Julio R Banga

List of Publications by Year
in descending order

222 papers	8,707 citations	46918 47 h-index	58464 82 g-index
240 all docs	240 docs citations	240 times ranked	6209 citing authors

#	Article	IF	Citations
1	Parameter Estimation in Biochemical Pathways: A Comparison of Global Optimization Methods. Genome Research, 2003, 13, 2467-2474.	2.4	706
2	Structural Identifiability of Systems Biology Models: A Critical Comparison of Methods. PLoS ONE, 2011, 6, e27755.	1.1	335
3	Parameter estimation in large-scale systems biology models: a parallel and self-adaptive cooperative strategy. BMC Bioinformatics, 2017, 18, 52.	1.2	300
4	A hybrid approach for efficient and robust parameter estimation in biochemical pathways. BioSystems, 2006, 83, 248-265.	0.9	251
5	Novel metaheuristic for parameter estimation in nonlinear dynamic biological systems. BMC Bioinformatics, 2006, 7, 483.	1.2	221
6	Optimization in computational systems biology. BMC Systems Biology, 2008, 2, 47.	3.0	218
7	Global dynamic optimization approach to predict activation in metabolic pathways. BMC Systems Biology, 2014, 8, 1.	3.0	211
8	Reverse engineering and identification in systems biology: strategies, perspectives and challenges. Journal of the Royal Society Interface, 2014, 11, 20130505.	1.5	194
9	Dynamic optimization of bioprocesses: Efficient and robust numerical strategies. Journal of Biotechnology, 2005, 117, 407-419.	1.9	179
10	Extended ant colony optimization for non-convex mixed integer nonlinear programming. Computers and Operations Research, 2009, 36, 2217-2229.	2.4	175
11	Scatter search for chemical and bio-process optimization. Journal of Global Optimization, 2007, 37, 481-503.	1.1	147
12	An iterative identification procedure for dynamic modeling of biochemical networks. BMC Systems Biology, 2010, 4, 11.	3.0	144
13	Improving food processing using modern optimization methods. Trends in Food Science and Technology, 2003, 14, 131-144.	7.8	143
14	MEIGO: an open-source software suite based on metaheuristics for global optimization in systems biology and bioinformatics. BMC Bioinformatics, 2014, 15, 136.	1.2	131
15	AMIGO2, a toolbox for dynamic modeling, optimization and control in systems biology. Bioinformatics, 2016, 32, 3357-3359.	1.8	124
16	Parameter estimation and optimal experimental design. Essays in Biochemistry, 2008, 45, 195-210.	2.1	115
17	An evolutionary method for complex-process optimization. Computers and Operations Research, 2010, 37, 315-324.	2.4	111
18	Robust and efficient parameter estimation in dynamic models of biological systems. BMC Systems Biology, 2015, 9, 74.	3.0	110

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19	Optimization of the thermal processing of conduction-heated canned foods: Study of several objective functions. Journal of Food Engineering, 1991, 14, 25-51.	2.7	109
20	Computational procedures for optimal experimental design in biological systems. IET Systems Biology, 2008, 2, 163-172.	0.8	108
21	Dynamic Optimization of Nonlinear Processes with an Enhanced Scatter Search Method. Industrial & Engineering Chemistry Research, 2009, 48, 4388-4401.	1.8	101
22	MIDER: Network Inference with Mutual Information Distance and Entropy Reduction. PLoS ONE, 2014, 9, e96732.	1.1	99
23	Dynamic Optimization of Batch Reactors Using Adaptive Stochastic Algorithms. Industrial & Engineering Chemistry Research, 1997, 36, 2252-2261.	1.8	94
24	GenSSI: a software toolbox for structural identifiability analysis of biological models. Bioinformatics, 2011, 27, 2610-2611.	1.8	94
25	Parameter identifiability analysis and visualization in large-scale kinetic models of biosystems. BMC Systems Biology, 2017, 11, 54.	3.0	92
26	Benchmarking optimization methods for parameter estimation in large kinetic models. Bioinformatics, 2019, 35, 830-838.	1.8	90
27	Dynamic optimization of chemical and biochemical processes using restricted second-order information. Computers and Chemical Engineering, 2001, 25, 539-546.	2.0	85
28	Hybrid optimization method with general switching strategy for parameter estimation. BMC Systems Biology, 2008, 2, 26.	3.0	80
29	Optimal sensor location and reduced order observer design for distributed process systems. Computers and Chemical Engineering, 2004, 28, 27-35.	2.0	79
30	The GLOBAL optimization method revisited. Optimization Letters, 2008, 2, 445-454.	0.9	77
31	Stochastic Dynamic Optimization of Batch and Semicontinuous Bioprocesses. Biotechnology Progress, 1997, 13, 326-335.	1.3	75
32	Second-order sensitivities of general dynamic systems with application to optimal control problems. Chemical Engineering Science, 1999, 54, 3851-3860.	1.9	75
33	GenSSI 2.0: multi-experiment structural identifiability analysis of SBML models. Bioinformatics, 2018, 34, 1421-1423.	1.8	75
34	Full observability and estimation of unknown inputs, states and parameters of nonlinear biological models. Journal of the Royal Society Interface, 2019, 16, 20190043.	1.5	75
35	AMIGO, a toolbox for advanced model identification in systems biology using global optimization. Bioinformatics, 2011, 27, 2311-2313.	1.8	72
36	Power-law models of signal transduction pathways. Cellular Signalling, 2007, 19, 1531-1541.	1.7	66

