

# John S Mccaskill

## List of Publications by Year in descending order

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85  
papers

3,943  
citations

257429

24  
h-index

128286

60  
g-index

91  
all docs

91  
docs citations

91  
times ranked

2582  
citing authors

#	ARTICLE	IF	CITATIONS
1	The equilibrium partition function and base pair binding probabilities for RNA secondary structure. <i>Biopolymers</i> , 1990, 29, 1105-1119.	2.4	1,130
2	Molecular quasi-species. <i>The Journal of Physical Chemistry</i> , 1988, 92, 6881-6891.	2.9	521
3	The Molecular Quasi-Species. <i>Advances in Chemical Physics</i> , 2007, , 149-263.	0.3	357
4	Open Problems in Artificial Life. <i>Artificial Life</i> , 2000, 6, 363-376.	1.3	235
5	Monte Carlo approach to tissue-cell populations. <i>Physical Review E</i> , 1995, 52, 6635-6657.	2.1	147
6	Replication of viruses in a growing plaque: a reaction-diffusion model. <i>Biophysical Journal</i> , 1992, 61, 1540-1549.	0.5	110
7	Living Technology: Exploiting Life's Principles in Technology. <i>Artificial Life</i> , 2010, 16, 89-97.	1.3	85
8	Fokker-Planck interpretation of picosecond intramolecular dynamics in solutions. <i>Chemical Physics</i> , 1979, 44, 389-402.	1.9	78
9	A localization threshold for macromolecular quasispecies from continuously distributed replication rates. <i>Journal of Chemical Physics</i> , 1984, 80, 5194-5202.	3.0	74
10	Error Threshold for Spatially Resolved Evolution in the Quasispecies Model. <i>Physical Review Letters</i> , 2001, 86, 5819-5822.	7.8	59
11	Optically programming DNA computing in microflow reactors. <i>BioSystems</i> , 2001, 59, 125-138.	2.0	59
12	A molecular predator and its prey: coupled isothermal amplification of nucleic acids. <i>Chemistry and Biology</i> , 1997, 4, 25-33.	6.0	58
13	A stochastic theory of macromolecular evolution. <i>Biological Cybernetics</i> , 1984, 50, 63-73.	1.3	56
14	Traveling waves of in vitro evolving RNA.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1989, 86, 7937-7941.	7.1	56
15	Cooperative Amplification of Templates by Cross-Hybridization (CATCH). <i>FEBS Journal</i> , 1997, 243, 358-364.	0.2	41
16	Images of evolution: origin of spontaneous RNA replication waves.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1993, 90, 4191-4195.	7.1	40
17	Spatially resolved in vitro molecular ecology. <i>Biophysical Chemistry</i> , 1997, 66, 145-158.	2.8	39
18	Evolving Reaction-Diffusion Ecosystems with Self-Assembling Structures in Thin Films. <i>Artificial Life</i> , 1998, 4, 25-40.	1.3	36

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19	Evolutionary self-organization of cell-free genetic coding. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 9185-9190.	7.1	36
20	Template-directed and Template-free RNA Synthesis by Q $\beta$ Replicase. Journal of Molecular Biology, 1993, 231, 175-179.	4.2	35
21	In vitro evolution of molecular cooperation in CATCH, a cooperatively coupled amplification system. Chemistry and Biology, 1998, 5, 729-741.	6.0	28
22	On demand nanoliter-scale microfluidic droplet generation, injection, and mixing using a passive microfluidic device. Biomicrofluidics, 2015, 9, 014119.	2.4	28
23	DNA Computing in Microreactors. Lecture Notes in Computer Science, 2002, , 33-45.	1.3	27
24	Addressing, amplifying and switching DNAzyme functions by electrochemically-triggered release of metal ions. Chemical Science, 2015, 6, 3544-3549.	7.4	26
25	Competitive adsorption from binary mixtures: Adhesive hard sphere model. Journal of Colloid and Interface Science, 1979, 72, 27-40.	9.4	23
26	Poisson-Boltzmann solution of the poisson-boltzmann equation for a cylindrical polyelectrolyte in excess salt solution. Journal of the Chemical Society, Faraday Transactions 2, 1988, 84, 161-179.	1.1	23
27	In vitro DNA-based Predator-Prey System with Oscillatory Kinetics. Bulletin of Mathematical Biology, 1998, 60, 329-354.	1.9	23
28	End-specific covalent photo-dependent immobilisation of synthetic DNA to paramagnetic beads. Nucleic Acids Research, 2000, 28, 98e-98.	14.5	20
29	The Stochastic Evolution of Catalysts in Spatially Resolved Molecular Systems. Biological Chemistry, 2001, 382, 1343-63.	2.5	20
30	DNA with Disulfide Links: Rapid Chemical Ligation through Isosteric Replacement. Angewandte Chemie - International Edition, 2014, 53, 4222-4226.	13.8	20
31	Biological and Chemical Information Technologies. Procedia Computer Science, 2011, 7, 56-60.	2.0	18
32	Emergence of Coding and its Specificity as a Physico-Informatic Problem. Origins of Life and Evolution of Biospheres, 2015, 45, 249-255.	1.9	18
33	Monitoring the amplification of CATCH, a 3SR based cooperatively coupled isothermal amplification system, by fluorimetric methods. Nucleic Acids Research, 1997, 25, 4697-4699.	14.5	17
34	Parallel random number generator for inexpensive configurable hardware cells. Computer Physics Communications, 2001, 140, 293-302.	7.5	17
35	An Electronically Controlled Microfluidic Approach towards Artificial Cells. Complexus, 2006, 3, 48-57.	0.6	17
36	Microfabrication of a BioModule composed of microfluidics and digitally controlled microelectrodes for processing biomolecules. Smart Materials and Structures, 2003, 12, 757-762.	3.5	16

