

Ron Milo

List of Publications by Year in descending order

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Version: 2024-02-01

116
papers

22,808
citations

26630

56
h-index

24982

109
g-index

126
all docs

126
docs citations

126
times ranked

30024
citing authors

#	ARTICLE	IF	CITATIONS
1	Network motifs in the transcriptional regulation network of Escherichia coli. Nature Genetics, 2002, 31, 64-68.	21.4	2,603
2	The biomass distribution on Earth. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 6506-6511.	7.1	2,102
3	Are We Really Vastly Outnumbered? Revisiting the Ratio of Bacterial to Host Cells in Humans. Cell, 2016, 164, 337-340.	28.9	1,463
4	Superfamilies of Evolved and Designed Networks. Science, 2004, 303, 1538-1542.	12.6	1,182
5	BioNumbers—the database of key numbers in molecular and cell biology. Nucleic Acids Research, 2010, 38, D750-D753.	14.5	859
6	SARS-CoV-2 (COVID-19) by the numbers. ELife, 2020, 9, .	6.0	826
7	The Moderately Efficient Enzyme: Evolutionary and Physicochemical Trends Shaping Enzyme Parameters. Biochemistry, 2011, 50, 4402-4410.	2.5	810
8	Oscillations and variability in the p53 system. Molecular Systems Biology, 2006, 2, 2006.0033.	7.2	539
9	Variability and memory of protein levels in human cells. Nature, 2006, 444, 643-646.	27.8	526
10	Multiple sclerosis: Geoeidemiology, genetics and the environment. Autoimmunity Reviews, 2010, 9, A387-A394.	5.8	521
11	Cell-to-cell spread of HIV permits ongoing replication despite antiretroviral therapy. Nature, 2011, 477, 95-98.	27.8	502
12	eQuilibrator—the biochemical thermodynamics calculator. Nucleic Acids Research, 2012, 40, D770-D775.	14.5	483
13	Network motifs in integrated cellular networks of transcription-regulation and protein-protein interaction. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 5934-5939.	7.1	479
14	What is the total number of protein molecules per cell volume? A call to rethink some published values. BioEssays, 2013, 35, 1050-1055.	2.5	477
15	Glycolytic strategy as a tradeoff between energy yield and protein cost. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10039-10044.	7.1	446
16	A paxillin tyrosine phosphorylation switch regulates the assembly and form of cell-matrix adhesions. Journal of Cell Science, 2007, 120, 137-148.	2.0	402
17	Design and analysis of synthetic carbon fixation pathways. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 8889-8894.	7.1	402
18	Land, irrigation water, greenhouse gas, and reactive nitrogen burdens of meat, eggs, and dairy production in the United States. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11996-12001.	7.1	375

