

# Jean-Luc GouzÃ©

## List of Publications by Year in descending order

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115  
papers

2,848  
citations

331670

21  
h-index

182427

51  
g-index

122  
all docs

122  
docs citations

122  
times ranked

1330  
citing authors

#	ARTICLE	IF	CITATIONS
1	Interval observers for uncertain biological systems. <i>Ecological Modelling</i> , 2000, 133, 45-56.	2.5	556
2	Qualitative simulation of genetic regulatory networks using piecewise-linear models. <i>Bulletin of Mathematical Biology</i> , 2004, 66, 301-340.	1.9	309
3	Positive and Negative Circuits in Dynamical Systems. <i>Journal of Biological Systems</i> , 1998, 06, 11-15.	1.4	209
4	Near optimal interval observers bundle for uncertain bioreactors. <i>Automatica</i> , 2009, 45, 291-295.	5.0	184
5	Closed loop observers bundle for uncertain biotechnological models. <i>Journal of Process Control</i> , 2004, 14, 765-774.	3.3	178
6	Piecewise-linear Models of Genetic Regulatory Networks: Equilibria and their Stability. <i>Journal of Mathematical Biology</i> , 2006, 52, 27-56.	1.9	157
7	A class of piecewise linear differential equations arising in biological models. <i>Dynamical Systems</i> , 2002, 17, 299-316.	0.4	143
8	Dynamical Allocation of Cellular Resources as an Optimal Control Problem: Novel Insights into Microbial Growth Strategies. <i>PLoS Computational Biology</i> , 2016, 12, e1004802.	3.2	84
9	Estimation of uncertain models of activated sludge processes with interval observers. <i>Journal of Process Control</i> , 2001, 11, 299-310.	3.3	68
10	Parallelotopic and practical observers for non-linear uncertain systems. <i>International Journal of Control</i> , 2003, 76, 237-251.	1.9	68
11	Transient behavior of biological loop models with application to the Droop model. <i>Mathematical Biosciences</i> , 1995, 127, 19-43.	1.9	54
12	Selective stabilization of muscle innervation during development: A mathematical model. <i>Biological Cybernetics</i> , 1983, 46, 207-215.	1.3	48
13	Mathematical modelling of microbes: metabolism, gene expression and growth. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170502.	3.4	46
14	Feedback control for nonmonotone competition models in the chemostat. <i>Nonlinear Analysis: Real World Applications</i> , 2005, 6, 671-690.	1.7	39
15	Non-linear qualitative signal processing for biological systems: application to the algal growth in bioreactors. <i>Mathematical Biosciences</i> , 1999, 157, 357-372.	1.9	35
16	Exact control of genetic networks in a qualitative framework: The bistable switch example. <i>Automatica</i> , 2011, 47, 1105-1112.	5.0	35
17	Global qualitative description of a class of nonlinear dynamical systems. <i>Artificial Intelligence</i> , 2002, 136, 29-59.	5.8	34
18	A Theoretical Exploration of Birhythmicity in the p53-Mdm2 Network. <i>PLoS ONE</i> , 2011, 6, e17075.	2.5	34

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19	Robust control for an uncertain chemostat model. <i>International Journal of Robust and Nonlinear Control</i> , 2006, 16, 133-155.	3.7	32
20	Periodic Solutions of Piecewise Affine Gene Network Models with Non Uniform Decay Rates: The Case of a Negative Feedback Loop. <i>Acta Biotheoretica</i> , 2009, 57, 429-455.	1.5	28
21	Modeling and Analysis of Gene Regulatory Networks. , 2013, , 47-80.		24
22	Comparing Boolean and Piecewise Affine Differential Models for Genetic Networks. <i>Acta Biotheoretica</i> , 2010, 58, 217-232.	1.5	23
23	On the stockâ€œrecruitment relationships in fish population models. <i>Environmental Modeling and Assessment</i> , 1998, 3, 87-93.	2.2	20
24	Near optimal interval observers bundle for uncertain bioreactors. , 2007, , .		20
25	Optimal control of bacterial growth for the maximization of metabolite production. <i>Journal of Mathematical Biology</i> , 2019, 78, 985-1032.	1.9	20
26	Enhanced production of heterologous proteins by a synthetic microbial community: Conditions and trade-offs. <i>PLoS Computational Biology</i> , 2020, 16, e1007795.	3.2	20
27	Modelling the reproduction of <i>Centropages typicus</i> (Copepoda: Calanoida) in a fluctuating food supply: effect of adaptation. <i>Journal of Plankton Research</i> , 1990, 12, 549-572.	1.8	19
28	A mathematical framework for the control of piecewise-affine models of gene networks. <i>Automatica</i> , 2008, 44, 2326-2332.	5.0	19
29	Global stability for a model of competition in the chemostat with microbial inputs. <i>Nonlinear Analysis: Real World Applications</i> , 2012, 13, 582-598.	1.7	19
30	Limit cycles in piecewise-affine gene network models with multiple interaction loops. <i>International Journal of Systems Science</i> , 2010, 41, 119-130.	5.5	18
31	Piecewise-Linear Models of Genetic Regulatory Networks: Theory and Example. <i>Lecture Notes in Control and Information Sciences</i> , 2007, , 137-159.	1.0	15
32	Optimal proteome allocation and the temperature dependence of microbial growth laws. <i>Npj Systems Biology and Applications</i> , 2021, 7, 14.	3.0	14
33	Effect of activity on the selective stabilization of the motor innervation of fast muscle posterior latissimus dorsi from chick embryo. <i>International Journal of Developmental Neuroscience</i> , 1986, 4, 415-429.	1.6	13
34	A discrete, size-structured model of phytoplankton growth in the chemostat. <i>Journal of Mathematical Biology</i> , 2002, 45, 313-336.	1.9	13
35	A Simple Unforced Oscillatory Growth Model in the Chemostat. <i>Bulletin of Mathematical Biology</i> , 2008, 70, 344-357.	1.9	13
36	Dynamical study and robustness for a nonlinear wastewater treatment model. <i>Nonlinear Analysis: Real World Applications</i> , 2011, 12, 487-500.	1.7	13

