Curriculum Vitae

Prof. Dr. Stefan Nickel

Karlsruhe Institute of Technology (KIT)
Department of Economics and Management
Institute of Operations Research – Discrete Optimization and Logistics

Karlsruhe Service Research and Innovation Hub (KSRI)

Research Center for Information Technology Karlsruhe (FZI)

Personal Details

Date and place of birth:	17. Juli 1966 in Frankfurt/Main
Adress:	Kaiserstraße 89 76133 Karlsruhe
Phone:	0721 608-43381
E-Mail:	stefan.nickel@kit.edu
Languages spoken:	Englisch, Französisch, Spanisch

Scientific Career

Since 2023	**Research Center for Information Technology (FZI), Karlsruhe** *Member of the Board of Managing Directors*
Since 2011	**Karlsruhe Service Research and Innovation Hub (KSRI), Karlsruhe** *Director*
Since 2011	**Research Center for Information Technology (FZI), Karlsruhe** *Director*
Since 2009	**Karlsruhe Institute of Technology (KIT)** Department of Economics and Management Institute of Operations Research *Chair Professor for Discrete Optimization and Logistics*
2004 – 2016	**Fraunhofer Institute for Industrial Mathematics** *Member Scientific Advisory Board*
2001 – 2016	**Fraunhofer Institute for Industrial Mathematics** *Member of the Leading Circle*
2003 – 2009	**University Saarbrucken** Department of Law and Economics *Chair Professor for Operations Research and Logistics*
2001 – 2003	**University of Kaiserslautern** Department of Mathematics *Member of the DFG research training group „Mathematics and Practice“*
1999 – 2003	**University of Kaiserslautern** Department of Mathematics *Associate professor*
1998 – 2004	**Fraunhofer Institute for Industrial Mathematics** *Head of the Department Optimization*
1997 – 1998	**Fraunhofer Institute for Industrial Mathematics** *Consultant*
1995 – 1999	**University of Kaiserslautern** Department of Mathematics *Scientific Assistant*
1992 - 1995	**University of Kaiserslautern** Department of Mathematics Scientific Employee
1990 – 1992	**University of Kaiserslautern** Department of Mathematics *Student assistant*
1989 – 1992	**University of Kaiserslautern** Department of Business and Social Sciences *Student assistant*

Studies

1999	**University of Kaiserslautern** Habilitation *Professorial dissertation: „Geometric Approaches to Non-convex and Multicriteria Optimization Problems“* Supervisor: H W. Hamacher, M. Labbé, H. Noltemeier, R. Wets
1995	**University of Kaiserslautern** PhD (Dr. rer. nat.) *Dissertation: „Discretization of Planar Location Problems“* Supervisor: H. W. Hamacher, G. Wanka
1992	**University of Kaiserslautern** Diploma in Business Mathematics (Dipl. math. Oec.) *Subject of diploma thesis: „Restriktive Standortplanung“* Supervisor: H. W. Hamacher
1989	**University of Kaiserslautern** Intermediate diploma in Business Mathematics

Declined offers of other Universities

2012	**RWTH Aachen**

Awards

2016	**KIT Faculty Award for Teaching** for exceptional teaching in particular in the lectures *„Tactical and Operational Supply Chain Management“* and „*Location Planning and Strategic Supply Chain Management“*
2012	**EURO Award** The Association of European Operational Research Societies
2011	**Top Cited Article 2007 – 2011** Elsevier European Journal of Operational Research
1997	**University of Kaiserslautern** Department of Mathematics, award for the best lecture in elementary studies for *„Mathematics for computer scientists I: Linear Algebra“*, WS 1996/97
1993	**Regional Savings Bank** Award for the diploma thesis *„Restrictive Location Problems“*
1992	**Deutsche Mathematiker Vereinigung (DMV)** Award of the Deutschen Mathematiker Vereinigung, Students´ conference

Memberships in Scientific Organizations

- Gesellschaft für Operations Research e.V. (GOR)
  (German Society for Operations Research)
- Mathematical Programming Society (MPS)
- Institute for Operations Research and the Management Sciences (INFORMS)
- European Working Group on Locational Analysis (EWGLA)
- College on Locational Analysis

Dissertations and Theses

Completed Dissertations:

2024	**Hannah Bakker:** „On the interplay between data and decisions in discrete location problems“
2023	**Martin Pouls**: „Real-Time Optimization for Dynamic Ride Sharing“
2023	**David Olave Rojas**: „The challenge of dispatching the right ambulance“
2022	**Markus Schinle**: „Methoden und Werkzeuge für eine datengetriebene Entwicklung digitaler Gesundheitsanwendungen“
2021	**Anne Zander**: „Demand and Capacity Management für Medical Practices“
2021	**Andreas Aschauer**: „Optimal Scheduling in a Hot Rolling Mill for Refractory Metals“
2021	**Michael Hegemann**: „Ein Entscheidungsunterstützungssystem zur Priorisierung ungeplanter Stillstände für eine ausbringungsoptimierte Durchführung reaktiver sowie proaktiver Indstandhaltungsmaßnahmen“
2020	**Andreas Kuhnle**: „Adaptive Order Dispatching based on Reinforcement Learning-Application in a Complex Job Shop in the Semiconductor Industry“
2020	**Clemens Wolf**: „System-Oriented Service Delivery: Designing Pareto-Efficient Operations Solutions in Service Systems“
2020	**Shiva Faenghinezhad**: „A systematic approach for strategic planning and management of operation room departments”

2020	**Katharina Glock**: „Emergency rapid mapping with drones - *Models and solution approaches for offline and online mission planning"*
2019	**Alexander Kleff**: „Scheduling and Routing of Truck Drivers Considering Regulations on Drivers' Working Hours"
2018	**Brita Rohrbeck**: „Location Planning of Charging Stations for Electric City Buses"
2017	**Matthias Bender**: „Recent Mathematical Approaches to Service Territory Design"
2017	**Felix Brandt**: „The Air Cargo Load Planning Problem"
2017	**Melanie Reuter-Oppermann**: „On the Optimisation of EMS Logistics"
2016	**Mahdi Moghadasian**: „Integrated Lead Time and Demand Risk Pooling Strategies in Multi-Echelon Distribution Systems"
2016	**Alex Butsch**: „Districting Problems New Geometrically Motivated Approaches"
2015	**Iris Heckmann**:„Towards Supply Chain Risk Analytics: Fundamentals – Simulation – Optimization"
2014	**Fabian Dunke**: „Online Optimization with Lookahead"
2013	**Hadi Sahebishahemabadi**: „Strategic and Tactical Crude Oil Supply Chain: Mathematical Programming Models"
2013	**Eric Ebermann**: „Simulation and Optimization of Logistical Processes in der Heat Treatment of Steal "
2011	**Hans-Peter Ziegler**: „Algorithms for Linear Stochastic Programs and their Application in Supply Chain Network Design Problems"
2011	**Ursula-Anna Schmidt**: „Process Optimization in Hospitals – Logistical Processes with Focus on Radiology and their Potential for Improvement"
2010	**Ansgar Geiger:** „Strategic Power Plant Investment Planning under Fuel and Carbon Price Uncertainty"
2010	**Christian Heib:** „Cost-oriented Optimization of Complex Manufacturing Systems using Simulation Models"
2008	**Sebastian Velten:** „Discrete Location Problems with Flexible Objectives"
2008	**Shahin Gelareh:** „Hub Location Models in Public Transport Planning"
2006	**Jörg Kalcsics:** „Unified Approaches to Territory Design and Facility Location"

2004	**Julia Kallrath:** „Online Storage Systems and Transportation Problems with Applications – Optimization Models and Mathematical Solutions“
2003	**Patricia Domínguez-Marín:** „The Discrete Ordered Median Problem: Models and Solution Methods“
1999	**Ansgar Weißler:** „General Bisectors and their Application in Planar Location Theory“

Further Theses

Supervision of ca. 230 Diploma, Master and Bachelor theses during the last ten years.

