Urszula Ledzewicz

List of Publications by Year
in descending order

104	1,956	304368 22	276539 41
papers	citations	h-index	g-index

112	112	112	982
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Geometric Optimal Control. Interdisciplinary Applied Mathematics, 2012, , .	0.2	181
2	AntiAngiogenic Therapy in Cancer Treatment as an Optimal Control Problem. SIAM Journal on Control and Optimization, 2007, 46, 1052-1079.	1.1	146
3	On optimal delivery of combination therapy for tumors. Mathematical Biosciences, 2009, 222, 13-26.	0.9	143
4	Optimal Bang-Bang Controls for a Two-Compartment Model in Cancer Chemotherapy. Journal of Optimization Theory and Applications, 2002, 114, 609-637.	0.8	137
5	Optimal Control for Mathematical Models of Cancer Therapies. Interdisciplinary Applied Mathematics, 2015, , .	0.2	113
6	Optimal and suboptimal protocols for a class of mathematical models of tumor anti-angiogenesis. Journal of Theoretical Biology, 2008, 252, 295-312.	0.8	88
7	ANALYSIS OF A CELL-CYCLE SPECIFIC MODEL FOR CANCER CHEMOTHERAPY. Journal of Biological Systems, 2002, 10, 183-206.	0.5	71
8	Optimal response to chemotherapy for a mathematical model of tumorâ€"immune dynamics. Journal of Mathematical Biology, 2012, 64, 557-577.	0.8	71
9	Optimal controls for a model with pharmacokinetics maximizing bone marrow in cancer chemotherapy. Mathematical Biosciences, 2007, 206, 320-342.	0.9	55
10	High-Order Approximations and Generalized Necessary Conditions for Optimality. SIAM Journal on Control and Optimization, 1998, 37, 33-53.	1.1	49
11	Optimal and suboptimal protocols for a mathematical model for tumor anti-angiogenesis in combination with chemotherapy. Mathematical Biosciences and Engineering, 2011, 8, 307-323.	1.0	47
12	Second-order conditions for extremum problems with nonregular equality constraints. Journal of Optimization Theory and Applications, 1995, 86, 113-144.	0.8	37
13	Drug resistance in cancer chemotherapy as an optimal control problem. Discrete and Continuous Dynamical Systems - Series B, 2006, 6, 129-150.	0.5	36
14	On the MTD paradigm and optimal control for multi-drug cancer chemotherapy. Mathematical Biosciences and Engineering, 2013, 10, 803-819.	1.0	34
15	Analysis of optimal controls for a mathematical model of tumour antiâ€angiogenesis. Optimal Control Applications and Methods, 2008, 29, 41-57.	1.3	33
16	The Influence of PK/PD on the Structure of Optimal Controls in Cancer Chemotherapy Models. Mathematical Biosciences and Engineering, 2005, 2, 561-578.	1.0	32
17	Optimal controls for a mathematical model of tumor-immune interactions under targeted chemotherapy with immune boost. Discrete and Continuous Dynamical Systems - Series B, 2013, 18, 1031-1051.	0.5	29
18	Realizable protocols for optimal administration of drugs in mathematical models for anti-angiogenic treatment. Mathematical Medicine and Biology, 2010, 27, 157-179.	0.8	27