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37	Global behavior of n-dimensional lotka-volterra systems. <i>Mathematical Biosciences</i> , 1993, 113, 231-243.	1.9	12
38	Optimal feedback strategies for bacterial growth with degradation, recycling, and effect of temperature. <i>Optimal Control Applications and Methods</i> , 2018, 39, 1084-1109.	2.1	12
39	A tunable multivariable nonlinear robust observer for biological systems. <i>Comptes Rendus - Biologies</i> , 2005, 328, 317-325.	0.2	11
40	Hybrid Control of a Bioreactor With Quantized Measurements. <i>IEEE Transactions on Automatic Control</i> , 2016, 61, 1385-1390.	5.7	11
41	A biochemically based structured model for phytoplankton growth in the chemostat. <i>Ecological Complexity</i> , 2005, 2, 21-33.	2.9	9
42	Optimal bacterial resource allocation: metabolite production in continuous bioreactors. <i>Mathematical Biosciences and Engineering</i> , 2020, 17, 7074-7100.	1.9	8
43	A Stability Result for Periodic Solutions of Nonmonotonic Smooth Negative Feedback Systems. <i>SIAM Journal on Applied Dynamical Systems</i> , 2018, 17, 1091-1116.	1.6	7
44	Analysis of a genetic-metabolic oscillator with piecewise linear models. <i>Journal of Theoretical Biology</i> , 2019, 462, 259-269.	1.7	7
45	A Bounded Error Observer for a Class of Bioreactor Models. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2001, 34, 1-6.	0.4	6
46	Global Stability of Enzymatic Chains of Full Reversible Michaelis-Menten Reactions. <i>Acta Biotheoretica</i> , 2013, 61, 425-436.	1.5	6
47	Positive control for global stabilization of predator-prey systems. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2013, 46, 265-270.	0.4	6
48	Periodic Oscillations for Nonmonotonic Smooth Negative Feedback Circuits. <i>SIAM Journal on Applied Dynamical Systems</i> , 2016, 15, 257-286.	1.6	6
49	A new qualitative control strategy for the genetic Toggle Switch. <i>IFAC-PapersOnLine</i> , 2019, 52, 532-537.	0.9	6
50	Singular regimes for the maximization of metabolite production. , 2019, , .		6
51	Global Stability of Full Open Reversible Michaelis-Menten Reactions. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012, 45, 591-596.	0.4	5
52	Optimizing bacterial resource allocation: metabolite production in continuous bioreactors. <i>IFAC-PapersOnLine</i> , 2020, 53, 16753-16758.	0.9	5
53	TRANSIENT BEHAVIOR OF BIOLOGICAL MODELS AS A TOOL OF QUALITATIVE VALIDATIONâ€™ APPLICATION TO THE DROOP MODEL AND TO A N-P-Z MODEL. <i>Journal of Biological Systems</i> , 1996, 04, 303-314.	1.4	4
54	Stability analysis and reduction of gene transcription models. , 2013, , .		4

