Gnter R Leugering

List of Publications by Year in Descending Order

141 papers	2,119 citations	25 h-index	40 g-index
145 ext. papers	2,395 ext. citations	2 avg, IF	5.28 L-index

#	Paper	IF	Citations
141	Optimal control problems of parabolic fractional Sturm-Liouville equations in a star graph. *Mathematical Control and Related Fields*, **2022**,	1.5	0
140	Time-Domain Decomposition for Optimal Control Problems Governed by Semilinear Hyperbolic Systems. *SIAM Journal on Control and Optimization*, **2021**, 59, 4339-4372	1.9	1
139	Optimal Control Problems Driven by Time-Fractional Diffusion Equations on Metric Graphs: Optimality System and Finite Difference Approximation. *SIAM Journal on Control and Optimization*, **2021**, 59, 4216-4242	1.9	4
138	Optimal control of a fractional Sturm–Liouville problem on a star graph. *Optimization*, **2021**, 70, 659-687	1.2	6
137	An approach based on Haar wavelet for the approximation of fractional calculus with application to initial and boundary value problems. *Mathematical Methods in the Applied Sciences*, **2021**, 44, 3195-3213	2.3	8
136	Fractional optimal control problems on a star graph: Optimality system and numerical solution. *Mathematical Control and Related Fields*, **2021**, 11, 189-209	1.5	16
135	Existence results and stability analysis for a nonlinear fractional boundary value problem on a circular ring with an attached edge : A study of fractional calculus on metric graph. *Networks and Heterogeneous Media*, **2021**, 16, 155	1.6	7
134	Existence and Uniqueness of Time-Fractional Diffusion Equation on a Metric Star Graph. *Communications in Computer and Information Science*, **2021**, 25-41	0.3	
133	An adaptive spectral graph wavelet method for PDEs on networks. *Advances in Computational Mathematics*, **2021**, 47, 1	1.6	2
132	Nodal profile control for networks of geometrically exact beams. *Journal Des Mathematiques Pures Et Appliquees*, **2021**, 155, 111-111	1.7	
131	Exact Boundary Controllability for the Spatial Vibration of String with Dynamical Boundary Conditions. *Chinese Annals of Mathematics Series B*, **2020**, 41, 325-334	0.4	
130	Optimal Control of a Population Dynamics Model with Missing Birth Rate. *SIAM Journal on Control and Optimization*, **2020**, 58, 1289-1313	1.9	2
129	Model-Based Optimization of Ripening Processes with Feedback Modules. *Chemical Engineering and Technology*, **2020**, 43, 896-903	2	3
128	Partial Differential Equations on Metric Graphs: A Survey of Results on Optimization, Control, and Stabilizability Problems with Special Focus on Shape and Topological Sensitivity Problems. *Industrial and Applied Mathematics*, **2020**, 77-115	0.3	0
127	Modeling, Simulation and Optimization of Process Chains **2020**, 549-578		
126	A fast adaptive spectral graph wavelet method for the viscous Burgers' equation on a star-shaped connected graph. *Mathematical Methods in the Applied Sciences*, **2020**, 43, 7595-7614	2.3	12
125	Boundary Feedback Stabilization for the Intrinsic Geometrically Exact Beam Model. *SIAM Journal on Control and Optimization*, **2020**, 58, 3533-3558	1.9	2

124	Existence and uniqueness results for a nonlinear Caputo fractional boundary value problem on a star graph. *Journal of Mathematical Analysis and Applications*, **2019**, 477, 1243-1264	1.1	26
123	Exact boundary controllability and its applications for a coupled system of quasilinear wave equations with dynamical boundary conditions. *Nonlinear Analysis: Real World Applications*, **2019**, 49, 71-89	2.1	1
122	1-d Wave Equations Coupled via Viscoelastic Springs and Masses: Boundary Controllability of a Quasilinear and Exponential Stabilizability of a Linear Model. *Springer INdAM Series*, **2019**, 139-156	0.4	
