

# Kai Nagel

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

116  
papers

6,313  
citations

32  
h-index

78  
g-index

118  
ext. papers

7,197  
ext. citations

2.5  
avg, IF

6.01  
L-index

#	Paper	IF	Citations
116	Enhanced Emission Calculation for Freight Transport. <i>Procedia Computer Science</i> , <b>2022</b> , 201, 601-607	1.6	0
115	Simulation-based investigation of transport scenarios for Hamburg. <i>Procedia Computer Science</i> , <b>2022</b> , 201, 587-593	1.6	0
114	Creating an agent-based long-haul freight transport model for Germany. <i>Procedia Computer Science</i> , <b>2022</b> , 201, 614-620	1.6	0
113	Predicting the effects of COVID-19 related interventions in urban settings by combining activity-based modelling, agent-based simulation, and mobile phone data. <i>PLoS ONE</i> , <b>2021</b> , 16, e0259037	3.7	7
112	Prediction of Covid-19 spreading and optimal coordination of counter-measures: From microscopic to macroscopic models to Pareto fronts. <i>PLoS ONE</i> , <b>2021</b> , 16, e0249676	3.7	3
111	Expanding the analysis scope of a MATSim transport simulation by integrating the FEATHERS activity-based demand model. <i>Procedia Computer Science</i> , <b>2021</b> , 184, 753-760	1.6	0
110	Integrated Approach for the Assessment of Strategies for the Decarbonization of Urban Traffic. <i>Sustainability</i> , <b>2021</b> , 13, 839	3.6	13
109	Combining Simulation and Optimisation to Design Reliable Transportation Services with Autonomous Fleets. <i>Transportation Research Procedia</i> , <b>2021</b> , 52, 59-66	2.4	1
108	Electrification of Urban Waste Collection: Introducing a Simulation-Based Methodology for Technical Feasibility, Impact and Cost Analysis. <i>World Electric Vehicle Journal</i> , <b>2021</b> , 12, 122	2.5	3
107	Realistic agent-based simulation of infection dynamics and percolation. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>2021</b> , 584, 126322	3.3	1
106	An efficient approach to create agent-based transport simulation scenarios based on ubiquitous Big Data and a new, aspatial activity-scheduling model. <i>Transportation Research Procedia</i> , <b>2021</b> , 52, 613-620	2.4	2
105	Flows Over Time as Continuous Limits of Packet-Based Network Simulations. <i>Transportation Research Procedia</i> , <b>2021</b> , 52, 123-130	2.4	4
104	Using a Route-based and Vehicle Type specific Range Constraint for Improving Vehicle Routing Problems with Electric Vehicles. <i>Transportation Research Procedia</i> , <b>2021</b> , 52, 517-524	2.4	7
103	The effect of unexpected disruptions and information times on public transport passengers: a simulation study. <i>Procedia Computer Science</i> , <b>2020</b> , 170, 745-750	1.6	3
102	Electrification of Urban Freight Transport - a Case Study of the Food Retailing Industry. <i>Procedia Computer Science</i> , <b>2020</b> , 170, 757-763	1.6	18
101	The impact of pricing and service area design on the modal shift towards demand responsive transit. <i>Procedia Computer Science</i> , <b>2020</b> , 170, 807-812	1.6	8
100	Towards welfare optimal operation of innovative mobility concepts: External cost pricing in a world of shared autonomous vehicles. <i>Transportation Research, Part A: Policy and Practice</i> , <b>2020</b> , 136, 48-63	3.7	9

