Simone Göttlich

List of Publications by Year
in descending order

98 papers	1,008 citations	516681 16 h-index	526264 27 g-index
102 all docs	102 docs citations	102 times ranked	445 citing authors

#	ARTICLE	IF	CITATIONS
1	A novel approach for vehicle travel time distribution: copula-based dependent discrete convolution. Transportation Letters, 2022, 14, 740-751.	3.1	5
2	Parameter calibration with stochastic gradient descent for interacting particle systems driven by neural networks. Mathematics of Control, Signals, and Systems, 2022, 34, 185-214.	2.3	6
3	Chance-constrained optimal inflow control in hyperbolic supply systems with uncertain demand. Optimal Control Applications and Methods, 2021, 42, 566-589.	2.1	4
4	Properties of the LWR model with time delay. Networks and Heterogeneous Media, 2021, 16, 31-47.	1.1	1
5	Density dependent diffusion models for the interaction of particle ensembles with boundaries. Kinetic and Related Models, 2021, 14, 681.	0.9	0
6	Modeling and Simulation of Sector-Coupled Energy Networks: A Gas-Power Benchmark. Mathematics in Industry, 2021, , 263-284.	0.3	0
7	A two-dimensional multi-class traffic flow model. Networks and Heterogeneous Media, 2021, 16, 69-90.	1.1	3
8	Microscopic and macroscopic traffic flow models including random accidents. Communications in Mathematical Sciences, 2021, 19, 1579-1609.	1.0	3
9	GPU-accelerated simulation of a non-local conservation law. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000114.	0.2	0
10	Penalty alternating direction methods for mixed-integer optimal control with combinatorial constraints. Mathematical Programming, 2021, 188, 599-619.	2.4	6
11	Input-to-State Stability of a Scalar Conservation Law with Nonlocal Velocity. Axioms, 2021, 10, 12.	1.9	1
12	Second-Order Traffic Flow Models on Networks. SIAM Journal on Applied Mathematics, 2021, 81, 258-281.	1.8	3
13	Nonlocal approaches for multilane traffic models. Communications in Mathematical Sciences, 2021, 19, 2291-2317.	1.0	6
14	A non-local traffic flow model for 1-to-1 junctions. European Journal of Applied Mathematics, 2020, 31, 1029-1049.	2.9	19
15	The mean field kinetic equation for interacting particle systems with non-Lipschitz force. Mathematical Methods in the Applied Sciences, 2020, 43, 1901-1914.	2.3	0
16	Micro-Macro Limit of a Nonlocal Generalized Aw-Rascle Type Model. SIAM Journal on Applied Mathematics, 2020, 80, 1841-1861.	1.8	26
17	Well-posedness of a non-local model for material flow on conveyor belts. ESAIM: Mathematical Modelling and Numerical Analysis, 2020, 54, 679-704.	1.9	13
18	Car path tracking in traffic flow networks with bounded buffers at junctions. Mathematical Methods in the Applied Sciences, 2020, 43, 3331-3353.	2.3	2

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19	Optimal Control of Compressor Stations in a Coupled Gas-to-Power Network. Trends in Mathematics, 2020, , 67-80.	0.1	2
20	Uncertainty quantification with risk measures in production planning. Journal of Mathematics in Industry, 2020, 10, .	1.2	5
21	Modeling random traffic accidents by conservation laws. Mathematical Biosciences and Engineering, 2020, 17, 1677-1701.	1.9	0
22	The global classical solution to compressible Euler system with velocity alignment. AIMS Mathematics, 2020, 5, 6673-6692.	1.6	4
23	The food seeking behavior of slime mold: a macroscopic approach. Mathematical Biosciences and Engineering, 2020, 17, 6631-6658.	1.9	0
24	Artificial Neural Networks for the Estimation of Pedestrian Interaction Forces. Modeling and Simulation in Science, Engineering and Technology, 2020, , 11-32.	0.6	5
25	Data-driven graph drawing techniques with applications for conveyor systems. Journal of Mathematics in Industry, 2020, 10, .	1.2	0
26	Mathematical innovations fostering the energy transition â€" Control and optimization. Automatisierungstechnik, 2020, 68, 982-984.	0.8	0
27	Optimal control of electricity input given an uncertain demand. Mathematical Methods of Operations Research, 2019, 90, 301-328.	1.0	5
28	Load-Dependent Machine Failures in Production Network Models. SIAM Journal on Applied Mathematics, 2019, 79, 1197-1217.	1.8	2
29	The Euler scheme for stochastic differential equations with discontinuous drift coefficient: a numerical study of the convergence rate. Advances in Difference Equations, 2019, 2019, .	3.5	12
30	Assessing the probability of arriving on time using historical travel time data in a road network. , 2019, , .		4
31	Optimal inflow control in transport systems with uncertain demands â€•A comparison of undersupply penalties. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900252.	0.2	1
32	Modeling and simulation of gas networks coupled to power grids. Journal of Engineering Mathematics, 2019, 119, 217-239.	1.2	5
33	A partial outer convexification approach to control transmission lines. Computational Optimization and Applications, 2019, 72, 431-456.	1.6	7
34	Optimal Inflow Control Penalizing Undersupply in Transport Systems with Uncertain Demands. Mathematics in Industry, 2019, , 485-490.	0.3	3
35	Derivation of second order traffic flow models with time delays. Networks and Heterogeneous Media, 2019, 14, 265-288.	1.1	7
36	A model for a network of conveyor belts with discontinuous speed and capacity. Networks and Heterogeneous Media, 2019, 14, 389-410.	1.1	4