121	Exact boundary controllability of nodal profile for Saint-Venant system on a network with loops. *Journal Des Mathematiques Pures Et Appliquees*, **2019**, 129, 34-60	1.7	3
120	MIP-based instantaneous control of mixed-integer PDE-constrained gas transport problems. *Computational Optimization and Applications*, **2018**, 70, 267-294	1.4	25
119	Towards simulation based mixed-integer optimization with differential equations. *Networks*, **2018**, 72, 60-83	1.6	9
118	Simulation and structural optimization of 3d Timoshenko beam networks based on fully analytic network solutions. *ESAIM: Mathematical Modelling and Numerical Analysis*, **2018**, 52, 2409-2431	1.8	4
117	Analysis of a system of nonlocal balance laws with weighted work in progress. *Journal of Hyperbolic Differential Equations*, **2018**, 15, 375-406	0.6	5
116	Exact boundary controllability on a tree-like network of nonlinear planar Timoshenko beams. *Chinese Annals of Mathematics Series B*, **2017**, 38, 711-740	0.4	5
115	Interaction of light with hematite hierarchical structures: Experiments and simulations. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 189, 369-382	2.1	5
114	Exact boundary controllability for 1-D quasilinear wave equations with dynamical boundary conditions. *Mathematical Methods in the Applied Sciences*, **2017**, 40, 3808-3820	2.3	4
113	Control and Stabilization of Degenerate Wave Equations. *SIAM Journal on Control and Optimization*, **2017**, 55, 2052-2087	1.9	11
112	Neumann boundary feedback stabilization for a nonlinear wave equation: A strict H^2-lyapunov function. *Mathematical Control and Related Fields*, **2017**, 7, 419-448	1.5	13
111	Challenges in Optimal Control Problems for Gas and Fluid Flow in Networks of Pipes and Canals: From Modeling to Industrial Applications. *Industrial and Applied Mathematics*, **2017**, 77-122	0.3	15
110	A Shape-Topological Control Problem for Nonlinear Crack-Defect Interaction: The Antiplane Variational Model. *SIAM Journal on Control and Optimization*, **2016**, 54, 1329-1351	1.9	31
109	Consistent treatment of viscoelastic effects at junctions in one-dimensional blood flow models. *Journal of Computational Physics*, **2016**, 314, 167-193	4.1	13
108	Model-Based Design of Biochemical Microreactors. *Frontiers in Bioengineering and Biotechnology*, **2016**, 4, 13	5.8	1
107	On Timoshenko thin elastic inclusions inside elastic bodies. *Mathematics and Mechanics of Solids*, **2015**, 20, 495-511	2.3	24

106	FIMOR: An efficient simulation for ZnO quantum dot ripening applied to the optimization of nanoparticle synthesis. *Chemical Engineering Journal*, **2015**, 260, 706-715	14.7	22
105	On the inverse problem of the two-velocity tree-like graph. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2015**, 95, 1490-1500	1	10
104	Optimal and approximate boundary controls of an elastic body with quasistatic evolution of damage. *Mathematical Methods in the Applied Sciences*, **2015**, 38, 2739-2760	2.3	5
103	Optimal Control in Matrix-Valued Coefficients for Nonlinear Monotone Problems: Optimality Conditions I. *Zeitschrift Fur Analysis Und Ihre Anwendung*, **2015**, 34, 85-108	0.8	2
102	Optimal Control in Matrix-Valued Coefficients for Nonlinear Monotone Problems: Optimality Conditions II. *Zeitschrift Fur Analysis Und Ihre Anwendung*, **2015**, 34, 199-219	0.8	3
101	Shape Optimization in Electromagnetic Applications. *International Series of Numerical Mathematics*, **2015**, 251-269	0.4	6
100	The Eshelby Theorem and its Variants for Piezoelectric Media. *Archive for Rational Mechanics and Analysis*, **2015**, 215, 707-739	2.3	3
