Michael B Elowitz

List of Publications by Year
in descending order

66 papers	23,662 citations	47004 47 h-index	102480 66 g-index
86 all docs	86 docs citations	86 times ranked	18184 citing authors

#	Article	IF	Citations
1	Stochastic Gene Expression in a Single Cell. Science, 2002, 297, 1183-1186.	12.6	4,817
2	A synthetic oscillatory network of transcriptional regulators. Nature, 2000, 403, 335-338.	27.8	4,143
3	Intrinsic and extrinsic contributions to stochasticity in gene expression. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12795-12800.	7.1	1,444
4	Functional roles for noise in genetic circuits. Nature, 2010, 467, 167-173.	27.8	1,320
5	Gene Regulation at the Single-Cell Level. Science, 2005, 307, 1962-1965.	12.6	973
6	Dynamics of the p53-Mdm2 feedback loop in individual cells. Nature Genetics, 2004, 36, 147-150.	21.4	900
7	An excitable gene regulatory circuit induces transient cellular differentiation. Nature, 2006, 440, 545-550.	27.8	740
8	Negative Autoregulation Speeds the Response Times of Transcription Networks. Journal of Molecular Biology, 2002, 323, 785-793.	4.2	672
9	Cis-interactions between Notch and Delta generate mutually exclusive signalling states. Nature, 2010, 465, 86-90.	27.8	559
10	Tunability and Noise Dependence in Differentiation Dynamics. Science, 2007, 315, 1716-1719.	12.6	448
11	Frequency-modulated nuclear localization bursts coordinate gene regulation. Nature, 2008, 455, 485-490.	27.8	445
12	Dynamics of epigenetic regulation at the single-cell level. Science, 2016, 351, 720-724.	12.6	369
13	Functional Roles of Pulsing in Genetic Circuits. Science, 2013, 342, 1193-1200.	12.6	351
14	Synthetic recording and in situ readout of lineage information in single cells. Nature, 2017, 541, 107-111.	27.8	348
15	Reconstruction of genetic circuits. Nature, 2005, 438, 443-448.	27.8	327
16	Measuring single-cell gene expression dynamics in bacteria using fluorescence time-lapse microscopy. Nature Protocols, 2012, 7, 80-88.	12.0	312
17	Programming gene expression with combinatorial promoters. Molecular Systems Biology, 2007, 3, 145.	7.2	305
18	Synthetic Biology: Integrated Gene Circuits. Science, 2011, 333, 1244-1248.	12.6	299

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19	Dynamic Heterogeneity and DNA Methylation in Embryonic Stem Cells. Molecular Cell, 2014, 55, 319-331.	9.7	271
20	Challenges and emerging directions in single-cell analysis. Genome Biology, 2017, 18, 84.	8.8	258
21	Dynamic Ligand Discrimination in the Notch Signaling Pathway. Cell, 2018, 172, 869-880.e19.	28.9	246
22	Architecture-Dependent Noise Discriminates Functionally Analogous Differentiation Circuits. Cell, 2009, 139, 512-522.	28.9	242
23	Programmable protein circuits in living cells. Science, 2018, 361, 1252-1258.	12.6	242
24	Positive Feedback Between PU.1 and the Cell Cycle Controls Myeloid Differentiation. Science, 2013, 341, 670-673.	12.6	238
25	Using movies to analyse gene circuit dynamics in single cells. Nature Reviews Microbiology, 2009, 7, 383-392.	28.6	220
26	Regulatory activity revealed by dynamic correlations in gene expression noise. Nature Genetics, 2008, 40, 1493-1498.	21.4	210
27	Combinatorial Signal Perception in the BMP Pathway. Cell, 2017, 170, 1184-1196.e24.	28.9	200
28	Build life to understand it. Nature, 2010, 468, 889-890.	27.8	196
29	Realizing the potential of synthetic biology. Nature Reviews Molecular Cell Biology, 2014, 15, 289-294.	37.0	196
30	Stochastic Pulse Regulation in Bacterial Stress Response. Science, 2011, 334, 366-369.	12.6	188
31	Single-Cell Transcriptome Analysis Reveals Dynamic Changes in lncRNA Expression during Reprogramming. Cell Stem Cell, 2015, 16, 88-101.	11.1	146
32	Mutual Inactivation of Notch Receptors and Ligands Facilitates Developmental Patterning. PLoS Computational Biology, 2011, 7, e1002069.	3.2	134
33	Partial penetrance facilitates developmental evolution in bacteria. Nature, 2009, 460, 510-514.	27.8	125
34	Asynchronous combinatorial action of four regulatory factors activates Bcl11b for T cell commitment. Nature Immunology, 2016, 17, 956-965.	14.5	119
35	Combinatorial gene regulation by modulation of relative pulse timing. Nature, 2015, 527, 54-58.	27.8	117
36	Rate of environmental change determines stress response specificity. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 4140-4145.	7.1	114

