

# Douglas B Weibel

## List of Publications by Year in descending order

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95  
papers

9,233  
citations

53794

45  
h-index

40979

93  
g-index

104  
all docs

104  
docs citations

104  
times ranked

12650  
citing authors

#	ARTICLE	IF	CITATIONS
1	Microfabrication meets microbiology. <i>Nature Reviews Microbiology</i> , 2007, 5, 209-218.	28.6	699
2	Carbonic Anhydrase as a Model for Biophysical and Physical-Organic Studies of Proteins and Protein-Ligand Binding. <i>Chemical Reviews</i> , 2008, 108, 946-1051.	47.7	638
3	Bacterial surface interactions. <i>Soft Matter</i> , 2013, 9, 4368.	2.7	549
4	Physicochemical regulation of biofilm formation. <i>MRS Bulletin</i> , 2011, 36, 347-355.	3.5	457
5	<i>Escherichia coli</i> swim on the right-hand side. <i>Nature</i> , 2005, 435, 1271-1274.	27.8	432
6	The outer membrane is an essential load-bearing element in Gram-negative bacteria. <i>Nature</i> , 2018, 559, 617-621.	27.8	388
7	Applications of microfluidics in chemical biology. <i>Current Opinion in Chemical Biology</i> , 2006, 10, 584-591.	6.1	378
8	Microoxygen: Microorganisms to move microscale loads. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 11963-11967.	7.1	355
9	Cardiolipin microdomains localize to negatively curved regions of <i>Escherichia coli</i> membranes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 6264-6269.	7.1	304
10	Bacterial swarming: a model system for studying dynamic self-assembly. <i>Soft Matter</i> , 2009, 5, 1174.	2.7	264
11	Measuring the stiffness of bacterial cells from growth rates in hydrogels of tunable elasticity. <i>Molecular Microbiology</i> , 2012, 84, 874-891.	2.5	212
12	Rapid screening of antibiotic toxicity in an automated microdroplet system. <i>Lab on A Chip</i> , 2012, 12, 1629.	6.0	204
13	Reconstitution of DNA Segregation Driven by Assembly of a Prokaryotic Actin Homolog. <i>Science</i> , 2007, 315, 1270-1274.	12.6	194
14	Torque-Actuated Valves for Microfluidics. <i>Analytical Chemistry</i> , 2005, 77, 4726-4733.	6.5	183
15	Encapsulating Bacteria in Agarose Microparticles Using Microfluidics for High-Throughput Cell Analysis and Isolation. <i>ACS Chemical Biology</i> , 2011, 6, 260-266.	3.4	166
16	Bacterial Cell Mechanics. <i>Biochemistry</i> , 2017, 56, 3710-3724.	2.5	166
17	Localization of Anionic Phospholipids in <i>Escherichia coli</i> Cells. <i>Journal of Bacteriology</i> , 2014, 196, 3386-3398.	2.2	151
18	Controlling the Shape of Filamentous Cells of <i>Escherichia coli</i> . <i>Nano Letters</i> , 2005, 5, 1819-1823.	9.1	149