Projects and Research Contracts

Research Contracts with Public Funding

Since 2023	**Project funded by DFG** (German Research Society) **NI 521/11-1**: “Data- and goal-driven sequential decision-making for time-dynamic logistics systems”
2018 – 2021	**Project funded by DFG NI 521/9-1:** *„Sequential Decision-making under System-inherent Uncertainty: Mathematical Optimization Procedures for Time-dynamic Applications”*
2015 – 2016	**Project funded by DAAD** (German Academic Exchange Service): *„Embedding Risk in Supply Chain Network Design Problems”,* Program of project-related staff exchange with F. Saldanha-da-Gama, Lissabon
2012 – 2013	**Project funded by DAAD**: *„Developing Methods to Plan Long-term Care Services“,* Program of project-related staff exchange with M. Oliveira, A. Póvoa, Lissabon
2010 - 2012	**Project funded by DFG NI 521/6-1**: *„Unified Territory Planning Problems – New Application Areas and the algorithmic Realization“*
2010 - 2011	**Project funded by DAAD**: *„Distribution Systems Design with Role Dependent Objectives*“, Program of project-related staff exchange with A. M. Rodríguez Chía, Cádiz
2009 – 2010	**Project funded by DAAD**: *„Flexible Location Models Taking Reliability and Congestion into Account*“, Program of project-related staff exchange with O. Berman and D. Krass, Toronto
2007 – 2008	**Research Board of the Saarland University** (Seed funding): *„Optimization of Logistic Work Processes, in particular Analysis and Improvement of Currently Realized Timetables for Best Possible Organizational Procedures using the Example of the Department of Radiodiagnostics of the University Hospital of Saarland“* with M. Schilling

2006 – 2008 **Project funded by DFG NI 521/4-1**: *Development of Planning Methods for Location Decisions to Optimize the Distribution Networks in Consecutive Time Periods using Geo-data"* with U. Clausen

2006 – 2007 **Project funded by DAAD**: *„Optimization of Transports in Hospitals",* Program of project-related staff exchange with G. Laporte, Montreal

2004 – 2007 **Project funded by DAAD**: *„Acciones Integradas Hispano-Alemanas*", Program of project-related staff exchange with A. Marín, Murcia

2004 – 2007 **Project funded by Alfa** (Academic Exchange Program of the European Union and Latin America): *„SistIng – Multiple Criteria Decision Making in Engineering and Economics"*

2002 – 2004 **Project funded by ISSI**: *„Optimization of Patient Transports in Hospitals"*

2001 – 2004 **Project funded by BMBF** (Federal Ministry of Education and Research): *„SILVER: Simulation-based Systems for the Integration of Logistical and Process-technical Decision Processes"* with W. Appelt, G. Deerberg and S. Wenzel

2001 – 2004 **Project funded by BMBF** (Federal Ministry of Education and Research): *„SEV: Simulation-based Systems for the Integration of Logistical and Process-technical Decision Processes"* with T. Berlage and J. Münch

2000 - 2003 **Project funded by BMBF**: *„KogiPlan – Cooperation, GIS and Decision Support for Location Planning"* with U. Jasnoch and H. Voss

Selected Industry Projects

Since 2021 **SAP AG**
SAC Planning – Optimization Enhancements and Uncertainty Considerations mit der SAP AG, Walldorf

Since 2006 **Project partners: Uniklinik Mainz, Klinikum Frankfurt-Hoechst, Universitätsklinikum des Saarlandes, Städtisches Klinikum Karlsruhe, St. Vincentius-Kliniken gAG Karlsruhe**
Various consulting projects with hospitals

- Patient transportation
- Appointment Planning
- Clinical paths
- Hospital logistics
- Operation Planning

2014 – 2016 **BASF Ludwigshafen**
Discrete Optimization within the Framework of Industry 4.0

2009 – 2011 **Dillinger Hüttenwerke**
Sequence optimization in heat treatment of steal, in cooperation with AG der Dillinger Hüttenwerke, Dillingen/Saar

2007 – 2008	**Fissler GmbH** Determination of optimal order penetration points for the production of pots in cooperation with Fissler GmbH, Idar-Oberstein
2001 – 2004	**psb GmbH** Planning support for the realization of a goods dispatching hub by simulation and optimization in cooperation with psb GmbH, Pirmasens
2000 – 2006	**SAP AG** Analysis and optimization of location decisions in supply chain design in cooperation with SAP AG, Walldorf
2002 – 2005	**geomer GmbH** New procedures for sales districting in cooperation with geomer GmbH, Heidelberg
2003 – 2004	**DB AG** Analysis and replanning of train stops in cooperation with DB AG, Berlin
2002 – 2004	**Pierau-Planung** Effective commissioning by mathematical optimization approaches in cooperation with Pierau-Planung, Hamburg
2000 – 2002	**ICON Industrie Consulting GmbH** Multi-echelon production planning with highly dynamic item lists cooperation with ICON Industry Consulting GmbH, Karlsruhe
2000	**Lufthansa AG** Holiday planning for airline companies in cooperation with Lufthansa AG, Frankfurt

