Howard C Berg

List of Publications by Citations

58 papers	7,757 citations	29 h-index	63 g-index
63 ext. papers	8,879 ext. citations	16 avg, IF	6.26 L-index

#	Paper	IF	Citations
58	Chemotaxis in Escherichia coli analysed by three-dimensional tracking. *Nature*, **1972**, 239, 500-4	50.4	1687
57	The rotary motor of bacterial flagella. *Annual Review of Biochemistry*, **2003**, 72, 19-54	29.1	1088
56	Bacteria swim by rotating their flagellar filaments. *Nature*, **1973**, 245, 380-2	50.4	739
55	Real-time imaging of fluorescent flagellar filaments. *Journal of Bacteriology*, **2000**, 182, 2793-801	3.5	545
54	Dynamics of formation of symmetrical patterns by chemotactic bacteria. *Nature*, **1995**, 376, 49-53	50.4	397
53	On torque and tumbling in swimming Escherichia coli. *Journal of Bacteriology*, **2007**, 189, 1756-64	3.5	316
52	The MotA protein of E. coli is a proton-conducting component of the flagellar motor. *Cell*, **1990**, 60, 439-49	30.2	273
51	Movement of microorganisms in viscous environments. *Nature*, **1979**, 278, 349-51	50.4	272
50	Dynamics of mechanosensing in the bacterial flagellar motor. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 11839-44	11.5	195
49	Torque-generating units of the flagellar motor of Escherichia coli have a high duty ratio. *Nature*, **2000**, 403, 444-7	50.4	194
48	Dynamics of bacterial swarming. *Biophysical Journal*, **2010**, 98, 2082-90	2.9	192
47	How to track bacteria. *Review of Scientific Instruments*, **1971**, 42, 868-71	1.7	173
46	Bacterial behaviour. *Nature*, **1975**, 254, 389-92	50.4	143
45	Visualization of Flagella during bacterial Swarming. *Journal of Bacteriology*, **2010**, 192, 3259-67	3.5	126
44	The speed of the flagellar rotary motor of Escherichia coli varies linearly with protonmotive force. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 8748-51	11.5	121
43	Adaptation at the output of the chemotaxis signalling pathway. *Nature*, **2012**, 484, 233-6	50.4	111
42	Powering the flagellar motor of Escherichia coli with an external voltage source. *Nature*, **1995**, 375, 809-12	50.4	98

41	How spirochetes may swim. *Journal of Theoretical Biology*, **1976**, 56, 269-73	2.3	97
40	Mutations in the MotA protein of Escherichia coli reveal domains critical for proton conduction. *Journal of Molecular Biology*, **1991**, 221, 1433-42	6.5	86
39	Mechanism for adaptive remodeling of the bacterial flagellar switch. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 20018-22	11.5	69
38	Structure and Function of Stator Units of the Bacterial Flagellar Motor. *Cell*, **2020**, 183, 244-257.e16	56.2	69
37	How Bacteria Swim. *Scientific American*, **1975**, 233, 36-44	0.5	58
36	Asymmetry in the clockwise and counterclockwise rotation of the bacterial flagellar motor. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 12846-9	11.5	57
35	Visualizing Flagella while Tracking Bacteria. *Biophysical Journal*, **2016**, 111, 630-639	2.9	50
34	A rotary motor drives Flavobacterium gliding. *Current Biology*, **2015**, 25, 338-341	6.3	47
33	Novel ultrastructures of Treponema primitia and their implications for motility. *Molecular Microbiology*, **2008**, 67, 1184-95	4.1	41
32	Specification of gradients used for studies of chemotaxis. *Nature*, **1972**, 239, 517-8	50.4	40
31	Bacterial flagellar motor. *Current Biology*, **2008**, 18, R689-91	6.3	34
30	Torque-dependent remodeling of the bacterial flagellar motor. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 11764-11769	11.5	32
29	Swarming motility: it better be wet. *Current Biology*, **2005**, 15, R599-600	6.3	29
28	Mutations That Stimulate flhDC Expression in Escherichia coli K-12. *Journal of Bacteriology*, **2015**, 197, 3087-96	3.5	28
27	Adaptive remodelling by FliN in the bacterial rotary motor. *Journal of Molecular Biology*, **2014**, 426, 3314-3324	6.5	28
26	Cargo transport shapes the spatial organization of a microbial community. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 8633-8638	11.5	26
25	Towards a model for Flavobacterium gliding. *Current Opinion in Microbiology*, **2015**, 28, 93-7	7.9	25
24	Switching dynamics of the bacterial flagellar motor near zero load. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 15752-5	11.5	25