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55	Dynamical reduction of linearized metabolic networks through quasi steady state approximation. <i>AIChE Journal</i> , 2019, 65, 18-31.	3.6	4
56	Modeling the bioconversion of polysaccharides in a continuous reactor: A case study of the production of oligogalacturonates by <i>Dickeya dadantii</i> . <i>Journal of Biological Chemistry</i> , 2019, 294, 1753-1762.	3.4	4
57	A Simple Model to Control Growth Rate of Synthetic <i>E. coli</i> during the Exponential Phase: Model Analysis and Parameter Estimation. <i>Lecture Notes in Computer Science</i> , 2012, , 107-126.	1.3	4
58	Hierarchical analysis of piecewise affine models of gene regulatory networks. <i>Theory in Biosciences</i> , 2008, 127, 125-134.	1.4	3
59	Global Stability of Reversible Enzymatic Metabolic Chains. <i>Acta Biotheoretica</i> , 2013, 61, 41-57.	1.5	3
60	Analysis and reduction of transcription translation coupled models for gene expression. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2013, 46, 36-41.	0.4	3
61	Reduction and Stability Analysis of a Transcription-Translation Model of RNA Polymerase. <i>Bulletin of Mathematical Biology</i> , 2018, 80, 294-318.	1.9	3
62	Analytical Reduction of Nonlinear Metabolic Networks Accounting for Dynamics in Enzymatic Reactions. <i>Complexity</i> , 2018, 2018, 1-22.	1.6	3
63	Qualitative control of undesired oscillations in a genetic negative feedback loop with uncertain measurements. <i>Automatica</i> , 2020, 112, 108642.	5.0	3
64	Global dynamics of the chemostat with overflow metabolism. <i>Journal of Mathematical Biology</i> , 2021, 82, 13.	1.9	3
65	Dynamical Analysis and Optimization of a Generalized Resource Allocation Model of Microbial Growth. <i>SIAM Journal on Applied Dynamical Systems</i> , 2022, 21, 137-165.	1.6	3
66	Turnpike Property in Optimal Microbial Metabolite Production. <i>Journal of Optimization Theory and Applications</i> , 2022, 194, 375-407.	1.5	3
67	POSITIVITY, SPACE SCALE AND CONVERGENCE TOWARDS THE EQUILIBRIUM. <i>Journal of Biological Systems</i> , 1995, 03, 613-620.	1.4	2
68	A size-structured, non-conservative ODE model of the chemostat. <i>Mathematical Biosciences</i> , 2002, 177-178, 127-145.	1.9	2
69	A SIMPLE IMPROVEMENT OF INTERVAL ASYMPTOTIC OBSERVERS FOR BIOTECHNOLOGICAL PROCESSES. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2006, 39, 119-124.	0.4	2
70	Constrained Hybrid Neural Modelling of Biotechnological Processes. <i>International Journal of Chemical Reactor Engineering</i> , 2010, 8, .	1.1	2
71	Probabilistic Approach for Predicting Periodic Orbits in Piecewise Affine Differential Models. <i>Bulletin of Mathematical Biology</i> , 2013, 75, 967-987.	1.9	2
72	Stabilizing Effect of Cannibalism in a Two Stages Population Model. <i>Acta Biotheoretica</i> , 2013, 61, 119-139.	1.5	2

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73	A class of Switched Piecewise Quadratic Systems for coupling gene expression with growth rate in bacteria. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 271-276.	0.4	2
74	Stability analysis of a reduced transcription-translation model of RNA polymerase. , 2014, , .		2
75	Mathematical study of the global dynamics of a concave gene expression model. , 2014, , .		2
76	Continuous-switch piecewise quadratic models of biological networks: Application to bacterial growth. Automatica, 2015, 61, 164-172.	5.0	2
77	Optimal resource allocation for bacterial growth with degradation * *This work was supported in part by the project RESET (Bioin-formatique, ANR-11-BINF-0005) and program LABEX SIGNALIFE (ANR-11-LABX-0028-01).. IFAC-PapersOnLine, 2017, 50, 9858-9863.	0.9	2
78	Principal process analysis of biological models. BMC Systems Biology, 2018, 12, 68.	3.0	2
79	Robust Control of a Competitive Environment in the Chemostat using Discontinuous Control Laws. , 2019, , .		2
80	Observer-Based Robust Control of a Continuous Bioreactor with Heterogeneous Community. IFAC-PapersOnLine, 2020, 53, 11800-11805.	0.9	2
81	Control of negative feedback loops in genetic networks. , 2020, , .		2
82	Optimal control of a fed-batch reactor with overflow metabolism. IFAC-PapersOnLine, 2020, 53, 16820-16825.	0.9	2
83	Hierarchical MPC applied to bacterial resource allocation and metabolite synthesis. , 2021, , .		2
84	INTERVAL OBSERVERS WITH GUARANTEED CONFIDENCE LEVELS APPLICATION TO THE ACTIVATED SLUDGE PROCESS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 413-418.	0.4	1
85	Global stabilization of a class of partially known nonnegative systems. Automatica, 2008, 44, 2128-2134.	5.0	1
86	An Algorithmic Approach to Orders of Magnitude in a Biochemical System. Lecture Notes in Control and Information Sciences, 2009, , 233-241.	1.0	1
87	Qualitative control of periodic solutions in piecewise affine models of genetic networks. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 326-331.	0.4	1
88	An observer for a piecewise affine genetic network model with Boolean observations. , 2011, , .		1
89	Structure estimation for unate Boolean models of gene regulation networks. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 1725-1730.	0.4	1
90	Model reduction and process analysis of biological models. , 2015, , .		1