99	Using MATSim as a Component in Dynamic Agent-Based Micro-Simulations. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 85-105	0.9	1
98	The end of travel time matrices: Individual travel times in integrated land use/transport models. <i>Journal of Transport Geography</i> , <b>2020</b> , 88, 102862	5.2	4
97	Potential of Private Autonomous Vehicles for Parcel Delivery. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 520-531	1.7	9
96	Toward identifying the critical mass in spatial two-sided markets. <i>Environment and Planning B: Urban Analytics and City Science</i> , <b>2020</b> , 47, 1704-1724	2	1
95	Calibration of choice model parameters in a transport scenario with heterogeneous traffic conditions and income dependency. <i>Transportation Letters</i> , <b>2020</b> , 12, 441-450	2.1	5
94	Large-Scale Assignment of Congested Bicycle Traffic Using Speed Heterogeneous Agents. <i>Procedia Computer Science</i> , <b>2019</b> , 151, 820-825	1.6	5
93	Optimization and simulation of fixed-time traffic signal control in real-world applications. <i>Procedia Computer Science</i> , <b>2019</b> , 151, 826-833	1.6	6
92	Improving speed and realism of an evolutionary minibus network design process. <i>Procedia Computer Science</i> , <b>2019</b> , 151, 834-839	1.6	
91	The MATSim Open Berlin Scenario: A multimodal agent-based transport simulation scenario based on synthetic demand modeling and open data. <i>Procedia Computer Science</i> , <b>2019</b> , 151, 870-877	1.6	57
90	Adaptive traffic signal control for real-world scenarios in agent-based transport simulations. <i>Transportation Research Procedia</i> , <b>2019</b> , 37, 481-488	2.4	8
89	How Driving Multiple Tours Affects the Results of Last Mile Delivery Vehicle Routing Problems. <i>Procedia Computer Science</i> , <b>2019</b> , 151, 840-845	1.6	9
88	Congestion pricing in a real-world oriented agent-based simulation context. <i>Research in Transportation Economics</i> , <b>2019</b> , 74, 40-51	2.4	8
87	Mind the price gap: How optimal emission pricing relates to the EU CO2 reduction targets. <i>International Journal of Sustainable Transportation</i> , <b>2019</b> , 13, 378-391	3.6	9
86	Bicycle traffic and its interaction with motorized traffic in an agent-based transport simulation framework. <i>Future Generation Computer Systems</i> , <b>2019</b> , 97, 30-40	7.5	10
85	Simultaneous internalization of traffic congestion and noise exposure costs. <i>Transportation</i> , <b>2018</b> , 45, 1579-1600	4	10
84	Accessibility in a Post-Apartheid City: Comparison of Two Approaches for Accessibility Computations. <i>Networks and Spatial Economics</i> , <b>2018</b> , 18, 241-271	1.9	14
83	Incorporating within link dynamics in an agent-based computationally faster and scalable queue model. <i>Transportmetrica A: Transport Science</i> , <b>2018</b> , 14, 520-541	2.5	8
82	Simulation-based optimization of service areas for pooled ride-hailing operators. <i>Procedia Computer Science</i> , <b>2018</b> , 130, 816-823	1.6	17