#	Article	IF	Citations
19	ecancermedicalscience. Ecancermedicalscience, 2014, 8, 463.	0.6	26
20	A high-order generalization of the Lyusternik theorem. Nonlinear Analysis: Theory, Methods & Applications, 1998, 34, 793-815.	0.6	26
21	Scheduling of angiogenic inhibitors for Gompertzian and logistic tumor growth models. Discrete and Continuous Dynamical Systems - Series B, 2009, 12, 415-438.	0.5	26
22	Multi-input Optimal Control Problems for Combined Tumor Anti-angiogenic and Radiotherapy Treatments. Journal of Optimization Theory and Applications, 2012, 153, 195-224.	0.8	24
23	Dynamical properties of a minimally parameterized mathematical model for metronomic chemotherapy. Journal of Mathematical Biology, 2016, 72, 1255-1280.	0.8	24
24	On the optimality of singular controls for a class of mathematical models for tumor anti-angiogenesis. Discrete and Continuous Dynamical Systems - Series B, 2009, 11, 691-715.	0.5	22
25	A High-Order Generalized Local Maximum Principle. SIAM Journal on Control and Optimization, 2000, 38, 823-854.	1.1	20
26	ON OPTIMAL CHEMOTHERAPY FOR HETEROGENEOUS TUMORS. Journal of Biological Systems, 2014, 22, 177-197.	0.5	20
27	On drug resistance and metronomic chemotherapy: A mathematical modeling and optimal control approach. Mathematical Biosciences and Engineering, 2017, 14, 217-235.	1.0	20
28	Optimal Combined Radio- and Anti-Angiogenic Cancer Therapy. Journal of Optimization Theory and Applications, 2019, 180, 321-340.	0.8	18
29	AN EXTENDED MAXIMUM PRINCIPLE. Nonlinear Analysis: Theory, Methods & Applications, 1997, 29, 159-183.	0.6	17
30	On the Dynamics of Tumor-Immune System Interactions and Combined Chemo- and Immunotherapy. SIMAI Springer Series, 2012, , 249-266.	0.4	17
31	A 3-Compartment Model for Chemotherapy of Heterogeneous Tumor Populations. Acta Applicandae Mathematicae, 2015, 135, 191-207.	0.5	17
32	A Review of Optimal Chemotherapy Protocols: From MTD towards Metronomic Therapy. Mathematical Modelling of Natural Phenomena, 2014, 9, 131-152.	0.9	16
33	Comparison of optimal controls for a model in cancer chemotherapy withL1- andL2-type objectives. Optimization Methods and Software, 2004, 19, 339-350.	1.6	15
34	A model for cancer chemotherapy with state-space constraints. Nonlinear Analysis: Theory, Methods & Applications, 2005, 63, e2591-e2602.	0.6	15
35	Application of mathematical models to metronomic chemotherapy: What can be inferred from minimal parameterized models?. Cancer Letters, 2017, 401, 74-80.	3.2	15
36	Robustness of optimal controls for a class of mathematical models for tumor anti-angiogenesis. Mathematical Biosciences and Engineering, 2011, 8, 355-369.	1.0	15

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37	Optimal control for combination therapy in cancer. , 2008, , .		13
38	Optimal Control for a Mathematical Model of Glioma Treatment with Oncolytic Therapy and TNF-$$alpha $$ Inhibitors. Journal of Optimization Theory and Applications, 2018, 176, 456-477.	0.8	13
39	Optimal control for a mathematical model for chemotherapy with pharmacometrics. Mathematical Modelling of Natural Phenomena, 2020, 15, 69.	0.9	13
40	Dynamics and control of a mathematical model for metronomic chemotherapy. Mathematical Biosciences and Engineering, 2015, 12, 1257-1275.	1.0	13
41	On optimal chemotherapy with a strongly targeted agent for a model of tumor-immune system interactions with generalized logistic growth. Mathematical Biosciences and Engineering, 2013, 10, 787-802.	1.0	12
42	Bang-bang and singular controls in a mathematical model for combined anti-angiogenic and chemotherapy treatments. , 2009, , .		11
43	Sufficient conditions for strong local optimality in optimal control problems with L_{2}-type objectives and control constraints. Discrete and Continuous Dynamical Systems - Series B, 2014, 19, 2657-2679.	0.5	11
44	On the Role of the Objective in the Optimization of Compartmental Models for Biomedical Therapies. Journal of Optimization Theory and Applications, 2020, 187, 305-335.	0.8	11
45	The role of TNF-Î± inhibitor in glioma virotherapy: A mathematical model. Mathematical Biosciences and Engineering, 2017, 14, 305-319.	1.0	10
46	Controlling a model for bone marrow dynamics in cancer chemotherapy. Mathematical Biosciences and Engineering, 2004, 1, 95-110.	1.0	8
47	The Pontryagin Maximum Principle: From Necessary Conditions to the Construction of an Optimal Solution. Interdisciplinary Applied Mathematics, 2012, , 83-194.	0.2	7
48	Dynamical Systems Properties of a Mathematical Model for the Treatment of CML. Applied Sciences (Switzerland), 2016, 6, 291.	1.3	7
49	Optimizing Chemotherapeutic Anti-cancer Treatment and the Tumor Microenvironment: An Analysis of Mathematical Models. Advances in Experimental Medicine and Biology, 2016, 936, 209-223.	0.8	7
50	Optimization of combination therapy for chronic myeloid leukemia with dosing constraints. Journal of Mathematical Biology, 2018, 77, 1533-1561.	0.8	7
51	Tumor Development Under Combination Treatments with Anti-angiogenic Therapies. Lecture Notes on Mathematical Modelling in the Life Sciences, 2013, , 311-337.	0.1	7
52	On the Lusternik theorem for nonsmooth operators. Nonlinear Analysis: Theory, Methods & Applications, 1994, 22, 121-128.	0.6	6
53	Optimal Control of Mathematical Models for Antiangiogenic Treatments. Interdisciplinary Applied Mathematics, 2015, , 171-235.	0.2	6
54	Sufficient conditions for optimality for a mathematical model of drug treatment with pharmacodynamics. Opuscula Mathematica, 2017, 37, 403.	0.3	6