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37	A Production Model with History Based Random Machine Failures. Mathematics in Industry, 2019, , 491-497.	0.3	0
38	Feedback stabilization for a coupled PDE-ODE production system. Mathematical Control and Related Fields, 2019, .	1.1	1
39	Space mapping techniques for the optimal inflow control of transmission lines. Optimization Methods and Software, 2018, 33, 120-139.	2.4	6
40	Optimal packing of material flow on conveyor belts. Optimization and Engineering, 2018, 19, 71-96.	2.4	3
41	A micro-macro hybrid model with application for material and pedestrian flow. Cogent Mathematics & Statistics, 2018, 5, 1476049.	0.9	5
42	Derivation of a first order traffic flow model of Lighthill-Whitham-Richards type. IFAC-PapersOnLine, 2018, 51, 49-54.	0.9	8
43	A Mean Field Game approach for multi-lane traffic management. IFAC-PapersOnLine, 2018, 51, 793-798.	0.9	13
44	Modeling of a diffusion with aggregation: rigorous derivation and numerical simulation. ESAIM: Mathematical Modelling and Numerical Analysis, 2018, 52, 567-593.	1.9	5
45	Pareto-Optimal Coupling Conditions for the Aw–Rascle–Zhang Traffic Flow Model at Junctions. SIAM Journal on Applied Mathematics, 2018, 78, 1981-2002.	1.8	9
46	A pedestrian flow model with stochastic velocities: Microscopic and macroscopic approaches. Kinetic and Related Models, 2018, 11, 1333-1358.	0.9	4
47	A Godunov type scheme for a class of LWR traffic flow models with non-local flux. Networks and Heterogeneous Media, 2018, 13, 531-547.	1.1	29
48	Partial Outer Convexification for Traffic Light Optimization in Road Networks. SIAM Journal of Scientific Computing, 2017, 39, B53-B75.	2.8	19
49	Mean Field Limit and Propagation of Chaos for a Pedestrian Flow Model. Journal of Statistical Physics, 2017, 166, 211-229.	1.2	3
50	Numerical discretization of boundary control problems for systems of balance laws: Feedback stabilization. European Journal of Control, 2017, 35, 11-18.	2.6	16
51	Numerical Feedback Stabilization with Applications to Networks. Discrete Dynamics in Nature and Society, 2017, 2017, 1-11.	0.9	1
52	Boundary layer analysis from the Keller-Segel system to the aggregation system in one space dimension. Communications on Pure and Applied Analysis, 2017, 16, 1013-1036.	0.8	2
53	Semi-Markovian capacities in production network models. Discrete and Continuous Dynamical Systems - Series B, 2017, 22, 3235-3258.	0.9	1
54	Capacity drop and traffic control for a second order traffic model. Networks and Heterogeneous Media, 2017, 12, 663-681.	1.1	15