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19	Bacterial cell curvature through mechanical control of cell growth. <i>EMBO Journal</i> , 2009, 28, 1208-1219.	7.8	147
20	Direct patterning of mammalian cells onto porous tissue engineering substrates using agarose stamps. <i>Biomaterials</i> , 2005, 26, 7636-7641.	11.4	132
21	A self-loading microfluidic device for determining the minimum inhibitory concentration of antibiotics. <i>Lab on A Chip</i> , 2012, 12, 1052-1059.	6.0	129
22	Bacterial Printing Press that Regenerates Its Ink: Contact-Printing Bacteria Using Hydrogel Stamps. <i>Langmuir</i> , 2005, 21, 6436-6442.	3.5	121
23	Dynamic self-assembly of motile bacteria in liquid crystals. <i>Soft Matter</i> , 2014, 10, 88-95.	2.7	106
24	Targeting the Bacterial Division Protein FtsZ. <i>Journal of Medicinal Chemistry</i> , 2016, 59, 6975-6998.	6.4	93
25	Agarose particle-templated porous bacterial cellulose and its application in cartilage growth in vitro. <i>Acta Biomaterialia</i> , 2015, 12, 129-138.	8.3	87
26	Organization and function of anionic phospholipids in bacteria. <i>Applied Microbiology and Biotechnology</i> , 2016, 100, 4255-4267.	3.6	86
27	Imaging mycobacterial growth and division with a fluorogenic probe. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 5271-5276.	7.1	77
28	MinD and MinE Interact with Anionic Phospholipids and Regulate Division Plane Formation in <i>Escherichia coli</i> . <i>Journal of Biological Chemistry</i> , 2012, 287, 38835-38844.	3.4	76
29	Pinoresinol: A lignol of plant origin serving for defense in a caterpillar. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 15497-15501.	7.1	73
30	Quorum Sensing between <i>Pseudomonas aeruginosa</i> Biofilms Accelerates Cell Growth. <i>Journal of the American Chemical Society</i> , 2011, 133, 5966-5975.	13.7	73
31	Flagellum Density Regulates <i>Proteus mirabilis</i> Swarmer Cell Motility in Viscous Environments. <i>Journal of Bacteriology</i> , 2013, 195, 368-377.	2.2	65
32	Propulsion of flexible polymer structures in a rotating magnetic field. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 204110.	1.8	63
33	Polar localization of <i>Escherichia coli</i> chemoreceptors requires an intact Tol-Pal complex. <i>Molecular Microbiology</i> , 2014, 92, 985-1004.	2.5	61
34	Using Liquid Crystals to Reveal How Mechanical Anisotropy Changes Interfacial Behaviors of Motile Bacteria. <i>Biophysical Journal</i> , 2014, 107, 255-265.	0.5	61
35	Direct Correlation between Motile Behavior and Protein Abundance in Single Cells. <i>PLoS Computational Biology</i> , 2016, 12, e1005041.	3.2	60
36	Generation of Monodisperse Particles by Using Microfluidics: Control over Size, Shape, and Composition. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 3799-3799.	13.8	55

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37	Studying the Dynamics of Flagella in Multicellular Communities of <i>Escherichia coli</i> by Using Biarsenical Dyes. <i>Applied and Environmental Microbiology</i> , 2010, 76, 1241-1250.	3.1	55
38	Enabling the Development and Deployment of Next Generation Point-of-Care Diagnostics. <i>PLoS Neglected Tropical Diseases</i> , 2015, 9, e0003676.	3.0	55
39	Field-Applicable Recombinase Polymerase Amplification Assay for Rapid Detection of <i>Mycoplasma capricolum</i> subsp. <i>capripneumoniae</i> . <i>Journal of Clinical Microbiology</i> , 2015, 53, 2810-2815.	3.9	55
40	DCAP: A Broad-Spectrum Antibiotic That Targets the Cytoplasmic Membrane of Bacteria. <i>Journal of the American Chemical Society</i> , 2012, 134, 11322-11325.	13.7	53
41	Mechanical strain sensing implicated in cell shape recovery in <i>Escherichia coli</i> . <i>Nature Microbiology</i> , 2017, 2, 17115.	13.3	52
42	Combining microscience and neurobiology. <i>Current Opinion in Neurobiology</i> , 2005, 15, 560-567.	4.2	51
43	Chemical-Biological Studies of Subcellular Organization in Bacteria. <i>Biochemistry</i> , 2011, 50, 7719-7734.	2.5	49
44	Bacterial transport of colloids in liquid crystalline environments. <i>Soft Matter</i> , 2015, 11, 8404-8408.	2.7	49
45	Mechanical Genomics Identifies Diverse Modulators of Bacterial Cell Stiffness. <i>Cell Systems</i> , 2016, 2, 402-411.	6.2	48
46	Pumping fluids in microfluidic systems using the elastic deformation of poly(dimethylsiloxane). <i>Lab on A Chip</i> , 2007, 7, 1832.	6.0	47
47	Detection of ESKAPE Bacterial Pathogens at the Point of Care Using Isothermal DNA-Based Assays in a Portable Degas-Actuated Microfluidic Diagnostic Assay Platform. <i>Applied and Environmental Microbiology</i> , 2017, 83, .	3.1	47
48	Inhibitors of bacterial tubulin target bacterial membranes <i>in vivo</i> . <i>MedChemComm</i> , 2013, 4, 112-119.	3.4	45
49	Anionic Phospholipids Stabilize RecA Filament Bundles in <i>Escherichia coli</i> . <i>Molecular Cell</i> , 2015, 60, 374-384.	9.7	45
50	Effects of confinement, surface-induced orientations and strain on dynamical behaviors of bacteria in thin liquid crystalline films. <i>Soft Matter</i> , 2015, 11, 6821-6831.	2.7	44
51	Fabrication of Microbial Biofilm Arrays by Geometric Control of Cell Adhesion. <i>Langmuir</i> , 2009, 25, 4643-4654.	3.5	43
52	Microfluidics for High School Chemistry Students. <i>Journal of Chemical Education</i> , 2014, 91, 112-115.	2.3	40
53	Mayolenes: Labile defensive lipids from the glandular hairs of a caterpillar ( <i>Pieris rapae</i> ). <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 6822-6827.	7.1	39
54	Synthesis of Polyether Exomethylene Paracyclophanes via an Intramolecular Pd-Catalyzed Bis-Enyne Benzannulation Protocol. <i>Journal of Organic Chemistry</i> , 1998, 63, 1217-1220.	3.2	36