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37	Hybrid poly(dimethylsiloxane)-silicon microreactors used for molecular computing. <i>Smart Materials and Structures</i> , 2002, 11, 756-760.	3.5	15
38	Optimization and design of oligonucleotide setup for strand displacement amplification. <i>Journal of Proteomics</i> , 2005, 63, 170-186.	2.4	15
39	DNA-library assembly programmed by on-demand nano-liter droplets from a custom microfluidic chip. <i>Biomicrofluidics</i> , 2015, 9, 044103.	2.4	15
40	Review article:electronic transport in short mean-free path liquid metals. <i>Physics and Chemistry of Liquids</i> , 1982, 12, 1-16.	1.2	14
41	Introduction to Recent Developments in Living Technology. <i>Artificial Life</i> , 2013, 19, 291-298.	1.3	13
42	EVOLVING INDUCTIVE GENERALIZATION VIA GENETIC SELF-ASSEMBLY. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , 2006, 09, 1-29.	1.4	12
43	Electronic pH switching of DNA triplex reactions. <i>RSC Advances</i> , 2015, 5, 27313-27325.	3.6	12
44	On the theory of the Sternâ€™Volmer coefficient for dense fluids. <i>Journal of Chemical Physics</i> , 1981, 74, 6812-6816.	3.0	11
45	Electronically programmable membranes for improved biomolecule handling in micro-compartments on-chip. <i>Chemical Engineering Journal</i> , 2008, 135, S276-S279.	12.7	11
46	NGEN: A massively parallel reconfigurable computer for biological simulation: Towards a self-organizing computer. <i>Lecture Notes in Computer Science</i> , 1997, , 260-276.	1.3	11
47	Hardware evolution with a massively parallel dynamically reconfigurable computer: POLYP. <i>Lecture Notes in Computer Science</i> , 1998, , 364-371.	1.3	10
48	Folding Stabilizes the Evolution of Catalysts. <i>Artificial Life</i> , 2004, 10, 23-38.	1.3	10
49	Evolutionary self-organization in complex fluids. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2007, 362, 1763-1779.	4.0	10
50	Field programmable chemistry: Integrated chemical and electronic processing of informational molecules towards electronic chemical cells. <i>BioSystems</i> , 2012, 109, 2-17.	2.0	10
51	Finite concentration fluorescence quenching in the presence of diffusion. <i>Journal of Chemical Physics</i> , 1983, 78, 6598-6601.	3.0	9
52	Complex patterns predicted in an in vitro experimental model system for the evolution of molecular cooperation. <i>Biophysical Chemistry</i> , 1999, 79, 163-186.	2.8	9
53	Spatially resolved simulations of membrane reactions and dynamics: Multipolar reaction DPD. <i>European Physical Journal E</i> , 2009, 29, 431-448.	1.6	9
54	Ultra low-power, -area and -frequency CMOS thyristor based oscillator for autonomous microsystems. <i>Analog Integrated Circuits and Signal Processing</i> , 2016, 89, 347-356.	1.4	9