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19	Global human-made mass exceeds all living biomass. <i>Nature</i> , 2020, 588, 442-444.	27.8	344
20	Visual account of protein investment in cellular functions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 8488-8493.	7.1	304
21	Sugar Synthesis from CO ₂ in <i>Escherichia coli</i> . <i>Cell</i> , 2016, 166, 115-125.	28.9	272
22	Cross-species analysis traces adaptation of Rubisco toward optimality in a low-dimensional landscape. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 3475-3480.	7.1	249
23	Pathway Thermodynamics Highlights Kinetic Obstacles in Central Metabolism. <i>PLoS Computational Biology</i> , 2014, 10, e1003483.	3.2	249
24	Revised diagnostic criteria of multiple sclerosis. <i>Autoimmunity Reviews</i> , 2014, 13, 518-524.	5.8	238
25	Consistent Estimation of Gibbs Energy Using Component Contributions. <i>PLoS Computational Biology</i> , 2013, 9, e1003098.	3.2	231
26	A survey of carbon fixation pathways through a quantitative lens. <i>Journal of Experimental Botany</i> , 2012, 63, 2325-2342.	4.8	212
27	Global characterization of in vivo enzyme catalytic rates and their correspondence to in vitro <i>k_{cat}</i> measurements. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 3401-3406.	7.1	212
28	Rethinking glycolysis: on the biochemical logic of metabolic pathways. <i>Nature Chemical Biology</i> , 2012, 8, 509-517.	8.0	211
29	Central Carbon Metabolism as a Minimal Biochemical Walk between Precursors for Biomass and Energy. <i>Molecular Cell</i> , 2010, 39, 809-820.	9.7	208
30	SnapShot: Key Numbers in Biology. <i>Cell</i> , 2010, 141, 1262-1262.e1.	28.9	206
31	The distribution of cellular turnover in the human body. <i>Nature Medicine</i> , 2021, 27, 45-48.	30.7	205
32	The total number and mass of SARS-CoV-2 virions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	187
33	Promoters maintain their relative activity levels under different growth conditions. <i>Molecular Systems Biology</i> , 2013, 9, 701.	7.2	181
34	A central role for Necl4 (SynCAM4) in Schwann cell-axon interaction and myelination. <i>Nature Neuroscience</i> , 2007, 10, 861-869.	14.8	178
35	The increasing incidence and prevalence of female multiple sclerosis—A critical analysis of potential environmental factors. <i>Autoimmunity Reviews</i> , 2011, 10, 495-502.	5.8	174
36	SnapShot: Timescales in Cell Biology. <i>Cell</i> , 2016, 164, 1302-1302.e1.	28.9	173

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37	Input-output robustness in simple bacterial signaling systems. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 19931-19935.	7.1	170
38	HSP90 affects the expression of genetic variation and developmental stability in quantitative traits. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 2963-2968.	7.1	167
39	Spanning high-dimensional expression space using ribosome-binding site combinatorics. Nucleic Acids Research, 2013, 41, e98-e98.	14.5	165
40	The global mass and average rate of rubisco. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4738-4743.	7.1	154
41	Design and analysis of metabolic pathways supporting formatotrophic growth for electricity-dependent cultivation of microbes. Biochimica Et Biophysica Acta - Bioenergetics, 2013, 1827, 1039-1047.	1.0	150
42	Prediction of Microbial Growth Rate versus Biomass Yield by a Metabolic Network with Kinetic Parameters. PLoS Computational Biology, 2012, 8, e1002575.	3.2	148
43	Revisiting Trade-offs between Rubisco Kinetic Parameters. Biochemistry, 2019, 58, 3365-3376.	2.5	142
44	Estimating disease severity of Omicron and Delta SARS-CoV-2 infections. Nature Reviews Immunology, 2022, 22, 267-269.	22.7	138
45	Thermodynamic constraints shape the structure of carbon fixation pathways. Biochimica Et Biophysica Acta - Bioenergetics, 2012, 1817, 1646-1659.	1.0	126
46	Dynamic proteomics in individual human cells uncovers widespread cell-cycle dependence of nuclear proteins. Nature Methods, 2006, 3, 525-531.	19.0	125
47	Immunological Aspects of Approved MS Therapeutics. Frontiers in Immunology, 2019, 10, 1564.	4.8	117
48	An integrated open framework for thermodynamics of reactions that combines accuracy and coverage. Bioinformatics, 2012, 28, 2037-2044.	4.1	108
49	A note on the kinetics of enzyme action: A decomposition that highlights thermodynamic effects. FEBS Letters, 2013, 587, 2772-2777.	2.8	108
50	A feeling for the numbers in biology. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21465-21471.	7.1	100
51	Quantifying Translational Coupling in <i>E. coli</i> Synthetic Operons Using RBS Modulation and Fluorescent Reporters. ACS Synthetic Biology, 2013, 2, 327-336.	3.8	100
52	Coarse-graining and self-dissimilarity of complex networks. Physical Review E, 2005, 71, 016127.	2.1	92
53	The Moderately Efficient Enzyme: Futile Encounters and Enzyme Floppiness. Biochemistry, 2015, 54, 4969-4977.	2.5	89
54	Noise in gene expression is coupled to growth rate. Genome Research, 2015, 25, 1893-1902.	5.5	83