81	Implementing an adaptive traffic signal control algorithm in an agent-based transport simulation. <i>Procedia Computer Science</i> , <b>2018</b> , 130, 894-899	1.6	11
80	Using real-world traffic incident data in transport modeling. <i>Procedia Computer Science</i> , <b>2018</b> , 130, 880-885		4
79	User-specific and Dynamic Internalization of Road Traffic Noise Exposures. <i>Networks and Spatial Economics</i> , <b>2017</b> , 17, 153-172	1.9	10
78	An activity-based and dynamic approach to calculate road traffic noise damages. <i>Transportation Research, Part D: Transport and Environment</i> , <b>2017</b> , 54, 335-347	6.4	26
77	Integrating explicit parking search into a transport simulation. <i>Procedia Computer Science</i> , <b>2017</b> , 109, 881-886	1.6	20
76	The structure of user equilibria: Dynamic coevolutionary simulations vs. cyclically expanded networks. <i>Procedia Computer Science</i> , <b>2017</b> , 109, 648-655	1.6	1
75	Modeling bicycle traffic in an agent-based transport simulation. <i>Procedia Computer Science</i> , <b>2017</b> , 109, 923-928	1.6	10
74	Towards High-Resolution First-Best Air Pollution Tolls. <i>Networks and Spatial Economics</i> , <b>2016</b> , 16, 175-198	9	24
73	Braess's Paradox in an Agent-based Transport Model. <i>Procedia Computer Science</i> , <b>2016</b> , 83, 946-951	1.6	9
72	Incorporating a multiple discrete-continuous outcome in the generalized heterogeneous data model: Application to residential self-selection effects analysis in an activity time-use behavior model. <i>Transportation Research Part B: Methodological</i> , <b>2016</b> , 91, 52-76	7.2	32
71	Mind the Gap [Passenger Arrival Patterns in Multi-agent Simulations. <i>International Journal of Transportation</i> , <b>2016</b> , 4, 27-40		4
70	Within-Day Replanning <b>2016</b> , 187-200		4
69	Activity-Based Computation of Marginal Noise Exposure Costs: Implications for Traffic Management. <i>Transportation Research Record</i> , <b>2016</b> , 2597, 116-122	1.7	6
68	Maintaining Mobility in Substantial Urban Growth Futures. <i>Transportation Research Procedia</i> , <b>2016</b> , 19, 70-80	2.4	11
67	Agent-based Congestion Pricing and Transport Routing with Heterogeneous Values of Travel Time Savings. <i>Procedia Computer Science</i> , <b>2016</b> , 83, 908-913	1.6	6
66	Automatic calibration of agent-based public transit assignment path choice to count data. <i>Transportation Research Part C: Emerging Technologies</i> , <b>2016</b> , 64, 58-71	8.4	7
65	Towards an Agent-based, Integrated Land-use Transport Modeling System. <i>Procedia Computer Science</i> , <b>2016</b> , 83, 958-963	1.6	17
64	Introducing non-normality of latent psychological constructs in choice modeling with an application to bicyclist route choice. <i>Transportation Research Part B: Methodological</i> , <b>2015</b> , 78, 341-363	7.2	28

63	An Elegant and Computationally Efficient Approach for Heterogeneous Traffic Modelling Using Agent Based Simulation. <i>Procedia Computer Science</i> , <b>2015</b> , 52, 962-967	1.6	23
62	Integrating CEMDAP and MATSIM to Increase the Transferability of Transport Demand Models. <i>Transportation Research Record</i> , <b>2015</b> , 2493, 117-125	1.7	38
61	A Simulation-based Approach for Constructing All-day Travel Chains from Mobile Phone Data. <i>Procedia Computer Science</i> , <b>2015</b> , 52, 468-475	1.6	13
60	Integrated Analysis of Commuters' Energy Consumption. <i>Procedia Computer Science</i> , <b>2014</b> , 32, 699-706	1.6	4
59	Studying the Accuracy of Demand Generation from Mobile Phone Trajectories with Synthetic Data. <i>Procedia Computer Science</i> , <b>2014</b> , 32, 802-807	1.6	6
58	Heterogeneous Tolls and Values of Time in Multi-agent Transport Simulation. <i>Procedia Computer Science</i> , <b>2014</b> , 32, 762-768	1.6	10
57	The Role of Spatial Interaction in Social Networks. <i>Networks and Spatial Economics</i> , <b>2013</b> , 13, 255-282	1.9	32
56	Risk reduction at the "Last-Mile" an attempt to turn science into action by the example of Padang, Indonesia. <i>Natural Hazards</i> , <b>2013</b> , 65, 915-945	3	30
55	Passenger Agent and Paratransit Operator Reaction to Changes of Service Frequency of a Fixed Train Line. <i>Procedia Computer Science</i> , <b>2013</b> , 19, 803-808	1.6	9
54	Agent-based Modelling and Simulation of Air Transport Technology. <i>Procedia Computer Science</i> , <b>2013</b> , 19, 821-828	1.6	5
53	Extensible Software Design of a Multi-Agent Transport Simulation. <i>Procedia Computer Science</i> , <b>2013</b> , 19, 380-388	1.6	5
52	Increased Convergence Rates in Multiagent Transport Simulations with Pseudosimulation. <i>Transportation Research Record</i> , <b>2013</b> , 2343, 68-76	1.7	5
51	Behavioral Calibration and Analysis of a Large-Scale Travel Microsimulation. <i>Networks and Spatial Economics</i> , <b>2012</b> , 12, 481-502	1.9	37
50	Simulation of Urban Traffic Control: A Queue Model Approach. <i>Procedia Computer Science</i> , <b>2012</b> , 10, 808-814	1.6	10
49	Insights into a spatially embedded social network from a large-scale snowball sample. <i>European Physical Journal B</i> , <b>2011</b> , 84, 549-561	1.2	12
48	Income-contingent user preferences in policy evaluation: application and discussion based on multi-agent transport simulations. <i>Transportation</i> , <b>2011</b> , 38, 849-870	4	16
47	A Model of Risk-Sensitive Route-Choice Behavior and the Potential Benefit of Route Guidance. <i>IEEE Transactions on Intelligent Transportation Systems</i> , <b>2011</b> , 12, 384-389	6.1	9
46	Bayesian Demand Calibration for Dynamic Traffic Simulations. <i>Transportation Science</i> , <b>2011</b> , 45, 541-561	4.4	57

