

Curriculum Vitae

Professor Dr. Stefan Nickel



Karlsruhe Institute of Technology (KIT)
Department of Economics and Management
Institute of Operations Research
Karlsruhe Service Research Institute (KSRI)
and
Research Center for Information Technology, Karlsruhe (FZI)

Contact

Address: Karlsruhe Institute of Technology
Institute of Operations Research
Discrete Optimization and Logistics
Building 05.20, room 4A-12
Kaiserstraße 89
76133 Karlsruhe
Germany

Phone: +49 721 608-43381
e-Mail: stefan.nickel@kit.edu
Fax: +49 721 608-46874

Research Areas

- Facility Location and Supply Chain Analytics
- Districting
- Health Care
- Intralogistics and Production
- Transportation and Mobility

Scientific Activities

- Director of the Department for Discrete Optimization and Logistics at the Institute for Operations Research of KIT
- Board member of the KIT Department of Economics and Management
- Director at the Research Center for Information Technology (FZI)
- Director at the Karlsruhe Service Research Institute (KSRI)
- Board member of the International Department of KIT
- Editor-in-Chief for Operations Research for Health Care
- Vice President of IFORS representing EURO
- Member of the EURO Executive Committee

Studies

1999	University of Kaiserslautern: Habilitation Professorial dissertation: „Geometric Approaches to Non-convex and Multi-criteria Optimization Problems“
1995	University of Kaiserslautern: PhD (Dr. rer. nat.) Dissertation: „Discretization of Planar Location Problems“
1992	University of Kaiserslautern: Diploma in Business Mathematics (Dipl. math. oec.) Subject of diploma thesis: “Restrictive Location planning”

Scientific Career

Since 2011	Research Center for Information Technology (FZI) Karlsruhe Director
Since 2011	Karlsruhe Service Research Institute (KSRI) Karlsruhe Director
Since 2009	Karlsruhe Institute of Technology (KIT), Department of Business Administration, Institute of Operations Research Full professor for Discrete Optimization and Logistics
2004 – 2016	Fraunhofer Institute for Techno- and Business Mathematics: Scientific Advisory Board
2001 – 2016	Fraunhofer Institute for Techno- and Business Mathematics: Member of the Leading Circle
2003 – 2009	University Saarbrücken, Department of Law and Economics: Full 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 Techno- and Business Mathematics: Head of the Department Optimization
1997 – 1998	Fraunhofer Institute for Techno- and Business Mathematics: Consultant
1995 – 1999	University of Kaiserslautern, Department of Mathematics: Scientific assistant
1992 – 1995	University of Kaiserslautern, Department of Mathematics: Scientific employee

Awards

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

Memberships

- 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 (COLA)
- Member of the executive board of the International Departments of the Karlsruhe Institute of Technology

Projects and Research Contracts

Research Contracts with Public Funding

- Project funded by DFG (German Research Society): „Sequential Decision-making under System-inherent Uncertainty: Mathematical Optimization Procedures for Time-dynamic Applications“ (2018 – 2020)
- Project funded by DAAD (German Academic Exchange Service): “Embedding Risk in Supply Chain Network Design Problems”
Program of project-related staff exchange with Portugal (2015 – 2016, with F. Saldanha-da-Gama, Lisbon)
- Project funded by DAAD: “Developing Methods to Plan Long-term Care Services”,
Program of project-related staff exchange with Portugal (2012 – 2013, with M. Oliveira, A. Póvoa, Lisbon)
- Project funded by DFG (German Research Society): “Unified Territory Planning Problems – New Application Areas and the algorithmic Realization” (2010 – 2012)
- Project funded by DAAD: “Distribution Systems Design with Role Dependent Objectives”, Program of project-related staff exchange with Spain (2010 – 2011, with A. M. Rodríguez Chía, Cádiz)
- Project funded by DAAD “Flexible Location Models Taking Reliability and Congestion into Account”,
Program of project-related staff exchange with Canada (2009 – 2010, with O. Berman and D. Krass, Toronto)
- 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” (2007 – 2008, with M. Schilling)
- Project funded by DFG: “Development of Planning Methods for Location Decisions to Optimize the Distribution Networks in Consecutive Time Periods using Geo-data” (2006 – 2008, with U. Clausen)
- Project funded by DAAD: “Optimization of Transports in Hospitals”,
Program of project-related staff exchange with Canada (2006 – 2007, with G. Laporte, Montreal)
- Project funded by DAAD: “Acciones Integradas Hispano-Alemanas”,
Program of project-related staff exchange with Spain (2004 – 2007, with A. Marín, Murcia)
- Project funded by Alfa (Academic Exchange Program of the European Union and Latin America: “SistIng – Multiple Criteria Decision Making in Engineering and Economics” (2004 – 2007)
- Project funded by ISSI: “Optimization of Patient Transports in Hospitals” (2002 – 2004)
- Project funded by BMBF (Federal Ministry of Education and Research): “Simulation-based Systems for the Integration of Logistical and Process-technical Decision Processes” (2001 – 2004, with W. Appelt, G. Deerberg and S. Wenzel)

- Project funded by BMBF: “Simulation-based Evaluation and Improvement of Software Development Processes” (2001 – 2004, with T. Berlage and J. Münch)
- Project funded by BMBF: “KogiPlan – Cooperation, GIS and Decision Support for Location Planning” (2000 – 2003, with U. Jasnoch and H. Voss)
- Project funded by ISSI: “Ensuring Connections in Multi-modal Traffic Systems” (2000 – 2002, with A. Schöbel)
- Project funded by h ISSI: “Analysis and Optimization of Logistic Systems on an Organizational Level” (1998 – 2000, with H. W. Hamacher)
- DFG Research Focus: “Efficient Algorithms for discrete Problems and their Applications” (1995 – 2000, with H. W. Hamacher and K. Klamroth)