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55	Design principles of autocatalytic cycles constrain enzyme kinetics and force low substrate saturation at flux branch points. <i>ELife</i> , 2017, 6, .	6.0	70
56	Photovoltaic-driven microbial protein production can use land and sunlight more efficiently than conventional crops. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	68
57	Steady-State Metabolite Concentrations Reflect a Balance between Maximizing Enzyme Efficiency and Minimizing Total Metabolite Load. <i>PLoS ONE</i> , 2013, 8, e75370.	2.5	67
58	Therapeutic strategies targeting B-cells in multiple sclerosis. <i>Autoimmunity Reviews</i> , 2016, 15, 714-718.	5.8	65
59	Hydrophobicity and Charge Shape Cellular Metabolite Concentrations. <i>PLoS Computational Biology</i> , 2011, 7, e1002166.	3.2	65
60	Generation of a fluorescently labeled endogenous protein library in living human cells. <i>Nature Protocols</i> , 2007, 2, 1515-1527.	12.0	62
61	Achieving Diversity in the Face of Constraints: Lessons from Metabolism. <i>Science</i> , 2012, 336, 1663-1667.	12.6	61
62	Pyruvate Formate-Lyase Enables Efficient Growth of <i>Escherichia coli</i> on Acetate and Formate. <i>Biochemistry</i> , 2016, 55, 2423-2426.	2.5	57
63	Protein Dynamics in Individual Human Cells: Experiment and Theory. <i>PLoS ONE</i> , 2009, 4, e4901.	2.5	54
64	Reconstructing a puzzle: existence of cyanophages containing both photosystemâ€” and photosystemâ€” gene suites inferred from oceanic metagenomic datasets. <i>Environmental Microbiology</i> , 2011, 13, 24-32.	3.8	46
65	The quantified cell. <i>Molecular Biology of the Cell</i> , 2014, 25, 3497-3500.	2.1	44
66	Therapies for multiple sclerosis targeting B cells. <i>Croatian Medical Journal</i> , 2019, 60, 87-98.	0.7	44
67	The temporal and causal relationship between inflammation and neurodegeneration in multiple sclerosis. <i>Multiple Sclerosis Journal</i> , 2020, 26, 876-886.	3.0	41
68	The relationship between evolutionary and physiological variation in hemoglobin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 16998-17003.	7.1	37
69	The efficacy and safety of daclizumab and its potential role in the treatment of multiple sclerosis. <i>Therapeutic Advances in Neurological Disorders</i> , 2014, 7, 7-21.	3.5	34
70	Tau and 14-3-3 of genetic and sporadic Creutzfeldtâ€”Jakob disease patients in Israel. <i>Journal of Neurology</i> , 2011, 258, 255-262.	3.6	32
71	Humoral and Cellular Immune Responses to SARS-CoV-2 mRNA Vaccination in Patients with Multiple Sclerosis: An Israeli Multi-Center Experience Following 3 Vaccine Doses. <i>Frontiers in Immunology</i> , 2022, 13, 868915.	4.8	32
72	Combination therapy in multiple sclerosis. <i>Journal of Neuroimmunology</i> , 2011, 231, 23-31.	2.3	25