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37	Inference of complex biological networks: distinguishability issues and optimization-based solutions. BMC Systems Biology, 2011, 5, 177.	3.0	66
38	On the relationship between sloppiness and identifiability. Mathematical Biosciences, 2016, 282, 147-161.	0.9	66
39	Stochastic optimization for optimal and model-predictive control. Computers and Chemical Engineering, 1998, 22, 603-612.	2.0	65
40	Computation of Optimal Identification Experiments for Nonlinear Dynamic Process Models:â€‰ a Stochastic Global Optimization Approach. Industrial & Engineering Chemistry Research, 2002, 41, 2425-2430.	1.8	62
41	BioPreDyn-bench: a suite of benchmark problems for dynamic modelling in systems biology. BMC Systems Biology, 2015, 9, 8.	3.0	61
42	Global Optimization of Chemical Processes using Stochastic Algorithms. Nonconvex Optimization and Its Applications, 1996, , 563-583.	0.1	58
43	PEtabâ€"Interoperable specification of parameter estimation problems in systems biology. PLoS Computational Biology, 2021, 17, e1008646.	1.5	55
44	A Tabu search-based algorithm for mixed-integer nonlinear problems and its application to integrated process and control system design. Computers and Chemical Engineering, 2008, 32, 1877-1891.	2.0	54
45	Reverse Engineering Cellular Networks with Information Theoretic Methods. Cells, 2013, 2, 306-329.	1.8	54
46	A protocol for dynamic model calibration. Briefings in Bioinformatics, 2022, 23, .	3.2	54
47	Optimization of air drying of foods. Journal of Food Engineering, 1994, 23, 189-211.	2.7	53
48	A novel, efficient and reliable method for thermal process design and optimization. Part I: theory. Journal of Food Engineering, 2002, 52, 227-234.	2.7	53
49	A cooperative strategy for parameter estimation in large scale systems biology models. BMC Systems Biology, 2012, 6, 75.	3.0	51
50	Structural identifiability and observability of compartmental models of the COVID-19 pandemic. Annual Reviews in Control, 2021, 51, 441-459.	4.4	50
51	Optimization of hybrid discrete/continuous dynamic systems. Computers and Chemical Engineering, 2000, 24, 2171-2182.	2.0	49
52	Optimal design of dynamic experiments for improved estimation of kinetic parameters of thermal degradation. Journal of Food Engineering, 2007, 82, 178-188.	2.7	49
53	Fuzzy finite element analysis of heat conduction problems with uncertain parameters. Journal of Food Engineering, 2011, 103, 38-46.	2.7	49
54	Computing optimal operating policies for the food industry. Journal of Food Engineering, 2006, 74, 13-23.	2.7	48

