Ben D Macarthur

List of Publications by Year
in descending order

60 papers	5,642 citations	304743 22 h-index	168389 53 g-index
78 all docs	78 docs citations	78 times ranked	9169 citing authors

#	Article	IF	Citations
1	Mesenchymal and haematopoietic stem cells form a unique bone marrow niche. Nature, 2010, 466, 829-834.	27.8	2,935
2	Systems biology of stem cell fate and cellular reprogramming. Nature Reviews Molecular Cell Biology, 2009, 10, 672-681.	37.0	330
3	Systems-level dynamic analyses of fate change in murine embryonic stem cells. Nature, 2009, 462, 358-362.	27.8	277
4	Hematopoietic Stem Cells Count and Remember Self-Renewal Divisions. Cell, 2016, 167, 1296-1309.e10.	28.9	216
5	Stem Cell Differentiation as a Non-Markov Stochastic Process. Cell Systems, 2017, 5, 268-282.e7.	6.2	178
6	Statistical Mechanics of Pluripotency. Cell, 2013, 154, 484-489.	28.9	159
7	Heterogeneous proliferation within engineered cartilaginous tissue: the role of oxygen tension. Biotechnology and Bioengineering, 2005, 91, 607-615.	3.3	155
8	Nanog-dependent feedback loops regulate murine embryonic stem cell heterogeneity. Nature Cell Biology, 2012, 14, 1139-1147.	10.3	141
9	A systematic review of the applications of artificial intelligence and machine learning in autoimmune diseases. Npj Digital Medicine, 2020, 3, 30.	10.9	137
10	Symmetry in complex networks. Discrete Applied Mathematics, 2008, 156, 3525-3531.	0.9	134
11	Classification of Paediatric Inflammatory Bowel Disease using Machine Learning. Scientific Reports, 2017, 7, 2427.	3.3	119
12	Bridging the gap. Nature, 2005, 433, 19-19.	27.8	96
13	Stochasticity and the Molecular Mechanisms of Induced Pluripotency. PLoS ONE, 2008, 3, e3086.	2.5	81
14	Thrombopoietin Metabolically Primes Hematopoietic Stem Cells to Megakaryocyte-Lineage Differentiation. Cell Reports, 2018, 25, 1772-1785.e6.	6.4	62
15	Spectral characteristics of network redundancy. Physical Review E, 2009, 80, 026117.	2.1	53
16	Network quotients: Structural skeletons of complex systems. Physical Review E, 2008, 78, 046102.	2.1	40
17	Single-Cell Analyses of ESCs Reveal Alternative Pluripotent Cell States and Molecular Mechanisms that Control Self-Renewal. Stem Cell Reports, 2015, 5, 207-220.	4.8	40
18	Entropy, Ergodicity, and Stem Cell Multipotency. Physical Review Letters, 2015, 115, 208103.	7.8	32

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19	Mathematical modelling of skeletal repair. Biochemical and Biophysical Research Communications, 2004, 313, 825-833.	2.1	31
20	GATE: software for the analysis and visualization of high-dimensional time series expression data. Bioinformatics, 2010, 26, 143-144.	4.1	29
21	Toward Stem Cell Systems Biology: From Molecules to Networks and Landscapes. Cold Spring Harbor Symposia on Quantitative Biology, 2008, 73, 211-215.	1.1	28
22	The telomere binding protein Pot1 maintains haematopoietic stem cell activity with age. Nature Communications, 2017, 8, 804.	12.8	23
23	Genomic programming of IRF4-expressing human Langerhans cells. Nature Communications, 2020, 11, 313.	12.8	22
24	GenePy - a score for estimating gene pathogenicity in individuals using next-generation sequencing data. BMC Bioinformatics, 2019, 20, 254.	2.6	21
25	Residual stress generation and necrosis formation in multi-cell tumour spheroids. Journal of Mathematical Biology, 2004, 49, 537-552.	1.9	20
26	Nanog Fluctuations in Embryonic Stem Cells Highlight the Problem of Measurement in Cell Biology. Biophysical Journal, 2017, 112, 2641-2652.	0.5	20
27	Theory of cell fate. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2020, 12, e1471.	6.6	19
28	Transfer learning efficiently maps bone marrow cell types from mouse to human using single-cell RNA sequencing. Communications Biology, 2020, 3, 736.	4.4	18
29	Collective dynamics of stem cell populations. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3653-3654.	7.1	17
30	Noise-processing by signaling networks. Scientific Reports, 2017, 7, 532.	3.3	14
31	Machine Learning of Stem Cell Identities From Single-Cell Expression Data via Regulatory Network Archetypes. Frontiers in Genetics, 2019, 10, 2.	2.3	14
32	Microdynamics and Criticality of Adaptive Regulatory Networks. Physical Review Letters, 2010, 104, 168701.	7.8	13
33	Identification of candidate regulators of multipotency in human skeletal progenitor cells. Biochemical and Biophysical Research Communications, 2008, 377, 68-72.	2.1	12
34	Machine Learning of Hematopoietic Stem Cell Divisions from Paired Daughter Cell Expression Profiles Reveals Effects of Aging on Self-Renewal. Cell Systems, 2020, 11, 640-652.e5.	6.2	12
35	Micro RNA Targets in HIV Latency: Insights into Novel Layers of Latency Control. AIDS Research and Human Retroviruses, 2021, 37, 109-121.	1.1	11
36	Universal principles of lineage architecture and stem cell identity in renewing tissues. Development (Cambridge), 2021, 148, .	2.5	11