Commitment to Scientific Institutions

Commitments to the Faculty

2016 – 2018	Vice dean of the Department of Economics and Management, Karlsruhe Institute of Technology
2014 - 2016	Dean of the Department of Economics and Management, Karlsruhe Institute of Technology
2012 – 2014	Vice dean of the Department of Economics and Management, Karlsruhe Institute of Technology
2004 – 2006	President of the examination office of the Department of Economics and Management, Saarland University
2004 – 2006	Dean of studies of the Department of Law and Business Administration, Saarland University

Organization of International Scientific Conferences

2021	**ISOLDE**, virtual Chair Program Committee, Co-Organizer
2019	**ORAHS**, Karlsruhe Chair Program Committee, Organizer
2014	**IFORS**, Barcelona Chair Program Committee

Scientific Associations and Groups

Since 2019	Vice President EURO and Member of the IFORS Administrative Committee
Since 2019	Vice President IFORS and Member of the EURO Executive Committee
Since 2017	Member of the external advisory boards of Centro de Investigação Operacional da Fundação da Faculdade de Ciências da Universidade de Lisboa
2013 – 2014	President of the German Society of Operations Research
2009 – 2014	Member of the executive board of the German Society of Operations Research
2007 – 2011	Speaker of the board of the European Working Group on Locational Analysis (EWGLA)
2006 – 2009	Chairman of the Working Group of Health Care Management of the German Society of Operations Research
2007 – 2008	Member of the advisory board of the German Society of Operations Research

Scientific Journals

Since 2016	Editor in chief “Operations Research for Health Care”
Since 2008	Member of the Editorial Board of “Health Care Management Science”
2016 – 2018	Consulting Editor of “Computers & Operations Research”
2006 - 2015	Editor in Chief of “Computers & Operations Research”
2002 – 2009	Associate editor of “Operations Research Letters”

Further Activities

Since 2014	President of the supervisory board of SimPlan AG

Since 2011	Member of the management board of the International Departments, Karlsruhe Institute of Technology
Since 2007	Member of the expert committees “Simulation and Optimization” and “Model Building” of the Association of German Engineers
2011 – 2014	Member of the supervisory board SimPlan AG

Publications (h-index: 59)

Books

1. Decision Optimization with IBM ILOG CPLEX Optimization Studio: A Hands-On Introduction to Modeling with the Optimization Programming Language (OPL); S. Nickel, C. Steinhardt, H. Schlenker, W. Burkart (Hrsg.), Springer Nature, 2022.

2. Angewandte Optimierung mit IBM ILOG CPLEX Optimization Studio. Modellierung von Planungs- und Entscheidungsproblemen des Operations Research mit OPL; S. Nickel, C. Steinhardt, H. Schlenker, W. Burkart, M. Reuter-Oppermann (Hrsg.), 2. Auflage, 293 Seiten, Springer Nature, 2021.

3. Location Science; G. Laporte, S. Nickel, F. Saladanha-da-Gama (Hrsg.), 2. Auflage, 767 Seiten, Springer, 2019.

4. Fundamentals of Service Systems; J. Cardoso, H. Fromm, S. Nickel, G. Satzger, R. Studer, Ch. Weinhardt (Hrsg.), 362 Seiten, Springer, 2015.

5. Operations Research; S. Nickel, O. Stein und K.-H. Waldmann, 2. korrigierte und aktualisierte Auflage, 385 Seiten, Springer Gabler, 2014.

6. Operations Research Proceedings 2007, Selected Papers of the Annual International Conference of the German Operations Research Society (GOR); J. Kalcsics und S. Nickel (Hrsg.), Springer, 2008.

7. Location Theory: A Unified Approach; S. Nickel und J. Puerto, 463 Seiten, Springer, 2005.

8. Discrete and Network Location Theory; S. Nickel, Vorlesungsskript, Fachbereich Mathematik, Universität Kaiserslautern, 1999.

9. Convex Analysis; S. Nickel, Vorlesungsskript, Fachbereich Mathematik, Universität Kaiserslautern, 1998.

10. Systems Thinking and its Applications; H. W. Hamacher und S. Nickel (Hrsg.), in *Modellierung im Interdisziplinären Studienprogramm*, 209 Seiten, Shaker Verlag, 1997.

11. Recent Advances in Locational Analysis, Proceedings of the 8th meeting of the Euro Working Group on Locational Analysis (EWGLA8), H. W. Hamacher, K. Klamroth und S. Nickel (Hrsg.) in *Studies of Locational Analysis* 10, 190 Seiten, 1996.