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55	Enhanced parallel Differential Evolution algorithm for problems in computational systems biology. Applied Soft Computing Journal, 2015, 33, 86-99.	4.1	46
56	Dynamic Optimization of Single- and Multi-Stage Systems Using a Hybrid Stochasticâ˜Deterministic Method. Industrial & Engineering Chemistry Research, 2005, 44, 1514-1523.	1.8	45
57	Efficient and robust multi-objective optimization of food processing: A novel approach with application to thermal sterilization. Journal of Food Engineering, 2010, 98, 317-324.	2.7	45
58	SensSB: a software toolbox for the development and sensitivity analysis of systems biology models. Bioinformatics, 2010, 26, 1675-1676.	1.8	45
59	A novel, efficient and reliable method for thermal process design and optimization. Part II: applications. Journal of Food Engineering, 2002, 52, 235-247.	2.7	44
60	Improved scatter search for the global optimization of computationally expensive dynamic models. Journal of Global Optimization, 2009, 43, 175-190.	1.1	43
61	Data-driven reverse engineering of signaling pathways using ensembles of dynamic models. PLoS Computational Biology, 2017, 13, e1005379.	1.5	41
62	Efficient Optimal Control of Bioprocesses Using Second-Order Information. Industrial & Engineering Chemistry Research, 2000, 39, 4287-4295.	1.8	40
63	Novel global sensitivity analysis methodology accounting for the crucial role of the distribution of input parameters: application to systems biology models. International Journal of Robust and Nonlinear Control, 2012, 22, 1082-1102.	2.1	40
64	Mathematical modelling and simulation of the thermal processing of anisotropic and non-homogeneous conduction-heated canned foods: Application to canned tuna. Journal of Food Engineering, 1993, 18, 369-387.	2.7	39
65	An Extended Ant Colony Optimization Algorithm for Integrated Process and Control System Design. Industrial & Engineering Chemistry Research, 2009, 48, 6723-6738.	1.8	39
66	Reverse-Engineering Post-Transcriptional Regulation of Gap Genes in Drosophila melanogaster. PLoS Computational Biology, 2013, 9, e1003281.	1.5	38
67	A systematic approach to plant-wide control based on thermodynamics. Computers and Chemical Engineering, 2007, 31, 677-691.	2.0	37
68	Multi-objective mixed integer strategy for the optimisation of biological networks. IET Systems Biology, 2010, 4, 236-248.	0.8	37
69	Integrated Process Design and Control Via Global Optimization. Chemical Engineering Research and Design, 2003, 81, 507-517.	2.7	36
70	Optimal Field Reconstruction of Distributed Process Systems from Partial Measurements. Industrial & Engineering Chemistry Research, 2007, 46, 530-539.	1.8	36
71	DOTcvpSB, a software toolbox for dynamic optimization in systems biology. BMC Bioinformatics, 2009, 10, 199.	1.2	36
72	From irreversible thermodynamics to a robust control theory for distributed process systems. Journal of Process Control, 2002, 12, 507-517.	1.7	34

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73	Solving nonconvex climate control problems: pitfalls and algorithm performances. Applied Soft Computing Journal, 2004, 5, 35-44.	4.1	33
74	SYNBADm: a tool for optimization-based automated design of synthetic gene circuits. Bioinformatics, 2016, 32, 3360-3362.	1.8	33
75	Automated Design Framework for Synthetic Biology Exploiting Pareto Optimality. ACS Synthetic Biology, 2017, 6, 1180-1193.	1.9	33
76	Input-Dependent Structural Identifiability of Nonlinear Systems. , 2019, 3, 272-277.		33
77	Restricted second order information for the solution of optimal control problems using control vector parameterization. Journal of Process Control, 2002, 12, 243-255.	1.7	32
78	Model based optimization of biochemical systems using multiple objectives: a comparison of several solution strategies. Mathematical and Computer Modelling of Dynamical Systems, 2006, 12, 469-487.	1.4	32
79	Simultaneous model discrimination and parameter estimation in dynamic models of cellular systems. BMC Systems Biology, 2013, 7, 76.	3.0	32
80	Metabolic engineering with multi-objective optimization of kinetic models. Journal of Biotechnology, 2016, 222, 1-8.	1.9	32
81	Temperature control in microwave combination ovens. Journal of Food Engineering, 2000, 46, 21-29.	2.7	31
82	Reduced-Order Models for Nonlinear Distributed Process Systems and Their Application in Dynamic Optimization. Industrial & Engineering Chemistry Research, 2004, 43, 3353-3363.	1.8	31
83	Multicriteria global optimization for biocircuit design. BMC Systems Biology, 2014, 8, 113.	3.0	30
84	Dissipative systems: from physics to robust nonlinear control. International Journal of Robust and Nonlinear Control, 2004, 14, 157-179.	2.1	29
85	Identifiability and robust parameter estimation in food process modeling: Application to a drying model. Journal of Food Engineering, 2007, 83, 374-383.	2.7	29
86	COMPUTING OPTIMAL DYNAMIC EXPERIMENTS FOR MODEL CALIBRATION IN PREDICTIVE MICROBIOLOGY. Journal of Food Process Engineering, 2008, 31, 186-206.	1.5	28
87	A Combined Electromagnetic and Heat Transfer Model for Heating of Foods in Microwave Combination Ovens. Journal of Microwave Power and Electromagnetic Energy, 2002, 37, 97-111.	0.4	27
88	Quality and Safety Models and Optimization as Part of Computer-Integrated Manufacturing. Comprehensive Reviews in Food Science and Food Safety, 2008, 7, 168-174.	5.9	27
89	Characterizing Multistationarity Regimes in Biochemical Reaction Networks. PLoS ONE, 2012, 7, e39194.	1.1	27
90	Passive control design for distributed process systems: Theory and applications. AICHE Journal, 2000, 46, 1593-1606.	1.8	26