Selected Industry Projects

- Optimization methods for the so-called “Blockverrechnung” in cooperation with the AG der Dillinger Hüttenwerke (2019 – 2022)
- Implementation of a material flow simulation on an assembly line with AGVs in cooperation with SEW EURODRIVE GmbH & Co KG (2019 - 2020)
- Implementation of a material flow simulation in cooperation with SEW EURODRIVE GmbH & Co KG (2019 - 2020)
- Supply Chain Optimization in cooperation with Seven Senders GmbH (since 2019)
- Optimization models for planning incoming orders in cooperation with Roche Diagnostics (2019)
- Simulation and optimization of internal patient transports; simulation and optimization of material logistics; models and algorithms to support surgery planning in cooperation with the Städtischen Klinikum Karlsruhe (2017 – 2019)
- Mathematical optimization of personal deployment scheduling in cooperation with the Universitätsklinikum Heidelberg (2017 – 2018)
- A simulation model of the emergency department in cooperation with the Universitätsklinikum Gießen-Marburg (Standort Marburg) (2017)
- Research and development on issues in intralogistics in cooperation with AG der Dillinger Hüttenwerke (2016 – 2021)
- Quantitative assessment of centralized and decentralized logistic sites, analysis of inventory, and logistic aspects in cooperation with Hoffmann Nürnberg GmbH (2016)
- Heuristic optimization methods for requirements planning regarding the planning quality and manual efforts for over planning in cooperation with BASF SE Ludwigshafen (2015 – 2017)
- Discrete Optimization within the Framework of Industry 4.0 in cooperation with BASF Ludwigshafen (2014 – 2016)
- Identification and Assessment of Supply Chain Risks in cooperation with the BASF SE Ludwigshafen (2013 – 2017)
- Evaluation of the new hospital building via simulation (process, bottlenecks) in cooperation with the Vincentius Kliniken Karlsruhe (2013 – 2015)

- Investigation of acute questions in the context of air cargo in cooperation with Lufthansa Cargo (seit 2011)
- Optimization of sequences for heat treatment in cooperation with AG der Dillinger Hüttenwerke, Dillingen/Saar (2009 – 2011)
- Models and algorithms for districting and location planning in sales and commerce in cooperation with PTV Group (seit 2008)
- Determining optimal Order-Penetration-Points for Pot-Production in the Neubrücke plant in cooperation with *Fissler GmbH, Idar-Oberstein* (2007 – 2008)
- Various consulting projects with clinics since 2006
- Software Opti-Trans (www.opti-trans.com)
- Analysis and replanning of stopping points for the German train system in cooperation with *DB AG, Berlin* (2003 – 2004)
- New methods for planning sales districts in cooperation with *geomer GmbH, Heidelberg* (2002 – 2005)
- Increase effectiveness of a commissioning system via mathematical optimization in cooperation with *Pierau-Planung, Hamburg* (2002 – 2004)
- Planning support for a goods distribution center via simulation and optimization in cooperation with *psb GmbH, Pirmasens* (as well as their customers which may not be named as the projects are still on-going) (2001 – 2004)
- Analysis and optimization of location decisions for supply chain design in cooperation with the *SAP AG, Walldorf* (2000 – 2006)
- Multi-stage production planning with highly dynamic bill of materials in cooperation with *ICONS Industrie Consulting und Management GmbH, Karlsruhe* (2000 – 2002)
- Holiday schedules for airlines in cooperation with der Lufthansa AG, Frankfurt (2000)

Commitment to Scientific Institutions

Commitments to the Faculty

2016 - 2018	Vice dean of the Department of Business Administration, Karlsruhe Institute of Technology
2014 - 2016	Dean of the Department of Business Administration, Karlsruhe Institute of Technology
2012 – 2014	Vice dean of the Department of Business Administration, Karlsruhe Institute of Technology
2004 – 2006	President of the examination office of the Department of Business Administration, Saarland University
2004 – 2006	Dean of studies of the Department of Law and Business Administration, Saarland University
1993 – 1995	Member of the Council of the Department as scientific employee
1990 – 1999	Member of the study commission
1989 – 1992	Student member of the Council of the Department

Organization of international scientific conferences

- ISOLDE 2020, Hamburg/Timmendorfer Strand (Chair Program Committee, Co-Organizer)
- ORAHS 2019, Karlsruhe (Chair Program Committee, Organizer)
- IFORS 2014, 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 2007	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 of “Operations Research for Health Care”
Since 2016	Consulting editor of “Computers & Operations Research”
Since 2008	Member of the editorial board of “Health Care Management Science”
2006 – 2015	Editor in chief of “Computers & Operations Research”
2002 – 2009	Associate editor of “Operations Research Letters”

Referee for the scientific journals

- European Journal of Operational Research
- Mathematical Methods of Operations Research
- Mathematical Programming
- Operations Research Letters
- Multi-Criteria Decision Analysis
- Transportation Science
- Location Science
- OR Spektrum
- Zentralblatt für Mathematik
- Mathematical Reviews
- Operations Research

Further Activities

Since 2014	President of the supervisory board of SimPlan AG
2011 – 2014	Member of the supervisory board SimPlan AG
Since 2007	Member of the expert committees “Simulation and Optimization” and “Model Building” of the Association of German Engineers