12. Discretization of Planar Location Problems; Dissertation, Universität Kaiserslautern, 108 Seiten, Shaker Verlag, 1995.

13. Emergency, Industrial and Public Transportation Planning Using Linear and Integer Programming; M. Ehrgott, H. W. Hamacher, M. C. Müller und S. Nickel, Universität Kaiserslautern, 101 Seiten, 1994.

Articles in Scientific Journals and Proceedings, Contributions to Monographs

1. Bathe, J., Renner, H.-J., Watzinger, S., Olave-Rojas, D., Hannappel, L., Wnent, J., Nickel, S., Gräser, J.-T., “Das SCATTER-Projekt: Computerbasierte Simulation zur Unterstützung bei der strategischen Verlegung von Intensivpatienten”, Bundesgesundheitsblatt – Gesundheitsforschung – Gesundheitsschutz, Vol. 67, pp. 215-224 (2024).

2. Watzinger, S., Nießner, C, Schutz, C., Groß, D., Schmitz, D., Stock, J.-P., Fabrizio, M., Frey, P., Böhm, R., Sebold, S., Ade, T., Nickel, S., “Patientenorientierte Planungskriterien für die Logistik in der Notfallrettung”, *Notfall + Rettungsmagazin*, pp. 1-9 (2024).

3. Bakker, H., Nickel, S., “The Value of the Multi-period Solution revisited: When to model time in capacitated location problems”, *Computers & Operations Research*, 161, art. No. 106428 (2024).

4. Dunke, F., Nickel S., “Exact reoptimisation under gradual look-ahead for operational control in production and logistics“, *International Journal of Systems Science: Operations & Logistics*, 10 (1), art. No. 2141590 (2023).

5. Bakker, H., Diehlmann, F., Wiens, M., Nickel, S., Schultmann, F., “School or parking lot? Selecting locations for points of distribution in urban disasters”, *Socio-Economic Planning Sciences*, 89, art. No. 101670 (2023).

6. Wnent, J., Bandlow, S., Renner, H.-J., Gräsner, J., Hannappel, L., Watzinger, S., Nickel, S., Dax, F., “Rettungsdienststrukturen neu denken – Logistik in der präklinischen Notfallversorgung”, *Notfall + Rettungsmedizin*, pp. 1-6 (2023).

7. Dunke, F., Nickel, S., “Metamodel-based dynamic algorithm configuration using artificial neural networks”, *International Journal of General Systems*, pp. 1-31 (2023).

8. Simonis, M., Nickel, S., “Generalized data model for real-world capacitated lot-sizing problems with linked lot sizes and backorders”, *Data in brief*, 49, art No. 109440 (2023).

9. Grothe, O., Nickel, S., Rebennack, S., Stein, O., “Operations Research Proceedings 2022: Selected Papers of the Annual International Conference of the German Operations Research Society (GOR), Karlsruhe, Germany, September 6-9, 2022”, *Lecture Notes in Operations Research* (2023).

10. Simonis, M., Nickel, S., “A simulation-optimization approach for a cyclic production scheme in a tablets packaging process”, *Computers & Industrial Engineering*, 181, art No. 109304 (2023).

11. Bakker, H., Bindewald, V., Dunke, F., Nickel, S., “Logistics for diagnostic testing: An adaptive decision-support framework”, *European Journal of Operational Research*, 311 (3), pp. 1120-1133 (2023).

12. Heckmann, I., Nickel, S., Saldanha-da-Gama, F., “Facility Location and Supply Chain Risk Analytics”, *Uncertainty in Facility Location Problems”,* pp. 155-181 (2023).

13. Bindewald, V., Dunke, F., Nickel, S., “Comparison of different approaches to multistage lot sizing with uncertain demand”, *International Transactions in Operational Research*, 30 (6), pp. 3771-3800 (2023).

14. Dunke, F., Nickel, S., “A matheuristic for customized multi-level multi-criteria university timetabling”, *Annals of Operations Research*, 328, pp. 1313-1348 (2023).

15. Faeghi, S., Lennerts, K., Nickel, S., “Strategic planning of operating room session allocation using stability analysis”, *Health Systems*, 12 (2), pp. 167-180 (2023).

16. Janschekowitz, M., Taherkhani, G., Alumur, S., Nickel, S., “An alternative approach to address uncertainty in hub location”, *OR Spectrum*, 45, pp. 359-393 (2023).

