Diego A OyarzÃºn

List of Publications by Year
in descending order

55 papers	1,723 citations	471509 17 h-index	315739 38 g-index
68 all docs	68 docs citations	68 times ranked	1682 citing authors

#	Article	IF	Citations
1	Mechanistic links between cellular trade-offs, gene expression, and growth. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E1038-47.	7.1	342
2	Cascaded Multilevel Inverter With Regeneration Capability and Reduced Number of Switches. IEEE Transactions on Industrial Electronics, 2008, 55, 1059-1066.	7.9	197
3	Fundamental Design Principles for Transcription-Factor-Based Metabolite Biosensors. ACS Synthetic Biology, 2017, 6, 1851-1859.	3.8	152
4	Pathways to cellular supremacy in biocomputing. Nature Communications, 2019, 10, 5250.	12.8	88
5	Dynamic metabolic control: towards precision engineering of metabolism. Journal of Industrial Microbiology and Biotechnology, 2018, 45, 535-543.	3.0	86
6	The power of synthetic biology for bioproduction, remediation and pollution control. EMBO Reports, 2018, 19, .	4.5	83
7	Noise Propagation in Synthetic Gene Circuits for Metabolic Control. ACS Synthetic Biology, 2015, 4, 116-125.	3.8	76
8	Dynamic optimization of metabolic networks coupled with gene expression. Journal of Theoretical Biology, 2015, 365, 469-485.	1.7	76
9	Synthetic gene circuits for metabolic control: design trade-offs and constraints. Journal of the Royal Society Interface, 2013, 10, 20120671.	3.4	70
10	Growth Defects and Loss-of-Function in Synthetic Gene Circuits. ACS Synthetic Biology, 2019, 8, 1231-1240.	3.8	53
11	Stochastic modelling reveals mechanisms of metabolic heterogeneity. Communications Biology, 2019, 2, 108.	4.4	44
12	Sequential Activation of Metabolic Pathways: a Dynamic Optimization Approach. Bulletin of Mathematical Biology, 2009, 71, 1851-1872.	1.9	37
13	A Stochastic Model of Gene Expression with Polymerase Recruitment and Pause Release. Biophysical Journal, 2020, 119, 1002-1014.	0.5	35
14	Multistability and oscillations in genetic control of metabolism. Journal of Theoretical Biology, 2012, 295, 139-153.	1.7	34
15	Shaping pulses to control bistable systems: Analysis, computation and counterexamples. Automatica, 2016, 63, 254-264.	5.0	30
16	Flux-dependent graphs for metabolic networks. Npj Systems Biology and Applications, 2018, 4, 32.	3.0	29
17	Design of a bistable switch to control cellular uptake. Journal of the Royal Society Interface, 2015, 12, 20150618.	3.4	25
18	Dynamics of complex feedback architectures in metabolic pathways. Automatica, 2019, 99, 323-332.	5.0	20

