und Nachfrageunsicherheit. E-world energy & water 2012. (zusammen mit Dr. Dirk König, invited talk)

26. Integrated Strategic Planning of Global Production Networks and Financial Hedging under Uncertain Demand and Exchange Rates. 73. Wissenschaftliche Jahrestagung des Verbandes der Hochschullehrer für Betriebswirtschaft e.V., Kaiserslautern 2011.
27. Integrated planning of global production networks and financial hedging under uncertain demand and exchange rates. International Conference on Computational Management Science, Vienna 2010. (invited talk)
28. Modelling and optimising risk in a strategic gas purchase portfolio planning problem. 1st International Ruhr Energy Conference, Essen 2009.
29. MIP-basierte Personalkapazitäts- und Logistikplanung in der Automobilindustrie. Tagung der GOR AG Supply Chain Management „Supply Chain Optimierung". Oberursel, 2009. (invited talk)
30. Einsatz der mathematischen Programmierung in der Produktions- und Logistikplanung eines europäischen Automobilherstellers. Tagung der Wissenschaftlichen Kommission Operations Research (WKOR) des VHB „Operations Research in der Automobilindustrie". Ingolstadt, 2009. (invited talk)
31. Ein Optimierungssystem für die strategische Produktions- und Kapazitätsplanung in der Automobilindustrie unter Unsicherheit. 9. Internationalen Tagung Wirtschaftsinformatik, Business Services: Konzepte, Technologien, Anwendungen. Wien 2009.
32. A Stochastic Programming model and a decision support system for strategic and operational gas purchase portfolio planning. Annual International Conference of the German Operations Research Society (GOR) Augsburg 2008.
33. Incorporating tactical decisions in optimisation models for strategic automotive production planning under uncertainty. International Conference on Applied Mathematical Programming and Modelling (APMOD), Bratislava 2008.
34. Heuristic solution methods for an n-sided simple assembly line balancing problem with side constraints. Annual International Conference of the German Operations Research Society (GOR) Saarbrücken 2007.
35. Practical dual phase 1 algorithms for large scale LP problems. EURO XXII, Prag 2007.
36. Kostenoptimierung für Transporte auf dem europäischen Festland am Beispiel eines Nutzfahrzeugeherstellers. GOR-Fachtagung Supply Network and Logistics Management 2007, St. Leon-Rot.
37. Modellierung und Optimierung der Flexibilitäts- und Kapazitätsplanung in der Automobilindustrie unter Unsicherheit. GOR-Fachtagung Supply Network and Logistics Management 2007, St. Leon-Rot.
38. High performance implementation of the dual simplex algorithm. Operations Research (OR) 2006, Karlsruhe.
39. Implementation techniques for the dual simplex algorithm. International Conference on Applied Mathematical Programming and Modelling (APMOD) 2006, Madrid.

40. Über die Implementierung des dualen Simplex Algorithmus: Ein Erfahrungsbericht. Seminar In Optimization 2005, auf Einladung von Prof. Dr. A. Martin. Technische Universität Darmstadt. (invited talk)
41. Multi-depot bus scheduling with driver considerations. Institute for Operations Research and Management Science (INFORMS) Annual Meeting 2002, San Jose.