99	Control of crack propagation by shape-topological optimization. *Discrete and Continuous Dynamical Systems*, **2015**, 35, 2625-2657	2	20
98	Stationary states in gas networks. *Networks and Heterogeneous Media*, **2015**, 10, 295-320	1.6	26
97	Analysis of a system of nonlocal conservation laws for multi-commodity flow on networks. *Networks and Heterogeneous Media*, **2015**, 10, 749-785	1.6	18
96	Unified Design Strategies for Particulate Products. *Advances in Chemical Engineering*, **2015**, 1-81	0.6	19
95	On the Existence of Weak Optimal Controls in the Coefficients for a Degenerate Anisotropic p-Laplacian. *Studies in Systems, Decision and Control*, **2015**, 315-337	0.8	
94	Asymptotic analysis of 3-D thin piezoelectric rods. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2014**, 94, 529-550	1	1
93	Regularity Theory and Adjoint-Based Optimality Conditions for a Nonlinear Transport Equation with Nonlocal Velocity. *SIAM Journal on Control and Optimization*, **2014**, 52, 2141-2163	1.9	15
92	Timoshenko thin inclusions in an elastic body with possible delamination. *Doklady Physics*, **2014**, 59, 401-404	0.8	2
91	Modeling, Analysis and Optimization of Particle Growth, Nucleation and Ripening by the Way of Nonlinear Hyperbolic Integro-Partial Differential Equations. *International Series of Numerical Mathematics*, **2014**, 471-486	0.4	1
90	Delaminated thin elastic inclusions inside elastic bodies. *Mathematics and Mechanics of Complex Systems*, **2014**, 2, 1-21	3.2	32
89	On Existence of Optimal Solutions to Boundary Control Problem for an Elastic Body with Quasistatic Evolution of Damage. *Solid Mechanics and Its Applications*, **2014**, 265-286	0.4	1

88	Stabilization of Networked Hyperbolic Systems with Boundary Feedback. *International Series of Numerical Mathematics*, **2014**, 487-504	0.4	6
87	Optimal Control of Nonlinear Hyperbolic Conservation Laws with Switching. *International Series of Numerical Mathematics*, **2014**, 109-131	0.4	2
86	Shape-Topological Differentiability of Energy Functionals for Unilateral Problems in Domains with Cracks and Applications. *Lecture Notes in Computational Science and Engineering*, **2014**, 243-284	0.3	0
85	Material and shape optimization for multi-layered vocal fold models using transient loadings. *Journal of the Acoustical Society of America*, **2013**, 134, 1261-70	2.2	1
84	Matrix-Valued L^1-Optimal Controls in the Coefficients of Linear Elliptic Problems. *Zeitschrift Fur Analysis Und Ihre Anwendung*, **2013**, 32, 433-456	0.8	10
83	Stabilization of the Gas Flow in Star-Shaped Networks by Feedback Controls with Varying Delay. *International Federation for Information Processing*, **2013**, 255-265		5
82	The Eshelby Theorem and Application to the Optimization of an Elastic Patch. *SIAM Journal on Applied Mathematics*, **2012**, 72, 512-534	1.8	7
81	Preface of the Guest Editor Identification, optimization and control for modern technologies. *GAMM Mitteilungen*, **2012**, 35, 108-109	1.8	
80	Adaptive refinement based on asymptotic expansions of finite element solutions for node insertion in 1d. *GAMM Mitteilungen*, **2012**, 35, 175-190	1.8	1
79	Regularized nonlinear scalarization for vector optimization problems with PDE-constraints. *GAMM Mitteilungen*, **2012**, 35, 209-225	1.8	2
78	Optimal Control of Inclusion and Crack Shapes in Elastic Bodies. *Journal of Optimization Theory and Applications*, **2012**, 155, 54-78	1.6	15
77	Optimal Design of Brittle Composite Materials: a Nonsmooth Approach. *Journal of Optimization Theory and Applications*, **2012**, 155, 962-985	1.6	3
76	Feedback stabilization of quasilinear hyperbolic systems with varying delays **2012**,		1