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19	Systems level profiling of chemotherapy-induced stress resolution in cancer cells reveals druggable trade-offs. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	18
20	Opportunities at the Interface of Network Science and Metabolic Modeling. Frontiers in Bioengineering and Biotechnology, 2020, 8, 591049.	4.1	15
21	Novel cell based on reduced single-phase active front end for multicell converters. , 2005, , .		14
22	Microbial polysaccharides: An emerging family of natural biomaterials for cancer therapy and diagnostics. Seminars in Cancer Biology, 2022, 86, 706-731.	9.6	14
23	Optimal control of metabolic networks with saturable enzyme kinetics. IET Systems Biology, 2011, 5, 110-119.	1.5	13
24	Computation of Single-Cell Metabolite Distributions Using Mixture Models. Frontiers in Cell and Developmental Biology, 2020, 8, 614832.	3.7	13
25	Metabolite Sequestration Enables Rapid Recovery from Fatty Acid Depletion in Escherichia coli. MBio, 2020, 11, .	4.1	13
26	Trade-Offs in Biosensor Optimization for Dynamic Pathway Engineering. ACS Synthetic Biology, 2022, 11, 228-240.	3.8	13
27	Predicting the F(ab)-mediated effect of monoclonal antibodies in vivo by combining cell-level kinetic and pharmacokinetic modelling. Journal of Pharmacokinetics and Pharmacodynamics, 2012, 39, 125-139.	1.8	11
28	On structurally constrained â„‹2 performance bounds for stable MIMO plant models. IET Control Theory and Applications, 2007, 1, 1033-1045.	2.1	10
29	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi mathvariant="script">H</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math> optimal ripple-free deadbeat controller design. Automatica, 2007, 43, 1961-1967.	5.0	10
30	Spatial Quantification of Cytosolic Ca<inline-formula><tex-math>$^{2+}$</tex-math></inline-formula> Accumulation in Nonexcitable Cells:An Analytical Study. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2014, 11, 592-603.	3.0	9
31	Are We There Yet? How and When Specific Biotechnologies Will Improve Human Health. Biotechnology Journal, 2019, 14, e1800195.	3.5	7
32	Analysis of a genetic-metabolic oscillator with piecewise linear models. Journal of Theoretical Biology, 2019, 462, 259-269.	1.7	7
33	Stabilization of antithetic control via molecular buffering. Journal of the Royal Society Interface, 2022, 19, 20210762.	3.4	7
34	Double objective optimal multivariable ripple-free deadbeat control. International Journal of Control, 2007, 80, 763-773.	1.9	6
35	Prediction of Cellular Burden with Hostâ€“Circuit Models. Methods in Molecular Biology, 2021, 2229, 267-291.	0.9	6
36	Model Reduction of Genetic-Metabolic Networks via Time Scale Separation. , 2014, , 181-210.		5

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37	The EGFR demonstrates linear signal transmission. Integrative Biology (United Kingdom), 2014, 6, 736-742.	1.3	5
38	Host-circuit interactions explain unexpected behavior of a gene circuit.. IFAC-PapersOnLine, 2018, 51, 86-89.	0.9	5
39	Multiobjective optimization of gene circuits for metabolic engineering. IFAC-PapersOnLine, 2019, 52, 13-16.	0.9	5
40	Shaping pulses to control bistable biological systems. , 2015, , .		4
41	Global Gene Regulation in Metabolic Networks. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 14838-14843.	0.4	3
42	Analytic computation of the integrated response in nonlinear reaction-diffusion systems. , 2012, , .		3
43	Design tradeoffs in a synthetic gene control circuit for metabolic networks. , 2012, , .		3
44	Riboswitch identification using Ligase-Assisted Selection for the Enrichment of Responsive Ribozymes (LigASERR). Synthetic Biology, 2019, 4, ysz019.	2.2	3
45	MIMO INTERACTIONS IN SAMPLED DATA SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 119-124.	0.4	2
46	Stochastic simulation of enzymatic reactions under transcriptional feedback regulation. , 2013, , .		2
47	Optimal adaptation of metabolic networks in dynamic equilibrium. , 2011, , .		1
48	Cumulative Signal Transmission in Nonlinear Reaction-Diffusion Networks. PLoS ONE, 2013, 8, e62834.	2.5	1
49	Optimal triangular approximation for linear stable multivariable systems. Proceedings of the American Control Conference, 2007, , .	0.0	0
50	Optimal Metabolic Pathway Activation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 12587-12592.	0.4	0
51	Design constraints in an operon circuit for engineered control of metabolic networks. , 2012, , .		0
52	Signaling Tug-of-War Delivers the Whole Message. Cell Systems, 2016, 3, 414-416.	6.2	0
53	Effect of downstream feedback on the achievable performance of feedback control loops for serial processes. , 2007, , .		0
54	An analytic characterization of a stabilizing feedback for LTI plants. , 2009, , .		0

#	Article	IF	Citations
55	Integrated Systems Level Examination of Proteasome Inhibitor Stress Recovery in Myeloma Cells Reveals Druggable Vulnerabilities Linked to Multiple Metabolic Processes. Blood, 2019, 134, 1818-1818.	1.4	0