#	ARTICLE	IF	CITATIONS
91	2D piecewise affine models approximate real continuous dynamics up to invariant sets**This work was supported in part by the projects GeMCo (ANR 2010 BLANC020101), RESET (Bioinformatique,) Tj ETQq1 1 0.784314.rgBT /Overlock 10 1060-1065.	0.9	1
92	Optimization and control of bioâ€ conversion of polymeric substrate in the chemostat. AIChE Journal, 2017, 63, 4738-4747.	3.6	1
93	Principal Process Analysis and reduction of biological models with order of magnitude. IFAC-PapersOnLine, 2017, 50, 12661-12666.	0.9	1
94	On Adaptive Estimation of Bacterial Growth in the Competitive Chemostat. IFAC-PapersOnLine, 2019, 52, 262-267.	0.9	1
95	Robust adaptive estimation in the competitive chemostat. Computers and Chemical Engineering, 2020, 142, 107030.	3.8	1
96	Robust stabilization of competing species in the chemostat. Journal of Process Control, 2020, 87, 138-146.	3.3	1
97	Reducing a model of sugar metabolism in peach to catch different patterns among genotypes. Mathematical Biosciences, 2020, 321, 108321.	1.9	1
98	Piecewise Affine Models of Regulatory Genetic Networks: Review and Probabilistic Interpretation. Lecture Notes in Control and Information Sciences, 2010, , 241-253.	1.0	1
99	State observation in microbial consortia: A case study on a synthetic producerâ€ cleaner consortium. International Journal of Robust and Nonlinear Control, 2023, 33, 5011-5022.	3.7	1
100	Qualitative Dynamics of a Class of Nonlinear Biological Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1998, 31, 763-768.	0.4	0
101	Interval Observers Bundle for a Class of Bioprocess Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 277-282.	0.4	0
102	Closed Loop Multi-Observers for Uncertain Biotechnological Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 13-18.	0.4	0
103	REGULATION OF A FISHERY: FROM A LOCAL OPTIMAL CONTROL PROBLEM TO AN â€ INVARIANT DOMAINâ€ APPROACH. Natural Resource Modelling, 2001, 14, 311-333.	2.0	0
104	Qualitative Control of Genetic Networks: the Bistable Switch Example. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 338-343.	0.4	0
105	Stabilization of an oscillating n-dimensional structured population model. , 2012, , .		0
106	Robust estimation for hybrid models of genetic networks. , 2012, , .		0
107	Links between topology of the transition graph and limit cycles in a two-dimensional piecewise affine biological model. Journal of Mathematical Biology, 2014, 69, 1461-1495.	1.9	0
108	Global asymptotic stability of a genetic negative feedback loop with an affine control. , 2019, , .		0

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109	Global stabilization of a genetic positive feedback loop via the design of a synthetic auto-repression. IFAC-PapersOnLine, 2019, 52, 143-148.	0.9	0
110	Analyse qualitative de la dynamique de réseaux de régulation génétique par des modèles linéaires par morceaux. Techniques Et Sciences Informatiques, 2007, 26, 11-45.	0.0	0
111	Control of a Bioreactor with Quantized Measurements. Lecture Notes in Computer Science, 2014, , 47-62.	1.3	0
112	Stability of a class of nonlinear stirred tank reactor. , 1997, , .		0
113	Control strategies for sustained oscillations in a disrupted biological clock. IFAC-PapersOnLine, 2020, 53, 16733-16738.	0.9	0
114	Control for synchronization of bistable piecewise affine genetic regulatory networks. IFAC-PapersOnLine, 2021, 54, 77-80.	0.9	0
115	Weak synchronization and convergence in coupled genetic regulatory networks: Applications to damped oscillators and multistable circuits. International Journal of Robust and Nonlinear Control, 2023, 33, 4867-4892.	3.7	0