#	ARTICLE	IF	CITATIONS
55	Evolution im Laboratorium. Nachrichten Aus Der Chemie, 1989, 37, 484-488.	0.0	8
56	The role of bound states in electronic transport. Journal of Physics and Chemistry of Solids, 1984, 45, 215-222.	4.0	7
57	Spatially resolved evolution studies in an open reactor. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1994, 98, 1203-1203.	0.9	7
58	NGEN " Configurable computer hardware to simulate long-time self-organization of biopolymers. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1994, 98, 1114-1114.	0.9	7
59	Evolutionary stabilization of generous replicases by complex formation. European Physical Journal B, 2004, 38, 103-110.	1.5	7
60	General-Purpose, Parallel and Reversible Microfluidic Interconnects. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2015, 5, 291-300.	2.5	7
61	Optomagnetic detection of DNA triplex nanoswitches. Analyst, The, 2017, 142, 582-585.	3.5	7
62	From Reconfigurability to Evolution in Construction Systems: Spanning the Electronic, Microfluidic and Biomolecular Domains. Lecture Notes in Computer Science, 2000, , 286-299.	1.3	7
63	Molecular systems on-chip (MSoC) steps forward for programmable biosystems. , 2004, , .		6
64	Ultra low-power, -area and -frequency CMOS thyristor based oscillator for autonomous microsystems. , 2015, , .		6
65	Evolutionary Design of a DDPD Model of Ligation. Lecture Notes in Computer Science, 2006, , 201-212.	1.3	6
66	Cascadable Hybridisation Transfer of Specific DNA between Microreactor Selection Modules. Lecture Notes in Computer Science, 2002, , 46-56.	1.3	6
67	A Microflow Reactor for Two Dimensional Investigations of In Vitro Amplification Systems. , 1998, , 233-244.		6
68	Flows in micro fluidic networks: From theory to experiment. Natural Computing, 2004, 3, 395-410.	3.0	5
69	A CMOS 16k microelectrode array as docking platform for autonomous microsystems. , 2016, , .		5
70	Complex patterns in a trans-cooperatively coupled DNA amplification system. Chemical Engineering Science, 2000, 55, 245-256.	3.8	4
71	Sequence-specific nucleic acid mobility using a reversible block copolymer gel matrix and DNA amphiphiles (lipid-DNA) in capillary and microfluidic electrophoretic separations. Electrophoresis, 2015, 36, 2451-2464.	2.4	4
72	Surface friction constant and range of dynamical interaction between adatoms on metal surfaces. Surface Science, 1983, 131, 34-48.	1.9	3

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73	Single Molecule Detection in Microstructures. <i>Nucleosides &amp; Nucleotides</i> , 1997, 16, 635-642.	0.5	3
74	Biochemical Amplification Waves in a One-Dimensional Microflow System. <i>Journal of Physical Chemistry B</i> , 2002, 106, 4525-4532.	2.6	3
75	A \$200- $\mu\text{m}$ by \$100- $\mu\text{m}$ Smart Submersible System With an Average Current Consumption of 1.3nA and a Compatible Voltage Converter. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2017, 64, 3013-3024.	5.4	3
76	Evolutionary Microfluidic Complementation Toward Artificial Cells. , 2008, , 253-294.		2
77	Analysing Emergent Dynamics of Evolving Computation in 2D Cellular Automata. <i>Lecture Notes in Computer Science</i> , 2019, , 3-40.	1.3	2
78	Fluorescence imaging of evolving RNA in capillaries. <i>Zeitschrift Fur Elektrotechnik Und Elektrochemie</i> , 1994, 98, 1202-1202.	0.9	1
79	<title>DNA computing in microreactors</title>. , 2001, , .		1
80	Editorial. <i>Artificial Life</i> , 2015, 21, 193-194.	1.3	1
81	From quasispecies to quasispaces: coding and cooperation in chemical and electronic systems. <i>European Biophysics Journal</i> , 2018, 47, 459-478.	2.2	1
82	Self-organization of biopolymers. Joint Meeting and International Bunsen Discussion Meeting of the Deutsche Bunsen-Gesellschaft für Physikalische Chemie, Jena, April 10-13th, 1994. <i>Zeitschrift Fur Elektrotechnik Und Elektrochemie</i> , 1994, 98, 1109-1110.	0.9	0
83	Construction of an integrated biomodule composed of microfluidics and digitally controlled microelectrodes for processing biomolecules.. , 2003, , .		0
84	Equilibrium Distribution of Secondary Structures for Large RNA. , 1993, , 29-42.		0
85	Autonomous lablet locomotion and active docking by sensomotory electroosmotic drive. , 0, , .		0