75	A cohesive crack propagation model: Mathematical theory and numerical solution. *Communications on Pure and Applied Analysis*, **2012**, 12, 1705-1729	1.9	11
74	Optimal L^1-Control in Coefficients for Dirichlet Elliptic Problems: H-Optimal Solutions. *Zeitschrift Fur Analysis Und Ihre Anwendung*, **2012**, 31-53	0.8	12
73	Asymptotic analysis of 3D thin anisotropic plates with a piezoelectric patch. *Mathematical Methods in the Applied Sciences*, **2012**, 35, 633-658	2.3	3
72	On exact controllability of networks of nonlinear elastic strings in 3-dimensional space. *Chinese Annals of Mathematics Series B*, **2012**, 33, 33-60	0.4	8
71	H 2-stabilization of the Isothermal Euler equations: a Lyapunov function approach. *Chinese Annals of Mathematics Series B*, **2012**, 33, 479-500	0.4	20

70	Process control strategies for the gas phase synthesis of silicon nanoparticles. *Chemical Engineering Science*, **2012**, 73, 181-194	4.4	16
69	Model Reduction, Structure-property Relations and Optimization Techniques for the Production of Nanoscale Particles. *International Series of Numerical Mathematics*, **2012**, 541-559	0.4	
68	Optimal Control Problems for Partial Differential Equations on Reticulated Domains **2011**,		32
67	Gas Flow in Fan-Shaped Networks: Classical Solutions and Feedback Stabilization. *SIAM Journal on Control and Optimization*, **2011**, 49, 2101-2117	1.9	56
66	Simulation of fracture in heterogeneous elastic materials with cohesive zone models. *International Journal of Fracture*, **2011**, 168, 15-29	2.3	28
65	Optimal L 1-Control in Coefficients for Dirichlet Elliptic Problems: W-Optimal Solutions. *Journal of Optimization Theory and Applications*, **2011**, 150, 205-232	1.6	16
64	On the effect of self-penalization of piezoelectric composites in topology optimization. *Structural and Multidisciplinary Optimization*, **2011**, 43, 405-417	3.6	12
63	Mixed integer linear models for the optimization of dynamical transport networks. *Mathematical Methods of Operations Research*, **2011**, 73, 339-362	1	27
62	On Shape Optimization for an Evolution Coupled System. *Applied Mathematics and Optimization*, **2011**, 64, 441-466	1.5	5
61	Optimal control of cracks in elastic bodies with thin rigid inclusions. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2011**, 91, 125-137	1	32
60	Topological derivatives for networks of elastic strings. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2011**, 91, 926-943	1	2
59	Design of auxetic structures via mathematical optimization. *Advanced Materials*, **2011**, 23, 2650-4	24	124
58	Painting by numbers: nanoparticle-based colorants in the post-empirical age. *Advanced Materials*, **2011**, 23, 2554-70	24	24
57	Towards optimization of crack resistance of composite materials by adjustment of fiber shapes. *Engineering Fracture Mechanics*, **2011**, 78, 944-960	4.2	29
56	Material parameter computation for multi-layered vocal fold models. *Journal of the Acoustical Society of America*, **2011**, 129, 2168-80	2.2	6
55	A strict H^1-Lyapunov function and feedback stabilization for the isothermal Euler equations with friction. *Numerical Algebra, Control and Optimization*, **2011**, 1, 225-244	1.7	14
54	Multidisciplinary Free Material Optimization. *SIAM Journal on Applied Mathematics*, **2010**, 70, 2709-2728	1.8	42
53	On the equilibrium of elastic bodies containing thin rigid inclusions. *Doklady Physics*, **2010**, 55, 18-22	0.8	2

52	An augmented BV setting for feedback switching control. *Journal of Systems Science and Complexity* , **2010**, 23, 456-466	1	10
51	PDE-constrained optimization for advanced materials. *GAMM Mitteilungen*, **2010**, 33, 209-229	1.8	1
50	On elastic bodies with thin rigid inclusions and cracks. *Mathematical Methods in the Applied Sciences* , **2010**, 33, n/a-n/a	2.3	4