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55	Modeling of Material Flow Problems. Mathematics in Industry, 2017, , 21-36.	0.3	1
56	Evacuation modeling: a case study on linear and nonlinear network flow models. EURO Journal on Computational Optimization, 2016, 4, 219-239.	2.4	4
57	Electric transmission lines: Control and numerical discretization. Optimal Control Applications and Methods, 2016, 37, 980-995.	2.1	16
58	Existence of a classical solution to complex material flow problems. Mathematical Methods in the Applied Sciences, 2016, 39, 4069-4081.	2.3	5
59	Approximations of time-dependent unreliable flow lines with finite buffers. Mathematical Methods of Operations Research, 2016, 83, 295-323.	1.0	2
60	Speed limit and ramp meter control for traffic flow networks. Engineering Optimization, 2016, 48, 1121-1144.	2.6	54
61	Dynamic Programming Approach for Discrete-Valued Time Discrete Optimal Control Problems with Dwell Time Constraints. IFIP Advances in Information and Communication Technology, 2016, , 159-168.	0.7	5
62	A weakly coupled model of differential equations for thief tracking. Networks and Heterogeneous Media, 2016, 11, 447-469.	1.1	2
63	Routing strategies in production networks with random breakdowns. Communications in Mathematical Sciences, 2016, 14, 1799-1820.	1.0	1
64	Discontinuous Galerkin Method for Material Flow Problems. Mathematical Problems in Engineering, 2015, 2015, 1-15.	1.1	1
65	Data-Fitted Second-Order Macroscopic Production Models. SIAM Journal on Applied Mathematics, 2015, 75, 999-1014.	1.8	15
66	A continuous buffer allocation model using stochastic processes. European Journal of Operational Research, 2015, 242, 865-874.	5.7	14
67	Complex material flow problems: a multi-scale model hierarchy and particle methods. Journal of Engineering Mathematics, 2015, 92, 15-29.	1.2	14
68	Modeling and optimizing traffic light settings in road networks. Computers and Operations Research, 2015, 55, 36-51.	4.0	35
69	Optimal inflow control of production systems with finite buffers. Discrete and Continuous Dynamical Systems - Series B, 2015, 20, 107-127.	0.9	1
70	THE SCALAR KELLER–SEGEL MODEL ON NETWORKS. Mathematical Models and Methods in Applied Sciences, 2014, 24, 221-247.	3.3	35
71	Particle methods for pedestrian flow models: From microscopic to nonlocal continuum models. Mathematical Models and Methods in Applied Sciences, 2014, 24, 2503-2523.	3.3	35
72	Modeling, simulation and validation of material flow on conveyor belts. Applied Mathematical Modelling, 2014, 38, 3295-3313.	4.2	51

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73	Traffic light control: A case study. Discrete and Continuous Dynamical Systems - Series S, 2014, 7, 483-501.	1.1	8
74	Optimization for a special class of traffic flow models: Combinatorial and continuous approaches. Networks and Heterogeneous Media, 2014, 9, 315-334.	1.1	7
75	Discontinuous Conservation Laws for Production Networks with Finite Buffers. SIAM Journal on Applied Mathematics, 2013, 73, 1117-1138.	1.8	7
76	Numerical discretization of Hamilton--Jacobi equations on networks. Networks and Heterogeneous Media, 2013, 8, 685-705.	1.1	11
77	Modeling and Optimization of Scalar Flows on Networks. Lecture Notes in Mathematics, 2013, , 395-461.	0.2	1
78	Production systems with limited repair capacity. Optimization, 2012, 61, 915-948.	1.7	2
79	Optimal Order and Distribution Strategies in Production Networks. , 2012, , 265-287.		3
80	System Dynamic Models and Real-time Simulation of Complex Material Flow Systems. , 2012, , 316-321.		11
81	Production Networks with Stochastic Machinery Default. Mathematics in Industry, 2012, , 247-253.	0.3	0
82	A Scalar Conservation Law with Discontinuous Flux for Supply Chains with Finite Buffers. SIAM Journal on Applied Mathematics, 2011, 71, 1070-1087.	1.8	21
83	Optimal design of capacitated production networks. Optimization and Engineering, 2011, 12, 583-602.	2.4	1
84	Evacuation dynamics influenced by spreading hazardous material. Networks and Heterogeneous Media, 2011, 6, 443-464.	1.1	15
85	Time-continuous production networks with random breakdowns. Networks and Heterogeneous Media, 2011, 6, 695-714.	1.1	8
86	Optimization of order policies in supply networks. European Journal of Operational Research, 2010, 202, 456-465.	5.7	20
87	Design Network Problem and Heuristics. Mathematics in Industry, 2010, , 515-520.	0.3	2
88	MIP presolve techniques for a PDE-based supply chain model. Optimization Methods and Software, 2009, 24, 427-445.	2.4	3
89	Efficient reformulation and solution of a nonlinear PDE-controlled flow network model. Computing (Vienna/New York), 2009, 85, 245-265.	4.8	9
90	A Discrete Optimization Approach to Large Scale Supply Networks Based on Partial Differential Equations. SIAM Journal of Scientific Computing, 2008, 30, 1490-1507.	2.8	32

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91	Dynamic Models for Simulation and Optimization of Supply Networks. , 2008, , 249-265.		1
92	A Network Model for Supply Chains with Multiple Policies. Multiscale Modeling and Simulation, 2007, 6, 820-837.	1.6	19
93	An Alternative Modeling Approach for an Integrated Simulation and Optimization of a Class of Production Networks. , 2007, , 45-60.		3
94	Optimal control for continuous supply network models. Networks and Heterogeneous Media, 2006, 1, 675-688.	1.1	34
95	Modelling and optimization of supply chains on complex networks. Communications in Mathematical Sciences, 2006, 4, 315-330.	1.0	61
96	Network models for supply chains. Communications in Mathematical Sciences, 2005, 3, 545-559.	1.0	89
97	Space mapping-based optimization with the macroscopic limit of interacting particle systems. Optimization and Engineering, 0, , 1.	2.4	0
98	Efficient simulation of coupled gas and power networks under uncertain demands. European Journal of Applied Mathematics, 0, , 1-27.	2.9	0