John S Mccaskill

List of Publications by Citations

85 papers	3,331 citations	22 h-index	56 g-index
91 ext. papers	3,609 ext. citations	3.9 avg, IF	5.21 L-index

#	Paper	IF	Citations
85	The equilibrium partition function and base pair binding probabilities for RNA secondary structure. *Biopolymers*, **1990**, 29, 1105-19	2.2	965
84	Molecular quasi-species. *The Journal of Physical Chemistry*, **1988**, 92, 6881-6891		465
83	The Molecular Quasi-Species. *Advances in Chemical Physics*, **2007**, 149-263		277
82	Open problems in artificial life. *Artificial Life*, **2000**, 6, 363-76	1.4	183
81	Monte Carlo approach to tissue-cell populations. *Physical Review E*, **1995**, 52, 6635-6657	2.4	116
80	Replication of viruses in a growing plaque: a reaction-diffusion model. *Biophysical Journal*, **1992**, 61, 1540-9	2.9	94
79	Fokker-Planck interpretation of picosecond intramolecular dynamics in solutions. *Chemical Physics*, **1979**, 44, 389-402	2.3	76
78	A localization threshold for macromolecular quasispecies from continuously distributed replication rates. *Journal of Chemical Physics*, **1984**, 80, 5194-5202	3.9	68
77	Living technology: exploiting life's principles in technology. *Artificial Life*, **2010**, 16, 89-97	1.4	61
76	Error threshold for spatially resolved evolution in the quasispecies model. *Physical Review Letters*, **2001**, 86, 5819-22	7.4	57
75	A molecular predator and its prey: coupled isothermal amplification of nucleic acids. *Chemistry and Biology*, **1997**, 4, 25-33		50
74	A stochastic theory of macromolecular evolution. *Biological Cybernetics*, **1984**, 50, 63-73	2.8	48
73	Optically programming DNA computing in microflow reactors. *BioSystems*, **2001**, 59, 125-38	1.9	47
72	Traveling waves of in vitro evolving RNA. *Proceedings of the National Academy of Sciences of the United States of America*, **1989**, 86, 7937-41	11.5	47
71	Images of evolution: origin of spontaneous RNA replication waves. *Proceedings of the National Academy of Sciences of the United States of America*, **1993**, 90, 4191-5	11.5	39
70	Spatially resolved in vitro molecular ecology. *Biophysical Chemistry*, **1997**, 66, 145-58	3.5	36
69	Cooperative amplification of templates by cross-hybridization (CATCH). *FEBS Journal*, **1997**, 243, 358-64		35

68	Evolutionary self-organization of cell-free genetic coding. *Proceedings of the National Academy of Sciences of the United States of America*, **2001**, 98, 9185-90	11.5	34
67	Template-directed and template-free RNA synthesis by Q beta replicase. *Journal of Molecular Biology*, **1993**, 231, 175-9	6.5	32
66	Evolving reaction-diffusion ecosystems with self-assembling structures in thin films. *Artificial Life*, **1998**, 4, 25-40	1.4	28
65	On demand nanoliter-scale microfluidic droplet generation, injection, and mixing using a passive microfluidic device. *Biomicrofluidics*, **2015**, 9, 014119	3.2	26
64	In vitro evolution of molecular cooperation in CATCH, a cooperatively coupled amplification system. *Chemistry and Biology*, **1998**, 5, 729-41		24
63	Competitive adsorption from binary mixtures: Adhesive hard sphere model. *Journal of Colloid and Interface Science*, **1979**, 72, 27-40	9.3	22
62	Addressing, amplifying and switching DNAzyme functions by electrochemically-triggered release of metal ions. *Chemical Science*, **2015**, 6, 3544-3549	9.4	21
61	Painlev□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		20
60	DNA with 3Ʊ5Ʊdisulfide links--rapid chemical ligation through isosteric replacement. *Angewandte Chemie - International Edition*, **2014**, 53, 4222-6	16.4	19
59	The stochastic evolution of catalysts in spatially resolved molecular systems. *Biological Chemistry*, **2001**, 382, 1343-63	4.5	18
58	In vitro DNA-based predator-prey system with oscillatory kinetics. *Bulletin of Mathematical Biology*, **1998**, 60, 329-354	2.1	17
57	End-specific covalent photo-dependent immobilisation of synthetic DNA to paramagnetic beads. *Nucleic Acids Research*, **2000**, 28, E98	20.1	17
56	Monitoring the amplification of CATCH, a 3SR based cooperatively coupled isothermal amplification system, by fluorimetric methods. *Nucleic Acids Research*, **1997**, 25, 4697-9	20.1	16
55	Microfabrication of a BioModule composed of microfluidics and digitally controlled microelectrodes for processing biomolecules. *Smart Materials and Structures*, **2003**, 12, 757-762	3.4	16
54	Parallel random number generator for inexpensive configurable hardware cells. *Computer Physics Communications*, **2001**, 140, 293-302	4.2	15
53	Biological and Chemical Information Technologies. *Procedia Computer Science*, **2011**, 7, 56-60	1.6	14
52	DNA Computing in Microreactors. *Lecture Notes in Computer Science*, **2002**, 33-45	0.9	14
51	Emergence of coding and its specificity as a physico-informatic problem. *Origins of Life and Evolution of Biospheres*, **2015**, 45, 249-55	1.5	13