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55	Bifurcation of singular arcs in an optimal control problem for cancer immune system interactions under treatment. , 2010, , .		5
56	On optimal protocols for combinations of chemo- and immunotherapy. , 2012, , .		5
57	On the role of pharmacometrics in mathematical models for cancer treatments. Discrete and Continuous Dynamical Systems - Series B, 2021, 26, 483-499.	0.5	5
58	Tumor Microenvironment and Anticancer Therapies: An Optimal Control Approach. Modeling and Simulation in Science, Engineering and Technology, 2014, , 295-334.	0.4	5
59	Stratifiable Families of Extremals and Sufficient Conditions for Optimality in Optimal Control Problems. Journal of Optimization Theory and Applications, 2004, 122, 345-370.	0.8	4
60	On the structure of optimal controls for a mathematical model of tumor anti-angiogenic therapy with linear pharmacokinetics. , 2009, , .		4
61	A geometric analysis of bang-bang extremals in optimal control problems for combination cancer chemotherapy. , 2012, , .		4
62	Optimal control for a SIR epidemiological model with time-varying populations. , 2016, , .		4
63	An Optimal Control Approach to Cancer Chemotherapy with Tumorâ€“Immune System Interactions. Springer Proceedings in Mathematics and Statistics, 2014, , 157-196.	0.1	4
64	On distributed parameter control systems in the abnormal case and in the case of nonoperator equality constraints. Journal of Applied Mathematics and Stochastic Analysis, 1993, 6, 137-151.	0.3	3
65	High-order tangent cones and their application in optimization. Nonlinear Analysis: Theory, Methods & Applications, 1997, 30, 2449-2460.	0.6	3
66	Optimal controlled trajectories for a mathematical model of anti-angiogenic therapy in cancer. , 2009, , .		3
67	On an extension of a mathematical model for tumor anti-angiogenesis. Nonlinear Analysis: Theory, Methods & Applications, 2009, 71, e2390-e2397.	0.6	3
68	Perturbation feedback control: A geometric interpretation. Numerical Algebra, Control and Optimization, 2012, 2, 631-654.	1.0	3
69	On the role of tumor heterogeneity for optimal cancer chemotherapy. Networks and Heterogeneous Media, 2019, 14, 131-147.	0.5	3
70	The influence of pk/pd on the structure of optimal controls in cancer chemotherapy models. Mathematical Biosciences and Engineering, 2005, 2, 561-78.	1.0	3
71	Combination of antiangiogenic treatment with chemotherapy as a multiâ€input optimal control problem. Mathematical Methods in the Applied Sciences, 2022, 45, 3058-3082.	1.2	3
72	The Structure of Optimal Protocols for a Mathematical Model of Chemotherapy with Antiangiogenic Effects. SIAM Journal on Control and Optimization, 2022, 60, 1092-1116.	1.1	3