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91	Dynamic Optimization of Distributed Parameter Systems Using Second-Order Directional Derivatives. Industrial & Engineering Chemistry Research, 2004, 43, 6756-6765.	1.8	26
92	Robust feed-back control of travelling waves in a class of reaction–diffusion distributed biological systems. Physica D: Nonlinear Phenomena, 2008, 237, 2353-2364.	1.3	26
93	Investigating dynamics of inhibitory and feedback loops in ERK signalling using power-law models. Molecular BioSystems, 2010, 6, 2174.	2.9	24
94	Global Optimization in Systems Biology: Stochastic Methods and Their Applications. Advances in Experimental Medicine and Biology, 2012, 736, 409-424.	0.8	24
95	Dynamical compensation and structural identifiability of biological models: Analysis, implications, and reconciliation. PLoS Computational Biology, 2017, 13, e1005878.	1.5	24
96	A consensus approach for estimating the predictive accuracy of dynamic models in biology. Computer Methods and Programs in Biomedicine, 2015, 119, 17-28.	2.6	23
97	Design Principles of Biological Oscillators through Optimization: Forward and Reverse Analysis. PLoS ONE, 2016, 11, e0166867.	1.1	23
98	Implementing Parallel Differential Evolution on Spark. Lecture Notes in Computer Science, 2016, , 75-90.	1.0	23
99	A model-based approach to develop periodic thermal treatments for surface decontamination of strawberries. Postharvest Biology and Technology, 2004, 34, 39-52.	2.9	22
100	Global Optimization for Integrated Design and Control of Computationally Expensive Process Models. Industrial & Engineering Chemistry Research, 2007, 46, 9148-9157.	1.8	22
101	Hierarchical design of decentralized control structures for the Tennessee Eastman Process. Computers and Chemical Engineering, 2008, 32, 1995-2015.	2.0	22
102	Detailed kinetic model describing new oligosaccharides synthesis using different Î²-galactosidases. Journal of Biotechnology, 2011, 153, 116-124.	1.9	22
103	Reverse engineering of logic-based differential equation models using a mixed-integer dynamic optimization approach. Bioinformatics, 2015, 31, 2999-3007.	1.8	21
104	Optimality and identification of dynamic models in systems biology: an inverse optimal control framework. Bioinformatics, 2018, 34, 2433-2440.	1.8	21
105	Modeling and adaptive control for batch sterilization. Computers and Chemical Engineering, 1998, 22, 445-458.	2.0	20
106	A cloud-based enhanced differential evolution algorithm for parameter estimation problems in computational systems biology. Cluster Computing, 2017, 20, 1937-1950.	3.5	20
107	Improved Optimization Methods for the Multiobjective Design of Bioprocesses. Industrial & Engineering Chemistry Research, 2006, 45, 8594-8603.	1.8	19
108	Exponential observers for distributed tubular (bio)reactors. AICHE Journal, 2008, 54, 2943-2956.	1.8	19