17. Faeghi, S., Lennerts, K., Nickel, S., “A system dynamics model application to operating room planning and management”, *Journal of Simulation*, 17 (1), pp. 58-75 (2023).

18. Dunke, F., Nickel, S., “A multi-method approach to scheduling and efficiency analysis in dual-resource constrained job shops with processing time uncertainty”, *Computers and Industrial Engineering*, 168, art. No. 108067 (2022).

19. Dunke, F., Nickel, S., “Correction to: Exact distributional analysis of online algorithms with lookahead”, *4OR*, 20 (1), pp. 167 (2022).

20. Buhlinger-Göpfarth, N., Zander A., Heckmann, I., Holzmann, T., Lauck, K., Stengel, S., Nickel, S., Peters-Klimm, F., “Time Spent on the Vaccination Process and Organization of the COVID-19 Vaccination in Family Practices*”, Zeitschrift für Allgemeinmedizin*, 98 (3), pp. 100-105 (2022).

21. Korzhenevich, G., Zander, A., Nickel, S., Schuster, M., “OP-Planung – der Einsatz quantitativer Methoden zur Entscheidungsunterstützung, *Op-Management up2date*, 1 (04), pp. 327-339 (2021).

22. Dunke, F., Nickel, S., “Simulation-based multi-criteria decision making: an interactive method with a case study on infectious disease epidemics”, *Annals of Operations Research*, pp. 1-30 (2021).

23. Dunke, F., Nickel, S., “Online optimization with gradual look-ahead”, *Operational research, 21, pp. 2489–2523* (2021).

24. Zander, A., Nickel, S., Vanberkel, P.; “Managing the intake of new patients into a physician panel over time”, *European Journal of Operational Research*, 294 (1), pp. 391-403 (2021).

25. Dunke, F., Nickel, S., “Exact distributional analysis of online algorithms with lookahead”, *4OR*, 19 (2), pp. 199-233 (2021).

26. Olave-Rojas, D., Nickel, S., “Modeling a pre-hospital emergency medical service using hybrid simulation and a machine learning approach”, *Simulation Modelling Practice and Theory*,109, art. No. 102302 (2021).

27. Razm, S., Dolgui, A., Hammami, R., Brahimi, N., Nickel, S., Sahebi, H., “A two-phase sequential approach to design bioenergy supply chains under uncertainty and social concerns”, *Computers and Chemical Engineering,* 145, art. No. 107131 (2021).

28. Cordeau, J.F., Klibi, W., Nickel, S., “Logistics Network Design”, in Crainic, T.G., Gendreau, M., Gendron, B. (Hrsg.), “Network Design with Applications to Transportation and Logistics”, Springer, pp. 599-625 (2021).

29. Dunke, F., Nickel, S., “A data-driven methodology for the automated configuration of online algorithms”, *Decision Support Systems*, 137, art. No. 113343 (2020).

30. Diglio, A., Nickel, S., Saldanha-da-Gama, F., “Towards a stochastic programming modeling framework for districting”, *Annals of Operations Research*, 292 (1), pp. 249-285 (2020).

31. Dunke, F., Nickel, S., “Improving company-wide logistics through collaborative track and trace IT services”, I*nternational Journal of Logistics Systems and Management*, 35 (3), pp. 329-353 (2020).

32. Dunke, F., Nickel, S., “Neural networks for the metamodeling of simulation models with online decision making”, *Simulation Modelling Practice and Theory*, 99, art. No. 102016 (2020).

33. Bakker, H., Dunke, F., Nickel, S., “A structuring review on multi-stage optimization under uncertainty: Aligning concepts form theory and practice”, *Omega*, (United Kingdom), 96, art. No. 102080 (2020).

34. Reuter-Oppermann, M., Nickel, S., Steinhäuser, J., “Operations research meets need related planning: Approaches for locating general practitioners` practices”, *PLoS ONE*, 14 (1), art. No. e0208003 (2019).

35. Yanik, S., Kalcsics, J., Nickel, S., Bozkaya, B., “A multi-period multi-criteria districting problem applied to primary care scheme with gradual assignment”, *International Transactions in Operational Research,* 26 (5(), pp. 1676-1697 (2019).

36. Zhang, L., Kill, C., Jerrentrup, A., Baer, F., Amberg, B., Nickel, S., “Improving quality of care in a multidisciplinary emergency department by the use of simulation optimization: Preliminary results”, *Proceedings – Winter Simulation Conference 2018*, art. No. 8632437, pp. 2518-2529 (2019).