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37	A non-invasive method for in situ quantification of subpopulation behaviour in mixed cell culture. Journal of the Royal Society Interface, 2006, 3, 63-69.	3.4	9
38	An IRF1-IRF4 Toggle-Switch Controls Tolerogenic and Immunogenic Transcriptional Programming in Human Langerhans Cells. Frontiers in Immunology, 2021, 12, 665312.	4.8	9
39	Single-cell pluripotency regulatory networks. Proteomics, 2016, 16, 2303-2312.	2.2	8
40	An Esrrb and Nanog Cell Fate Regulatory Module Controlled by Feed Forward Loop Interactions. Frontiers in Cell and Developmental Biology, 2021, 9, 630067.	3.7	8
41	The geometry of cell fate. Cell Systems, 2022, 13, 1-3.	6.2	8
42	Single platelet variability governs population sensitivity and initiates intrinsic heterotypic responses. Communications Biology, 2020, 3, 281.	4.4	7
43	Stability and steady state of complex cooperative systems: a diakoptic approach. Royal Society Open Science, 2019, 6, 191090.	2.4	6
44	Coordinated Regulation of Hematopoietic and Mesenchymal Stem Cells in a Bone Marrow Niche.. Blood, 2009, 114, 2-2.	1.4	6
45	Power-Laws and the Use of Pluripotent Stem Cell Lines. PLoS ONE, 2013, 8, e52068.	2.5	6
46	A mathematical model of dynamic gliomaâ€“host interactions: receptor-mediated invasion and local proteolysis. Mathematical Medicine and Biology, 2005, 22, 247-264.	1.2	5
47	Information-Theoretic Approaches to Understanding Stem Cell Variability. Current Stem Cell Reports, 2017, 3, 225-231.	1.6	5
48	From mathematical modeling and machine learning to clinical reality. , 2020, , 37-51.		4
49	Heterogeneity and â€˜memoryâ€™ in stem cell populations. Physical Biology, 2020, 17, 065013.	1.8	4
50	Fluctuations in T cell receptor and pMHC interactions regulate T cell activation. Journal of the Royal Society Interface, 2022, 19, 20210589.	3.4	4
51	Beginning of a New Era: Mapping the Bone Marrow Niche. Cell, 2019, 177, 1679-1681.	28.9	3
52	Will social media banish the bleep? An analysis of hospital pager activity and instant messaging patterns. BMJ Open Quality, 2021, 10, e001100.	1.1	2
53	Quantifying the cumulative effect of lowâ€penetrance genetic variants on breast cancer risk. Molecular Genetics & Genomic Medicine, 2015, 3, 182-188.	1.2	1
54	Geometry and symmetry in biochemical reaction systems. Theory in Biosciences, 2021, 140, 265-277.	1.4	1

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55	Cell Fate Regulatory Networks. , 2012, , 15-29.		1
56	A right to voice dissent against the establishment. Nature, 2005, 433, 355-355.	27.8	0
57	From Mathematical Models to Clinical Reality. , 2014, , 25-39.		0
58	Connected development. Nature Physics, 2018, 14, 975-976.	16.7	0
59	Modeling Stem Cell Fates using Non-Markov Processes. Cell Stem Cell, 2021, 28, 187-190.	11.1	0
60	Visualization and Clustering of High-Dimensional Transcriptome Data Using GATE. Methods in Molecular Biology, 2014, 1150, 131-139.	0.9	0