45	Policy Evaluation in Multiagent Transport Simulations. <i>Transportation Research Record</i> , <b>2010</b> , 2175, 10-18.	7	4
44	The representation and implementation of time-dependent inundation in large-scale microscopic evacuation simulations. <i>Transportation Research Part C: Emerging Technologies</i> , <b>2010</b> , 18, 84-98	8.4	97
43	"Last-Mile" preparation for a potential disaster – Interdisciplinary approach towards tsunami early warning and an evacuation information system for the coastal city of Padang, Indonesia. <i>Natural Hazards and Earth System Sciences</i> , <b>2009</b> , 9, 1509-1528	3.9	86
42	Adding Mode Choice to Multiagent Transport Simulation. <i>Transportation Research Record</i> , <b>2009</b> , 2132, 50-58	1.7	9
41	Virtual WorldsReal Decisions: Model- and Visualization-based Tools for Landscape Planning in Switzerland. <i>Mountain Research and Development</i> , <b>2008</b> , 28, 122-127	1.4	5
40	Comparing traffic flow models with different number of phases. <i>European Physical Journal B</i> , <b>2008</b> , 63, 315-320	1.2	13
39	Network breakdown – At the edge of chaos – In multi-agent traffic simulations. <i>European Physical Journal B</i> , <b>2008</b> , 63, 321-327	1.2	15
38	PRELIMINARY RESULTS OF A MULTIAGENT TRAFFIC SIMULATION FOR BERLIN. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , <b>2007</b> , 10, 289-307	0.8	4
37	Event-Driven Queue-Based Traffic Flow Microsimulation. <i>Transportation Research Record</i> , <b>2007</b> , 2003, 35-40	1.7	36
36	Agent-Oriented Coupling of Activity-Based Demand Generation with Multiagent Traffic Simulation. <i>Transportation Research Record</i> , <b>2007</b> , 2021, 10-17	1.7	41
35	Agent-Based Demand-Modeling Framework for Large-Scale Microsimulations. <i>Transportation Research Record</i> , <b>2006</b> , 1985, 125-134	1.7	45
34	Generating complete all-day activity plans with genetic algorithms. <i>Transportation</i> , <b>2005</b> , 32, 369-397	4	129
33	Q-Learning for Flexible Learning of Daily Activity Plans. <i>Transportation Research Record</i> , <b>2005</b> , 1935, 163-169	1.7	5
32	Robustness of Efficient Passenger Boarding Strategies for Airplanes. <i>Transportation Research Record</i> , <b>2005</b> , 1915, 44-54	1.7	50
31	A Message-Based Framework for Real-World Mobility Simulations <b>2005</b> , 193-209		1
30	The physics of traffic and regional development. <i>Contemporary Physics</i> , <b>2004</b> , 45, 405-426	3.3	40
29	The importance of timescales: simple models for economic markets. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>2004</b> , 340, 668-677	3.3	5
28	Iterative route planning for large-scale modular transportation simulations. <i>Future Generation Computer Systems</i> , <b>2004</b> , 20, 1101-1118	7.5	34