50	Optimization and design of oligonucleotide setup for strand displacement amplification. *Journal of Proteomics*, **2005**, 63, 170-86		13
49	Review article:electronic transport in short mean-free path liquid metals. *Physics and Chemistry of Liquids*, **1982**, 12, 1-16	1.5	13
48	DNA-library assembly programmed by on-demand nano-liter droplets from a custom microfluidic chip. *Biomicrofluidics*, **2015**, 9, 044103	3.2	12
47	An Electronically Controlled Microfluidic Approach towards Artificial Cells. *Complexus*, **2006**, 3, 48-57		12
46	Hybrid poly(dimethylsiloxane)-silicon microreactors used for molecular computing. *Smart Materials and Structures*, **2002**, 11, 756-760	3.4	12
45	Introduction to recent developments in living technology. *Artificial Life*, **2013**, 19, 291-8	1.4	10
44	Electronic pH switching of DNA triplex reactions. *RSC Advances*, **2015**, 5, 27313-27325	3.7	10
43	EVOLVING INDUCTIVE GENERALIZATION VIA GENETIC SELF-ASSEMBLY. *International Journal of Modeling, Simulation, and Scientific Computing*, **2006**, 09, 1-29	0.8	10
42	On the theory of the Stern□Volmer coefficient for dense fluids. *Journal of Chemical Physics*, **1981**, 74, 6812-6816	3.9	10
41	Spatially resolved simulations of membrane reactions and dynamics: multipolar reaction DPD. *European Physical Journal E*, **2009**, 29, 431-48	1.5	9
40	Finite concentration fluorescence quenching in the presence of diffusion. *Journal of Chemical Physics*, **1983**, 78, 6598-6601	3.9	9
39	Field programmable chemistry: integrated chemical and electronic processing of informational molecules towards electronic chemical cells. *BioSystems*, **2012**, 109, 2-17	1.9	8
38	Electronically programmable membranes for improved biomolecule handling in micro-compartments on-chip. *Chemical Engineering Journal*, **2008**, 135, S276-S279	14.7	8
37	Evolutionary self-organization in complex fluids. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2007**, 362, 1763-79	5.8	8
36	Hardware evolution with a massively parallel dynamicaly reconfigurable computer: POLYP. *Lecture Notes in Computer Science*, **1998**, 364-371	0.9	8
35	NGEN: A massively parallel reconfigurable computer for biological simulation: Towards a self-organizing computer. *Lecture Notes in Computer Science*, **1997**, 260-276	0.9	8
34	Optomagnetic detection of DNA triplex nanoswitches. *Analyst, The*, **2017**, 142, 582-585	5	7
33	DNA mit 3?-5?-Disulfid-Verknüpfung □schnelle chemische Ligation durch isosteren Ersatz. *Angewandte Chemie*, **2014**, 126, 4306-4310	3.6	7