49	Shape sensitivity analysis of a quasi-electrostatic piezoelectric system in multilayered media. *Mathematical Methods in the Applied Sciences*, **2010**, 33, 2118-2131	2.3	8
48	Interfacial energy estimation in a precipitation reaction using the flatness based control of the moment trajectories. *Chemical Engineering Science*, **2010**, 65, 2183-2189	4.4	6
47	On an inverse problem for tree-like networks of elastic strings. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2010**, 90, 136-150	1	24
46	Classical solutions and feedback stabilization for the gas flow in a sequence of pipes. *Networks and Heterogeneous Media*, **2010**, 5, 691-709	1.6	59
45	Topology and Dynamic Networks: Optimization with Application in Future Technologies **2010**, 263-276		
44	Homogenization of constrained optimal control problems for one-dimensional elliptic equations on periodic graphs. *ESAIM - Control, Optimisation and Calculus of Variations*, **2009**, 15, 471-498	1	4
43	Modeling and Analysis of Modal Switching in Networked Transport Systems. *Applied Mathematics and Optimization*, **2009**, 59, 275-292	1.5	48
42	Optimal distributed control of the wave equation subject to state constraints. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2009**, 89, 420-444	1	15
41	Global boundary controllability of the Saint-Venant system for sloped canals with friction. *Annales De Lʃnstitut Henri Poincare (C) Analyse Non Lineaire*, **2009**, 26, 257-270	1.6	32
40	A Sequential Convex Semidefinite Programming Algorithm with an Application to Multiple-Load Free Material Optimization. *SIAM Journal on Optimization*, **2009**, 20, 130-155	2	29
39	Free Material Optimization with Fundamental Eigenfrequency Constraints. *SIAM Journal on Optimization*, **2009**, 20, 524-547	2	15
38	Topology optimization of a piezoelectric-mechanical actuator with single- and multiple-frequency excitation. *International Journal of Applied Electromagnetics and Mechanics*, **2009**, 30, 201-221	0.4	24
37	Topologie und Dynamische Netzwerke: Anwendungen Der Optimierung MIT Zukunft **2009**, 323-338		
36	Optimal Boundary Control of Convention-Reaction Transport Systems with Binary Control Functions. *Lecture Notes in Computer Science*, **2009**, 209-222	0.9	6
35	Free Material Optimization for Plates and Shells. *IFIP Advances in Information and Communication Technology*, **2009**, 239-250	0.5	1

34	L∞-Norm minimal control of the wave equation: on the weakness of the bang-bang principle. *ESAIM - Control, Optimisation and Calculus of Variations*, **2008**, 14, 254-283	1	30
33	Shape optimization for the Helmholtz equation. *Proceedings in Applied Mathematics and Mechanics*, **2008**, 8, 10705-10706	0.2	1
32	Registration of PE segment contour deformations in digital high-speed videos. *Medical Image Analysis*, **2008**, 12, 318-34	15.4	6
31	Domain Decomposition of Constrained Optimal Control Problems for 2D Elliptic System on Networked Domains: Convergence and A Posteriori Error Estimates. *Lecture Notes in Computational Science and Engineering*, **2008**, 119-130	0.3	
30	Asymptotic Analysis of State Constrained Semilinear Optimal Control Problems. *Journal of Optimization Theory and Applications*, **2007**, 135, 301-321	1.6	2
29	Repetitive processes modelling of gas transport networks **2007**,		2
28	Conservation law constrained optimization based upon Front-Tracking. *ESAIM: Mathematical Modelling and Numerical Analysis*, **2006**, 40, 939-960	1.8	7
27	Lp-Optimal Boundary Control for the Wave Equation. *SIAM Journal on Control and Optimization*, **2005**, 44, 49-74	1.9	32