23	The flagellar motor of generates more torque when a cell swims backward. *Nature Physics*, **2016**, 12, 175-178	16.2	23
22	Osmotic pressure in a bacterial swarm. *Biophysical Journal*, **2014**, 107, 871-8	2.9	22
21	The Screw-Like Movement of a Gliding Bacterium Is Powered by Spiral Motion of Cell-Surface Adhesins. *Biophysical Journal*, **2016**, 111, 1008-13	2.9	22
20	Bacterial motility: machinery and mechanisms. *Nature Reviews Microbiology*, **2021**,	22.2	21
19	Response thresholds in bacterial chemotaxis. *Science Advances*, **2015**, 1, e1500299	14.3	16
18	How Spiroplasma might swim. *Journal of Bacteriology*, **2002**, 184, 2063-4	3.5	13
17	Switching of bacterial flagellar motors [corrected] triggered by mutant FliG. *Biophysical Journal*, **2015**, 108, 1275-80	2.9	12
16	Internal and external components of the bacterial flagellar motor rotate as a unit. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 4783-7	11.5	12
15	A molecular rack and pinion actuates a cell-surface adhesin and enables bacterial gliding motility. *Science Advances*, **2020**, 6, eaay6616	14.3	11
14	Structural basis of torque generation in the bi-directional bacterial flagellar motor. *Trends in Biochemical Sciences*, **2021**,	10.3	11
13	The bacterium has landed. *Science*, **2017**, 358, 446-447	33.3	10
12	The flagellar motor adapts, optimizing bacterial behavior. *Protein Science*, **2017**, 26, 1249-1251	6.3	10
11	CW and CCW Conformations of the E.coli Flagellar Motor C-Ring Evaluated by Fluorescence Anisotropy. *Biophysical Journal*, **2018**, 114, 641-649	2.9	8
10	Mechanosensitive remodeling of the bacterial flagellar motor is independent of direction of rotation. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	7
9	Labeling Bacterial Flagella with Fluorescent Dyes. *Methods in Molecular Biology*, **2018**, 1729, 71-76	1.4	6
8	Howard Berg. *Current Biology*, **2005**, 15, R189-90	6.3	5
7	Structure and function of stator units of the bacterial flagellar motor		4
6	Comments on The use of flash photolysis for...analysis of bacterial chemotactic behaviour...Mol Microbiol 25: 295-302 (1997). *Molecular Microbiology*, **1998**, 27, 507-8	4.1	3

5	Spin Relaxation of Atoms in Molecular Buffer Gases. *Journal of Chemical Physics*, **1965**, 43, 1851-1851	3.9	3
4	Perspectives on working at the physics-biology interface. *Physical Biology*, **2014**, 11, 050301	3	1
3	1SDA-04 Wonders of bacterial motility(1SDA Prof Berg's featured lecture and dancing harmonized motility machineries,Symposium,The 51th Annual Meeting of the Biophysical Society of Japan). *Seibutsu Butsuri*, **2013**, 53, S85	0	
2	The gain paradox. *Progress in Biophysics and Molecular Biology*, **2009**, 100, 2-3	4.7	
1	Amplitude and Decay Rate Analysis of Low Level Exponentially Decaying Radio-Frequency Signals. *Review of Scientific Instruments*, **1965**, 36, 330-334	1.7	