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73	Piecewise constant suboptimal controls for a system describing tumor growth under angiogenic treatment. , 2009, , .		2
74	The effect of pharmacokinetics on optimal protocols for a mathematical model of tumor anti-angiogenic therapy. , 2009, , .		2
75	The Method of Characteristics: A Geometric Approach to Sufficient Conditions for a Local Minimum. Interdisciplinary Applied Mathematics, 2012, , 323-423.	0.2	2
76	Optimal Control for Mathematical Models of Tumor Immune System Interactions. Interdisciplinary Applied Mathematics, 2015, , 317-380.	0.2	2
77	Fields of extremals and sensitivity analysis for multi-input bilinear optimal control problems. Discrete and Continuous Dynamical Systems, 2015, 35, 4611-4638.	0.5	2
78	Treatment of glioma with virotherapy and TNF-<i>Î±</i> inhibitors: Analysis as a dynamical system. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 425-441.	0.5	2
79	High-Order Extended Maximum Principles for Optimal Control Problems with Non-Regular Constraints. Applied Optimization, 1998, , 298-325.	0.4	2
80	Lyapunov-Schmidt reduction for optimal control problems. Discrete and Continuous Dynamical Systems - Series B, 2012, 17, 2201-2223.	0.5	1
81	The Calculus of Variations: A Historical Perspective. Interdisciplinary Applied Mathematics, 2012, , 1-81.	0.2	1
82	Control-Affine Systems in Low Dimensions: From Small-Time Reachable Sets to Time-Optimal Syntheses. Interdisciplinary Applied Mathematics, 2012, , 485-568.	0.2	1
83	Optimal Control of Cancer Treatments: Mathematical Models for the Tumor Microenvironment. Springer INdAM Series, 2015, , 209-235.	0.4	1
84	A Mathematical Model for Tumorâ€“Immune Dynamics in Multiple Myeloma. Association for Women in Mathematics Series, 2018, , 89-122.	0.1	1
85	A Theory of First and Second Order Conditions for Nonregular Extremum Problems. , 2020, , 237-250.		1
86	Optimal solutions for a model of tumor anti-angiogenesis with a penalty on the cost of treatment. Applicationes Mathematicae, 2009, 36, 295-312.	0.1	1
87	Cell Cycle Specific Cancer Chemotherapy for Homogeneous Tumors. Interdisciplinary Applied Mathematics, 2015, , 41-114.	0.2	1
88	Optimal control applied to a generalized Michaelis-Menten model of CML therapy. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 331-346.	0.5	1
89	Optimal control for a mathematical model for anti-angiogenic treatment with Michaelis-Menten pharmacodynamics. Discrete and Continuous Dynamical Systems - Series B, 2019, 24, 2315-2334.	0.5	1
90	Pitfalls in applying optimal control to dynamical systems: An overview and editorial perspective. Discrete and Continuous Dynamical Systems - Series B, 2022, 27, 6711.	0.5	1

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91	On generalizations of the Eulerâ€“Lagrange equation. Nonlinear Analysis: Theory, Methods & Applications, 2001, 47, 339-350.	0.6	0
92	A local generalized Hilbert invariant integral. Nonlinear Analysis: Theory, Methods & Applications, 2001, 47, 399-410.	0.6	0
93	Reachable Sets of Linear Time-Invariant Systems: From Convex Sets to the Bang-Bang Theorem. Interdisciplinary Applied Mathematics, 2012, , 195-230.	0.2	0
94	The High-Order Maximum Principle: From Approximations of Reachable Sets to High-Order Necessary Conditions for Optimality. Interdisciplinary Applied Mathematics, 2012, , 231-321.	0.2	0
95	Synthesis of Optimal Controlled Trajectories: From Local to Global Solutions. Interdisciplinary Applied Mathematics, 2012, , 425-484.	0.2	0
96	On the control of cell migration and proliferation in glioblastoma. , 2013, , .		0
97	Cancer and Tumor Development: Biomedical Background. Interdisciplinary Applied Mathematics, 2015, , 1-40.	0.2	0
98	From the guest editors. Mathematical Biosciences and Engineering, 2011, 8, i-ii.	1.0	0
99	Optimal Control for Problems with a Quadratic Cost Functional on the Therapeutic Agents. Interdisciplinary Applied Mathematics, 2015, , 141-170.	0.2	0
100	Cancer Chemotherapy for Heterogeneous Tumor Cell Populations and Drug Resistance. Interdisciplinary Applied Mathematics, 2015, , 115-139.	0.2	0
101	Robust Suboptimal Treatment Protocols for Antiangiogenic Therapy. Interdisciplinary Applied Mathematics, 2015, , 237-274.	0.2	0
102	Combination Therapies with Antiangiogenic Treatments. Interdisciplinary Applied Mathematics, 2015, , 275-316.	0.2	0
103	Application of ecological and mathematical theory to cancer: New challenges. Mathematical Biosciences and Engineering, 2015, 12, .	1.0	0
104	Preface. Mathematical Biosciences and Engineering, 2017, 14, i-i.	1.0	0