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109	Enabling network inference methods to handle missing data and outliers. BMC Bioinformatics, 2015, 16, 283.	1.2	19
110	Multi-Criteria Optimization of Regulation in Metabolic Networks. PLoS ONE, 2012, 7, e41122.	1.1	19
111	A generalized Fisher equation and its utility in chemical kinetics. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12777-12781.	3.3	18
112	Parallel Metaheuristics in Computational Biology: An Asynchronous Cooperative Enhanced Scatter Search Method. Procedia Computer Science, 2015, 51, 630-639.	1.2	17
113	Structural Properties of Dynamic Systems Biology Models: Identifiability, Reachability, and Initial Conditions. Processes, 2017, 5, 29.	1.3	17
114	Parameter estimation in models of biological oscillators: an automated regularised estimation approach. BMC Bioinformatics, 2019, 20, 82.	1.2	17
115	Global Optimization of Bioprocesses using Stochastic and Hybrid Methods. Nonconvex Optimization and Its Applications, 2004, , 45-70.	0.1	17
116	Extensions of a Multistart Clustering Algorithm for Constrained Global Optimization Problems. Industrial & Engineering Chemistry Research, 2009, 48, 3014-3023.	1.8	16
117	Optimal control of heat and mass transfer in food and bioproducts processing. Computers and Chemical Engineering, 1994, 18, S699-S705.	2.0	15
118	A complete dynamic model for the thermal processing of bioproducts in batch units and its application to controller design. Chemical Engineering Science, 1997, 52, 1307-1322.	1.9	15
119	Robust feed-back control of distributed chemical reaction systems. Chemical Engineering Science, 2007, 62, 2941-2957.	1.9	15
120	Using optimal control to understand complex metabolic pathways. BMC Bioinformatics, 2020, 21, 472.	1.2	15
121	Exploring multiplicity conditions in enzymatic reaction networks. Biotechnology Progress, 2009, 25, 619-631.	1.3	14
122	Prediction of precooking times for albacore (Thunnus alalunga) by computer simulation. Journal of Food Engineering, 1989, 10, 83-95.	2.7	13
123	Kinetics of thermal degradation of thiamine and surface colour in canned tuna. Zeitschrift Fur Lebensmittel-Untersuchung Und -Forschung, 1993, 197, 127-131.	0.7	13
124	Dynamic optimization of double-sided cooking of meat patties. Journal of Food Engineering, 2003, 58, 173-182.	2.7	13
125	CRNreals: a toolbox for distinguishability and identifiability analysis of biochemical reaction networks. Bioinformatics, 2012, 28, 1549-1550.	1.8	13
126	Optimal programs of pathway control: dissecting the influence of pathway topology and feedback inhibition on pathway regulation. BMC Bioinformatics, 2015, 16, 163.	1.2	13

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127	On the Optimal Control of Contact-Cooking Processes. Food and Bioproducts Processing, 2001, 79, 145-151.	1.8	12
128	Stabilization of inhomogeneous patterns in a diffusionâ€"reaction system under structural and parametric uncertainties. Journal of Theoretical Biology, 2006, 241, 295-306.	0.8	12
129	Reaction network realizations of rational biochemical systems and their structural properties. Journal of Mathematical Chemistry, 2015, 53, 1657-1686.	0.7	12
130	A Comparison of Methods for Quantifying Prediction Uncertainty in Systems Biology. IFAC-PapersOnLine, 2019, 52, 45-51.	0.5	12
131	Dynamics of an Interactive Network Composed of a Bacterial Two-Component System, a Transporter and K+ as Mediator. PLoS ONE, 2014, 9, e89671.	1.1	12
132	A hybrid method for the optimal control of chemical processes. , 1998, , .		11
133	Integrated nonlinear optimization of bioprocesses via linear programming. AICHE Journal, 2003, 49, 3173-3187.	1.8	11
134	Dynamic optimization of distributed biological systems using robust and efficient numerical techniques. BMC Systems Biology, 2012, 6, 79.	3.0	11
135	Using the Cloud for Parameter Estimation Problems: Comparing Spark vs MPI with a Case-Study. , 2017, , .		11
136	Distilling Robust Design Principles of Biocircuits Using Mixed Integer Dynamic Optimization. Processes, 2019, 7, 92.	1.3	11
137	Multi-Objective Optimization of Biological Networks for Prediction of Intracellular Fluxes. Advances in Soft Computing, 2009, , 197-205.	0.4	11
138	Dynamic Optimization of a Simulated Moving Bed (SMB) Chromatographic Separation Process. Industrial & Engineering Chemistry Research, 2006, 45, 9033-9041.	1.8	10
139	Towards cloud-based parallel metaheuristics. International Journal of High Performance Computing Applications, 2018, 32, 693-705.	2.4	10
140	A parallel metaheuristic for large mixed-integer dynamic optimization problems, with applications in computational biology. PLoS ONE, 2017, 12, e0182186.	1.1	10
141	Degradation Kinetics of Protein Digestibility and Available Lysine During Thermal Processing of Tuna. Journal of Food Science, 1992, 57, 913-915.	1.5	9
142	Design of a Class of Stabilizing Nonlinear State Feedback Controllers with Bounded Inputs. Industrial & Engineering Chemistry Research, 1998, 37, 131-144.	1.8	9
143	Sufficiently Exciting Inputs for Structurally Identifiable Systems Biology Models. IFAC-PapersOnLine, 2018, 51, 16-19.	0.5	9
144	Spark implementation of the enhanced Scatter Search metaheuristic: Methodology and assessment. Swarm and Evolutionary Computation, 2020, 59, 100748.	4.5	9