37. Razm, S., Nickel, S., Saidi-mehrabad, M., Sahebi, H., “A global bioenergy supply network redesign through integrating transfer pricing under uncertain condition”, *Journal of Cleaner Production*, 208, pp. 1081-1095, (2019).

38. Razm, S., Nickel, S., Sahebi, H., “A multi-objective mathematical model to redesign of global sustainable bioenergy supply network”, *Computers and Chemical Engineering*, 128, pp. 1-20 (2019).

39. Brandt, F., Nickel, S., “The air cargo load planning problem - a consolidated problem definition and literature review on related problems”, *European Journal of Operational Research*, 275 (2), pp. 399-410 (2019).

40. Dunke, F., Nickel, S., “Day-ahead and online decision-making for collaborative on-site logistics”, *Journal of Simulation*, 13 (2), pp. 138-151 (2019).

41. Asadi, E., Habibi, F., Nickel, S., Sahebi, H., “A bi-objective stochastic location-inventory-routing model for microalgae-based biofuel supply chain”, *Applied Energy*, 228, pp. 2235-2261 (2018).

42. Hayn, M., Zander, A., Fichtner, W., Nickel, S., Bertsch, V., “The impact of electricity tariffs on residential demand side flexibility: results of bottom-up load profile modeling”, *Energy Systems*, 9 (3), pp. 759-792 (2018).

43. Grzybowski, J. Kalcsics, Nickel, S., Pallaschke, D., Urbański, R., “Ascent and descent cones of ordered median block functions”, *Optimization*, 67 (5), pp. 507-522 (2018).

44. Bender, M., Kalcsics, J., Nickel, S., Pouls, M., “A branch-and-price algorithm for the scheduling of customer visits in the context of multi-period service territory design” European Journal of Operational Research, 269 (1), pp. 382-396 (2018).

45. Alumur, S.A., Nickel, S., Rohrbeck, B., Saldanha-da-Gama, F., “Modeling congestion and service time in hub location problems“, Applied Mathematical Modelling, 55, pp. 13-32 (2018).

46. Dunke, F., Heckmann, I., Nickel, S., Saldanha-da-Gama, F., “Time traps in supply chains: Is optimal still good enough?”, *European Journal of Operational Research,* 264 (3), pp. 813-829 (2018).

47. Correia, I., Nickel, S., Saldanha-da-Gama, F., “A stochastic multi-period capacitated multiple allocation hub location problem: Formulation and inequalities”, Omega (United Kingdom), 74, pp. 122-134 (2018).

48. Nickel, S., Velten, S., “Optimization problems with flexible objectives: A general modeling approach and applications”, *European Journal of Operational Research*, Vol. 258 (1), pp. 79-88 (2017).

49. Dunke, F., Nickel, S., “Evaluating the quality of online optimization algorithms by discrete event simulation”, *Central European Journal of Operations Research*, 25 (4), pp. 831-858 (2017).

50. Heckmann, I., Nickel, S., “Rethinking supply chain risk analysis–common flaws & main elements”, *Supply Chain Forum*, 18 (2), pp. 84-95 (2017).

51. Jochem, P., Brendel, C., Reuter-Oppermann, M., Fichtner, W., Nickel, S., “Optimizing the allocation of fast charging infrastructure along the German autobahn“, *Journal of Business Economics*, 86 (5), pp. 513-535 (2016).

52. Heckmann, I., Nickel, S., “Supply chain risk analysis – Common flaws, core areas, & main tasks” *ILS 2016 – 6th International Conference on Information Systems, Logistics and Supply Chain* (2016).

53. Heckmann, I., Nickel, S., Saldanha-Da-Gama, F., “The risk-Aware multi-period capacitated plant location problem (CPLP-Risk)”, *ILS 2016 – 6th International Conference on Information Systems, Logistics and Supply Chain* (2016).

54. Correia, I., Nickel, S., Saldanha-Da-Gama, F., “A modeling framework for stochastic multi-period capacitated multiple allocation hub location”, *ILS 2016 – 6th International Conference on Information Systems, Logistics and Supply Chain* (2016).

55. Wirnitzer, J., Heckmann, I., Meyer, A., Nickel, S., “Patient-based nurse rostering in home care”, *Operations Research for Health Care*, Vol. 8, pp. 91-102 (2016).

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