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73	What governs the reaction center excitation wavelength of photosystems I and II?. <i>Photosynthesis Research</i> , 2009, 101, 59-67.	2.9	23
74	A model for "sustainable"™ US beef production. <i>Nature Ecology and Evolution</i> , 2018, 2, 81-85.	7.8	23
75	The survival and function of IL-10-producing regulatory B cells are negatively controlled by SLAMF5. <i>Nature Communications</i> , 2021, 12, 1893.	12.8	23
76	Efficiency in Evolutionary Trade-Offs. <i>Science</i> , 2012, 336, 1114-1115.	12.6	22
77	A proof for loop-law constraints in stoichiometric metabolic networks. <i>BMC Systems Biology</i> , 2012, 6, 140.	3.0	21
78	Effectiveness of multiple sclerosis treatment with current immunomodulatory drugs. <i>Expert Opinion on Pharmacotherapy</i> , 2015, 16, 659-673.	1.8	21
79	Noise Genetics: Inferring Protein Function by Correlating Phenotype with Protein Levels and Localization in Individual Human Cells. <i>PLoS Genetics</i> , 2014, 10, e1004176.	3.5	20
80	Towards a quantitative view of the global ubiquity of biofilms. <i>Nature Reviews Microbiology</i> , 2019, 17, 199-200.	28.6	20
81	A Minimalistic Resource Allocation Model to Explain Ubiquitous Increase in Protein Expression with Growth Rate. <i>PLoS ONE</i> , 2016, 11, e0153344.	2.5	18
82	Dynamic Proteomics of Human Protein Level and Localization across the Cell Cycle. <i>PLoS ONE</i> , 2012, 7, e48722.	2.5	17
83	Effect of Propranolol and IFN- γ on the Induction of MHC Class II Expression and Cytokine Production by IFN- γ in THP-1 Human Monocytic Cells. <i>Immunopharmacology and Immunotoxicology</i> , 1998, 20, 39-61.	2.4	16
84	An In Vivo Metabolic Approach for Deciphering the Product Specificity of Glycerate Kinase Proves that Both <i>E. coli</i> 's Glycerate Kinases Generate 2-Phosphoglycerate. <i>PLoS ONE</i> , 2015, 10, e0122957.	2.5	15
85	EAN Guideline on Palliative Care of People with Severe, Progressive Multiple Sclerosis. <i>Journal of Palliative Medicine</i> , 2020, 23, 1426-1443.	1.1	13
86	Mycosis fungoides " A cutaneous lymphoproliferative disorder in a patient treated with fingolimod for multiple sclerosis. <i>Journal of Clinical Neuroscience</i> , 2018, 48, 102-103.	1.5	12
87	Glatiramer Acetate or Interferon- γ for Multiple Sclerosis?. <i>CNS Drugs</i> , 1999, 11, 289-306.	5.9	11
88	Local corticosteroid treatment for carpal tunnel syndrome: A 6-month clinical and electrophysiological follow-up study. <i>Journal of Back and Musculoskeletal Rehabilitation</i> , 2009, 22, 59-64.	1.1	11
89	Translational Research in Neurology and Neuroscience 2010. <i>Archives of Neurology</i> , 2010, 67, 1307-15.	4.5	11
90	Robust Control of PEP Formation Rate in the Carbon Fixation Pathway of C4 Plants by a Bi-functional Enzyme. <i>BMC Systems Biology</i> , 2011, 5, 171.	3.0	10