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145	Optimal dynamic heat generation profiles for simultaneous estimation of thermal food properties using a hotwire probe: Computation, implementation and validation. Journal of Food Engineering, 2008, 84, 297-306.	2.7	8
146	Use of a Generalized Fisher Equation for Global Optimization in Chemical Kinetics. Journal of Physical Chemistry A, 2011, 115, 8426-8436.	1.1	8
147	An efficient ant colony optimization framework for HPC environments. Applied Soft Computing Journal, 2022, 114, 108058.	4.1	8
148	Rebuttal to the Comments of Rein Luus on â€œDynamic Optimization of Batch Reactors Using Adaptive Stochastic Algorithmsâ€. Industrial & Engineering Chemistry Research, 1998, 37, 306-307.	1.8	7
149	Dynamic Optimization of Complex Distributed Process Systems. Chemical Engineering Research and Design, 2005, 83, 724-729.	2.7	7
150	Global Sensitivity Analysis of a Biochemical Pathway Model. Advances in Soft Computing, 2009, , 233-242.	0.4	7
151	AutoRepar: A method to obtain identifiable and observable reparameterizations of dynamic models with mechanistic insights. International Journal of Robust and Nonlinear Control, 2023, 33, 5039-5057.	2.1	7
152	Determination of thermal conductivity, specific heat and thermal diffusivity of albacore (Thunnus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.7	6
153	Mixed-integer non-linear optimal control in systems biology and biotechnology: numerical methods and a software toolbox. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 314-319.	0.4	6
154	Exploring Design Principles of Gene Regulatory Networks via Pareto Optimality**We acknowledge funding from the Spanish MINECO (and the European Regional Development Fund) project SYNBIOFACTORY (grant number DPI2014-55276-C5-2-R).. IFAC-PapersOnLine, 2016, 49, 809-814.	0.5	6
155	PREMER: A Tool to Infer Biological Networks. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2018, 15, 1193-1202.	1.9	6
156	Robust Parameter Estimation in a Model for Glucose Kinetics in Type 1 Diabetes Subjects. , 2006, 2006, 319-22.		5
157	COMPUTING ALL SPARSE KINETIC STRUCTURES FOR A LORENZ SYSTEM USING OPTIMIZATION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2013, 23, 1350141.	0.7	5
158	Multiobjective optimization of gene circuits for metabolic engineering. IFAC-PapersOnLine, 2019, 52, 13-16.	0.5	5
159	High-Confidence Predictions in Systems Biology Dynamic Models. Advances in Intelligent Systems and Computing, 2014, , 161-171.	0.5	5
160	Improved Parameter Estimation in Kinetic Models: Selection and Tuning of Regularization Methods. Lecture Notes in Computer Science, 2014, , 45-60.	1.0	5
161	Numerical strategies for optimal experimental design for parameter identification of non-linear dynamic (Bio-)chemical processes. Computer Aided Chemical Engineering, 2000, 8, 37-42.	0.3	4
162	Optimal Sensor Location and Reduced Order Observer Design for Distributed Process Systems. Computer Aided Chemical Engineering, 2002, , 415-420.	0.3	4