32	Evolutionary stabilization of generous replicases by complex formation. *European Physical Journal B*, **2004**, 38, 103-110	1.2	7
31	Complex patterns predicted in an in vitro experimental model system for the evolution of molecular cooperation. *Biophysical Chemistry*, **1999**, 79, 163-86	3.5	7
30	From Reconfigurability to Evolution in Construction Systems: Spanning the Electronic, Microfluidic and Biomolecular Domains. *Lecture Notes in Computer Science*, **2000**, 286-299	0.9	7
29	Graph replacement chemistry for DNA processing. *Lecture Notes in Computer Science*, **2001**, 103-116	0.9	7
28	Ultra low-power, -area and -frequency CMOS thyristor based oscillator for autonomous microsystems. *Analog Integrated Circuits and Signal Processing*, **2016**, 89, 347-356	1.2	6
27	Folding stabilizes the evolution of catalysts. *Artificial Life*, **2004**, 10, 23-38	1.4	6
26	Evolution im Laboratorium. *Nachrichten Aus Der Chemie*, **1989**, 37, 484-488		6
25	The role of bound states in electronic transport. *Journal of Physics and Chemistry of Solids*, **1984**, 45, 215-232	3.9	6
24	A Microfow Reactor for Two Dimensional Investigations of In Vitro Amplification Systems **1998**, 233-244		6
23	Cascadable Hybridisation Transfer of Specific DNA between Microreactor Selection Modules. *Lecture Notes in Computer Science*, **2002**, 46-56	0.9	6
22	General-Purpose, Parallel and Reversible Microfluidic Interconnects. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2015**, 5, 291-300	1.7	5
21	Spatially resolved evolution studies in an open reactor. *Zeitschrift Fur Elektrotechnik Und Elektrochemie*, **1994**, 98, 1203-1203		5
20	NGEN □Configurable computer hardware to simulate long-time self-organization of biopolymers. *Zeitschrift Fur Elektrotechnik Und Elektrochemie*, **1994**, 98, 1114-1114		5
19	Evolutionary Design of a DDPD Model of Ligation. *Lecture Notes in Computer Science*, **2006**, 201-212	0.9	5
18	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, 2451-64	3.6	4
17	Flows in micro fluidic networks: From theory to experiment. *Natural Computing*, **2004**, 3, 395-410	1.3	4
16	Molecular systems on-chip (MSoC) steps forward for programmable biosystems **2004**,		4
15	Complex patterns in a trans-cooperatively coupled DNA amplification system. *Chemical Engineering Science*, **2000**, 55, 245-256	4.4	4

14	Steady flow micro-reactor module for pipelined DNA computations. *Lecture Notes in Computer Science*, **2001**, 263-270	0.9	4
13	Ultra low-power, -area and -frequency CMOS thyristor based oscillator for autonomous microsystems **2015**,		3
12	Biochemical Amplification Waves in a One-Dimensional Microflow System. *Journal of Physical Chemistry B*, **2002**, 106, 4525-4532	3.4	3
11	Surface friction constant and range of dynamical interaction between adatoms on metal surfaces. *Surface Science*, **1983**, 131, 34-48	1.8	3
10	A CMOS 16k microelectrode array as docking platform for autonomous microsystems **2016**,		3
9	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. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2017**, 64, 3013-3024	3.9	2
8	Single Molecule Detection in Microstructures. *Nucleosides & Nucleotides*, **1997**, 16, 635-642		2
7	Evolutionary Microfluidic Complementation Toward Artificial Cells **2008**, 253-294		2
6	Editorial. *Artificial Life*, **2015**, 21, 193-4	1.4	1
5	From quasispecies to quasispaces: coding and cooperation in chemical and electronic systems. *European Biophysics Journal*, **2018**, 47, 459-478	1.9	1
4	DNA computing in microreactors **2001**,		1
3	Fluorescence imaging of evolving RNA in capillaries. *Zeitschrift Fur Elektrotechnik Und Elektrochemie*, **1994**, 98, 1202-1202		1
2	Analysing Emergent Dynamics of Evolving Computation in 2D Cellular Automata. *Lecture Notes in Computer Science*, **2019**, 3-40	0.9	0
1	Equilibrium Distribution of Secondary Structures for Large RNA **1993**, 29-42		