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91	Protection following BNT162b2 booster in adolescents substantially exceeds that of a fresh 2-dose vaccine. <i>Nature Communications</i> , 2022, 13, 1971.	12.8	10
92	Familial Creutzfeldtâ€“Jakob disease homozygous to the E200K mutation: clinical characteristics and disease course. <i>Journal of Neurology</i> , 2020, 267, 2455-2458.	3.6	8
93	Role of a Novel Human Leukocyte Antigen-DQA1*01:02;DRB1*15:01 Mixed Isotype Heterodimer in the Pathogenesis of â€œHumanizedâ€•Multiple Sclerosis-like Disease. <i>Journal of Biological Chemistry</i> , 2015, 290, 15260-15278.	3.4	7
94	Approaches and challenges in the diagnosis and management of secondary progressive multiple sclerosis: A Central Eastern European perspective from healthcare professionals. <i>Multiple Sclerosis and Related Disorders</i> , 2021, 50, 102778.	2.0	7
95	Tiaprside as Treatment for Certain Patients with Idiopathic Torsion Dystonia. <i>European Neurology</i> , 1991, 31, 356-359.	1.4	5
96	RECURRING HARMONIC WALKS AND NETWORK MOTIFS IN WESTERN MUSIC. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , 2006, 09, 121-132.	1.4	5
97	Weizmann Young PI Forum: The Power of Peer Support. <i>Molecular Cell</i> , 2009, 36, 913-915.	9.7	5
98	Multiple sclerosis and chronic cerebrospinal venous insufficiency: a critical review. <i>Therapeutic Advances in Neurological Disorders</i> , 2011, 4, 231-235.	3.5	5
99	EcoTimeâ€“An intuitive quantitative sustainability indicator utilizing a time metric. <i>Ecological Indicators</i> , 2013, 24, 240-245.	6.3	5
100	Mutation in West Nile Virus Structural Protein prM during Human Infection. <i>Emerging Infectious Diseases</i> , 2016, 22, 1647-1649.	4.3	4
101	Daclizumab for the treatment of adults with relapsing forms of multiple sclerosis. <i>Expert Review of Clinical Pharmacology</i> , 2017, 10, 1037-1047.	3.1	3
102	Ofatumumab â€œ A Potential Subcutaneous B-cell Therapy for Relapsing Multiple Sclerosis. <i>European Neurological Review</i> , 2020, 15, 27.	0.5	3
103	Effect of natalizumab treatment on the rate of No Evidence of Disease Activity in young adults with multiple sclerosis in relation to pubertal stage. <i>Journal of the Neurological Sciences</i> , 2022, 432, 120074.	0.6	3
104	Spotlight on daclizumab: its potential in the treatment of multiple sclerosis. <i>Degenerative Neurological and Neuromuscular Disease</i> , 2016, Volume 6, 95-109.	1.3	2
105	A retrospective analysis of the development of seizure frequency in patients with seizures during a period of military conflict. <i>Seizure: the Journal of the British Epilepsy Association</i> , 2018, 61, 119-121.	2.0	2
106	Palliative care in multiple sclerosis: European guideline. <i>Multiple Sclerosis Journal</i> , 2020, 26, 1009-1011.	3.0	2
107	Dynamic proteomics in mammalian cells: capabilities and challenges. <i>Molecular BioSystems</i> , 2007, 3, 542.	2.9	1
108	JC virus identified in a patient with persistent and severe West Nile virus disease. <i>Journal of NeuroVirology</i> , 2019, 25, 608-611.	2.1	1

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109	Association between cervical disc disease and lesions of multiple sclerosis. <i>Neuroradiology Journal</i> , 2021, 34, 200-204.	1.2	1
110	B Cell-based Therapies for Multiple Sclerosis. <i>RSC Drug Discovery Series</i> , 2019, , 134-169.	0.3	1
111	Specific inhibition by the synthetic copolymer COP-1 of human T cell lines specific to myelin basic protein. <i>Journal of Neuroimmunology</i> , 1991, 35, 72.	2.3	0
112	Reply to Metson et al.: The importance of phosphorus perturbations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, E4908-E4908.	7.1	0
113	Reply to Tichenor: Proposed update to beef greenhouse gas footprint is numerically questionable and well within current uncertainty bounds. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, E822-E823.	7.1	0
114	Progressive multifocal leukoencephalopathy in a patient with chronic lymphocytic leukemia after immunosuppressive treatment. <i>Neurology and Clinical Neuroscience</i> , 2017, 5, 29-31.	0.4	0
115	The development and use of the European academy of neurology guideline on palliative care in advanced progressive multiple sclerosis. <i>Journal of the Neurological Sciences</i> , 2021, 429, 118026.	0.6	0
116	Abstract P282: First-ever Ischemic Stroke in the Very Elderly: Trends, Characteristics and Outcome in a National Registry. <i>Circulation</i> , 2012, 125, .	1.6	0