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163	A software toolbox for the dynamic optimization of nonlinear processes. Computer Aided Chemical Engineering, 2005, 20, 121-126.	0.3	4
164	Desarrollo De Una Librería De Componentes En Ecosimpro Para La Operación De Plantas De Procesamiento Térmico De Alimentos. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2008, 5, 51-65.	0.6	4
165	Optimization-based prediction of fold bifurcations in nonlinear ODE models. IFAC-PapersOnLine, 2018, 51, 485-490.	0.5	4
166	A Parallel Differential Evolution Algorithm for Parameter Estimation in Dynamic Models of Biological Systems. Advances in Intelligent Systems and Computing, 2014, , 173-181.	0.5	4
167	OPTIMAL CONTROL of the SIMULATED MOVING BED (SMB) CHROMATOGRAPHIC SEPARATION PROCESS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 183-188.	0.4	3
168	AMIGO: A model identification toolbox based on global optimization and its applications in biosystems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 132-137.	0.4	3
169	Multimethod optimization in the cloud: A case‐study in systems biology modelling. Concurrency Computation Practice and Experience, 2018, 30, e4488.	1.4	3
170	Hybrid parallel multimethod hyperheuristic for mixed-integer dynamic optimization problems in computational systems biology. Journal of Supercomputing, 2019, 75, 3471-3498.	2.4	3
171	Global optimization of climate control problems using evolutionary and stochastic algorithms. , 2003, , 331-342.		3
172	Evaluation of Parallel Differential Evolution Implementations on MapReduce and Spark. Lecture Notes in Computer Science, 2017, , 397-408.	1.0	3
173	Computational Procedures for Model Identification. Systems Biology, 2010, , 111-137.	0.1	3
174	Dynamic optimization of chemical and biochemical processes using restricted second order information. Computer Aided Chemical Engineering, 2000, 8, 481-486.	0.3	2
175	Integrated process design and control via global optimization: A wastewater treatment plant case study. , 2001, , .		2
176	ROBUST NONLINEAR CONTROL DESIGN OF DISTRIBUTED PROCESS SYSTEMS WITH INPUT CONSTRAINTS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 477-482.	0.4	2
177	Multi-objective integrated design and control using stochastic global optimization methods. Computer Aided Chemical Engineering, 2004, 17, 555-581.	0.3	2
178	Multi-objective optimization for the design of bio-processes. Computer Aided Chemical Engineering, 2004, , 283-288.	0.3	2
179	On systematic model reduction techniques for dynamic optimization and robust control of distributed process systems. Computer Aided Chemical Engineering, 2004, , 841-846.	0.3	2
180	Optimal tuning of thermodynamic‐based decentralized PI control loops: Application to the Tennessee Eastman Process. AICHE Journal, 2008, 54, 2904-2924.	1.8	2

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181	Methods for checking structural identifiability of nonlinear biosystems: A critical comparison.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10585-10590.	0.4	2
182	PREMER: Parallel Reverse Engineering ofÂBiological Networks with Information Theory. Lecture Notes in Computer Science, 2016, , 323-329.	1.0	2
183	Mixed Integer Multiobjective Optimization Approaches for Systems and Synthetic Biology. IFAC-PapersOnLine, 2018, 51, 58-61.	0.5	2
184	Computational Methods Enabling Next-Generation Bioprocesses. Processes, 2019, 7, 214.	1.3	2
185	A dual-parameter identification approach for data-based predictive modeling of hybrid gene regulatory network-growth kinetics in Pseudomonas putida mt-2. Bioprocess and Biosystems Engineering, 2020, 43, 1671-1688.	1.7	2
186	Editorial: Biological Control Systems and Disease Modeling. Frontiers in Bioengineering and Biotechnology, 2021, 9, 677976.	2.0	2
187	Different Strategies for Controlling Pressure during the Cooling Stage in Batch Retorts. , 1994, , 724-726.		2
188	Optimization Based Design of Synthetic Oscillators from Standard Biological Parts. Lecture Notes in Computer Science, 2014, , 225-238.	1.0	2
189	Synthetic Gene Circuit Analysis and Optimization. Methods in Molecular Biology, 2021, 2189, 89-103.	0.4	2
190	Time-Temperature Effects on Microbial, Chemical and Sensory Changes During Cooling and Aging of Cheddar Cheese. Advances in Experimental Medicine and Biology, 1995, 367, 123-159.	0.8	1
191	Optimal Control of Distributed Processes Using Restricted Second Order Information. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 881-886.	0.4	1
192	An efficient real-time dynamic optimization architecture for the control of non-isothermal tubular reactors. Computer Aided Chemical Engineering, 2005, , 1333-1338.	0.3	1
193	A FORMAL FRAMEWORK FOR MULTIPLICITY DETECTION AND ITS IMPLICATIONS IN ROBUST CONTROL OF BIOCHEMICAL NETWORKS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 739-744.	0.4	1
194	NBI-RPRGM for Multi-objective Optimization Design of Bio-Processes. ESAIM: Proceedings and Surveys, 2007, 20, 118-128.	0.4	1
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