26	An overview of modelling challenges for a nonlinear plate-beam model. *Nonlinear Analysis: Theory, Methods & Applications*, **2005**, 63, e1529-e1539	1.3	2
25	Optimal Control for Traffic Flow Networks. *Journal of Optimization Theory and Applications*, **2005**, 126, 589-616	1.6	86
24	Optimal Control of Coupled Systems of PDE. *Oberwolfach Reports*, **2005**, 995-1072	0	
23	Global controllability between steady supercritical flows in channel networks. *Mathematical Methods in the Applied Sciences*, **2004**, 27, 781-802	2.3	37
22	Domain Decomposition Methods in Optimal Control of Partial Differential Equations **2004**,		23
21	Time-domain decomposition of optimal control problems for the wave equation. *Systems and Control Letters*, **2003**, 48, 229-242	2.4	23
20	Global boundary controllability of the de St. Venant equations between steady states. *Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire*, **2003**, 20, 1-11	1.6	64
19	S-Homogenization of Optimal Control Problems in Banach Spaces. *Mathematische Nachrichten*, **2002**, 233-234, 141-169	0.8	5
18	A Posteriori Error Estimates in Time-Domain Decomposition of Final Value Optimal Control of the Acoustic Wave Equation. *Applied Mathematics and Optimization*, **2002**, 46, 263-290	1.5	
17	Regularization of L∞-Optimal Control Problems for Distributed Parameter Systems. *Computational Optimization and Applications*, **2002**, 22, 151-192	1.4	9

16	Time Domain Decomposition in Final Value Optimal Control of the Maxwell System. *ESAIM - Control, Optimisation and Calculus of Variations*, **2002**, 8, 775-799	1	2
15	On the Modelling and Stabilization of Flows in Networks of Open Canals. *SIAM Journal on Control and Optimization*, **2002**, 41, 164-180	1.9	113
14	Instantaneous Control of Vibrating String Networks **2001**, 229-249		4
13	Modelling, Stabilization, and Control of Flow in Networks of Open Channels **2001**, 251-270		15
12	On the semi-discretization of optimal control problems for networks of elastic strings: global optimality systems and domain decomposition. *Journal of Computational and Applied Mathematics*, **2000**, 120, 133-157	2.4	12
11	Domain Decomposition of Optimal Control Problems for Dynamic Networks of Elastic Strings. *Computational Optimization and Applications*, **2000**, 16, 5-27	1.4	12
10	On exact controllability of generic trees. *ESAIM: Proceedings and Surveys*, **2000**, 8, 95-105		11
9	Dynamic Domain Decomposition of Optimal Control Problems for Networks of Strings and Timoshenko Beams. *SIAM Journal on Control and Optimization*, **1999**, 37, 1649-1675	1.9	18
8	On the analysis and control of hyperbolic systems associated with vibrating networks. *Proceedings of the Royal Society of Edinburgh Section A: Mathematics*, **1994**, 124, 77-104	1	21
7	Modeling, Analysis and Control of Dynamic Elastic Multi-Link Structures. *Systems and Control: Foundations and Applications*, **1994**,	0.3	169
6	Uniform stabilization of a nonlinear beam by nonlinear boundary feedback. *Journal of Differential Equations*, **1991**, 91, 355-388	2.1	81
5	On boundary feedback stabilisability of a viscoelastic beam. *Proceedings of the Royal Society of Edinburgh Section A: Mathematics*, **1990**, 114, 57-69	1	10
4	Control and stabilization of a flexible robot arm. *Dynamical Systems*, **1990**, 5, 37-46		9
3	Boundary control of a vibrating plate with internal damping. *Mathematical Methods in the Applied Sciences*, **1989**, 11, 573-586	2.3	6
2	On boundary exact controllability of one-dimensional wave equations with weak and strong interior degeneration. *Mathematical Methods in the Applied Sciences*,	2.3	1
1	Singularly perturbed reaction□diffusion problems on a k-star graph. *Mathematical Methods in the Applied Sciences*,	2.3	1