27	Probabilistic Traffic Flow Breakdown in Stochastic Car-Following Models. <i>Transportation Research Record</i> , <b>2003</b> , 1852, 152-158	1.7	25
26	An Agent-Based Microsimulation Model of Swiss Travel: First Results. <i>Networks and Spatial Economics</i> , <b>2003</b> , 3, 23-41	1.9	81
25	Still Flowing: Approaches to Traffic Flow and Traffic Jam Modeling. <i>Operations Research</i> , <b>2003</b> , 51, 681-710	7.1	208
24	Large-scale multi-agent transportation simulations. <i>Computer Physics Communications</i> , <b>2002</b> , 147, 559-564	4.2	53
23	Dynamic traffic assignment on parallel computers in TRANSIMS. <i>Future Generation Computer Systems</i> , <b>2001</b> , 17, 637-648	7.5	52
22	Parallel implementation of the TRANSIMS micro-simulation. <i>Parallel Computing</i> , <b>2001</b> , 27, 1611-1639	1	155
21	Spatial competition and price formation. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>2000</b> , 287, 546-562	3.3	14
20	Comment on "Critical behavior of a traffic flow model". <i>Physical Review E</i> , <b>2000</b> , 61, 3270-3271	2.4	32
19	SIMPLE QUEUEING MODEL APPLIED TO THE CITY OF PORTLAND. <i>International Journal of Modern Physics C</i> , <b>1999</b> , 10, 941-960	1.1	35
18	Hell on Wheels. <i>The Sciences</i> , <b>1999</b> , 39, 26-31		2
17	Two-lane traffic rules for cellular automata: A systematic approach. <i>Physical Review E</i> , <b>1998</b> , 58, 1425-1437	3.7	338
16	Simplified cellular automaton model for city traffic. <i>Physical Review E</i> , <b>1998</b> , 58, 1286-1295	2.4	56
15	From Particle Hopping Models to Traffic Flow Theory. <i>Transportation Research Record</i> , <b>1998</b> , 1644, 1-9	1.7	24
14	Realistic multi-lane traffic rules for cellular automata. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>1997</b> , 234, 687-698	3.3	145
13	Zellularautomaten simulieren StraÙenverkehr. <i>Physik Journal</i> , <b>1996</b> , 52, 460-462		2
12	Particle hopping models and traffic flow theory. <i>Physical Review E</i> , <b>1996</b> , 53, 4655-4672	2.4	246
11	Two lane traffic simulations using cellular automata. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>1996</b> , 231, 534-550	3.3	285
10	Discrete stochastic models for traffic flow. <i>Physical Review E</i> , <b>1995</b> , 51, 2939-2949	2.4	365

9	Emergent traffic jams. <i>Physical Review E</i> , <b>1995</b> , 51, 2909-2918	2.4	238
8	Microscopic traffic modeling on parallel high performance computers. <i>Parallel Computing</i> , <b>1994</b> , 20, 125-146		42
7	Deterministic models for traffic jams. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>1993</b> , 199, 254-269	3.9	153
6	A cellular automaton model for freeway traffic. <i>Journal De Physique, I</i> , <b>1992</b> , 2, 2221-2229		2189
5	Self-organizing criticality in cloud formation?. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>1992</b> , 182, 519-531	3.3	40
4	Agent-Based Demand-Modeling Framework for Large-Scale Microsimulations		67
3	Mobility traces and spreading of COVID-19		25
2	Using mobile phone data for epidemiological simulations of lockdowns: government interventions, behavioral changes, and resulting changes of reinfections		5
1	Predicting the effects of COVID-19 related interventions in urban settings by combining activity-based modelling, agent-based simulation, and mobile phone data		5