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37	Fringe proteins modulate Notch-ligand cis and trans interactions to specify signaling states. ELife, 2014, 3, e02950.	6.0	105
38	Morphogen gradient reconstitution reveals Hedgehog pathway design principles. Science, 2018, 360, 543-548.	12.6	103
39	Pulsed Feedback Defers Cellular Differentiation. PLoS Biology, 2012, 10, e1001252.	5.6	92
40	Metabolic interactions between dynamic bacterial subpopulations. ELife, 2018, 7, .	6.0	82
41	Inferring Cell-State Transition Dynamics from Lineage Trees and Endpoint Single-Cell Measurements. Cell Systems, 2016, 3, 419-433.e8.	6.2	79
42	Imaging cell lineage with a synthetic digital recording system. Science, 2021, 372, .	12.6	78
43	Pulsatile Dynamics in the Yeast Proteome. Current Biology, 2014, 24, 2189-2194.	3.9	73
44	A stochastic epigenetic switch controls the dynamics of T-cell lineage commitment. ELife, 2018, 7, .	6.0	70
45	Cis-activation in the Notch signaling pathway. ELife, 2019, 8, .	6.0	69
46	A synthetic three-color scaffold for monitoring genetic regulation and noise. Journal of Biological Engineering, 2010, 4, 10.	4.7	67
47	Communication codes in developmental signaling pathways. Development (Cambridge), 2019, 146, .	2.5	64
48	An operational view of intercellular signaling pathways. Current Opinion in Systems Biology, 2017, 1, 16-24.	2.6	52
49	In situ readout of DNA barcodes and single base edits facilitated by in vitro transcription. Nature Biotechnology, 2020, 38, 66-75.	17.5	52
50	Synthetic multistability in mammalian cells. Science, 2022, 375, eabg9765.	12.6	51
51	Programmable protein circuit design. Cell, 2021, 184, 2284-2301.	28.9	50
52	Constitutive splicing and economies of scale in gene expression. Nature Structural and Molecular Biology, 2019, 26, 424-432.	8.2	41
53	The context-dependent, combinatorial logic of BMP signaling. Cell Systems, 2022, 13, 388-407.e10.	6.2	38
54	Benchmarked approaches for reconstruction of inÂvitro cell lineages and in silico models of C. elegans and M. musculus developmental trees. Cell Systems, 2021, 12, 810-826.e4.	6.2	36

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55	Ligand-receptor promiscuity enables cellular addressing. Cell Systems, 2022, 13, 408-425.e12.	6.2	34
56	Molecular Time Sharing through Dynamic Pulsing in Single Cells. Cell Systems, 2018, 6, 216-229.e15.	6.2	29
57	Synthetic mammalian signaling circuits for robust cell population control. Cell, 2022, 185, 967-979.e12.	28.9	23
58	Dynamical Consequences of Bandpass Feedback Loops in a Bacterial Phosphorelay. PLoS ONE, 2011, 6, e25102.	2.5	19
59	Protease-controlled secretion and display of intercellular signals. Nature Communications, 2022, 13, 912.	12.8	14
60	Polyphasic feedback enables tunable cellular timers. Current Biology, 2014, 24, R994-R995.	3.9	13
61	Self-Amplifying Pulsatile Protein Dynamics without Positive Feedback. Cell Systems, 2018, 7, 453-462.e1.	6.2	13
62	Precision timing in a cell. Nature, 2016, 538, 462-463.	27.8	10
63	Dynamics and functional roles of splicing factor autoregulation. Cell Reports, 2022, 39, 110985.	6.4	9
64	Advancing towards a global mammalian gene regulation model through single-cell analysis and synthetic biology. Current Opinion in Biomedical Engineering, 2017, 4, 174-193.	3.4	7
65	Central Dogma Goes Digital. Molecular Cell, 2016, 61, 791-792.	9.7	6
66	Single cell biologyâ€"a Keystone Symposia report. Annals of the New York Academy of Sciences, 2021, 1506, 74-97.	3.8	3