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55	Simultaneous 3D cell distribution and bioactivity enhancement of bacterial cellulose (BC) scaffold for articular cartilage tissue engineering. <i>Cellulose</i> , 2019, 26, 2513-2528.	4.9	35
56	Studying Biomolecule Localization by Engineering Bacterial Cell Wall Curvature. <i>PLoS ONE</i> , 2013, 8, e84143.	2.5	35
57	The FtsLB subcomplex of the bacterial divisome is a tetramer with an uninterrupted FtsL helix linking the transmembrane and periplasmic regions. <i>Journal of Biological Chemistry</i> , 2018, 293, 1623-1641.	3.4	30
58	Modeling the Anodic Half-Cell of a Low-Temperature Coal Fuel Cell. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 5682-5686.	13.8	29
59	Bacterial Cellulose as a Substrate for Microbial Cell Culture. <i>Applied and Environmental Microbiology</i> , 2014, 80, 1926-1932.	3.1	28
60	Cardiolipin Alters <i>Rhodobacter sphaeroides</i> Cell Shape by Affecting Peptidoglycan Precursor Biosynthesis. <i>MBio</i> , 2019, 10, .	4.1	28
61	Characterization of <i>Caulobacter crescentus</i> FtsZ Protein Using Dynamic Light Scattering. <i>Journal of Biological Chemistry</i> , 2012, 287, 23878-23886.	3.4	26
62	Gyramides Prevent Bacterial Growth by Inhibiting DNA Gyrase and Altering Chromosome Topology. <i>ACS Chemical Biology</i> , 2014, 9, 1312-1319.	3.4	26
63	A Cardiolipin-Deficient Mutant of <i>Rhodobacter sphaeroides</i> Has an Altered Cell Shape and Is Impaired in Biofilm Formation. <i>Journal of Bacteriology</i> , 2015, 197, 3446-3455.	2.2	26
64	Iridoid biosynthesis in staphylinid rove beetles (Coleoptera: Staphylinidae, Philonthinae). <i>Insect Biochemistry and Molecular Biology</i> , 2001, 31, 583-591.	2.7	24
65	Mechanical Genomic Studies Reveal the Role of <i>d</i> -Alanine Metabolism in <i>Pseudomonas aeruginosa</i> Cell Stiffness. <i>MBio</i> , 2018, 9, .	4.1	24
66	Chiral Silylation Reagents for the Determination of Absolute Configuration by NMR Spectroscopy. <i>Organic Letters</i> , 2000, 2, 2381-2383.	4.6	22
67	The Oral Bacterium <i>Fusobacterium nucleatum</i> Binds <i>Staphylococcus aureus</i> and Alters Expression of the Staphylococcal Accessory Regulator <i>sarA</i> . <i>Microbial Ecology</i> , 2019, 78, 336-347.	2.8	22
68	New Silyl Ether Reagents for the Absolute Stereochemical Determination of Secondary Alcohols. <i>Organic Letters</i> , 2003, 5, 1745-1748.	4.6	20
69	Ionic Hydrogen Bonds and Lipid Packing Defects Determine the Binding Orientation and Insertion Depth of RecA on Multicomponent Lipid Bilayers. <i>Journal of Physical Chemistry B</i> , 2016, 120, 8424-8437.	2.6	20
70	Rapid Identification of ESKAPE Bacterial Strains Using an Autonomous Microfluidic Device. <i>PLoS ONE</i> , 2012, 7, e41245.	2.5	20
71	<i>N</i> -Benzyl-3-sulfonamidopyrrolidines Are a New Class of Bacterial DNA Gyrase Inhibitors. <i>ACS Medicinal Chemistry Letters</i> , 2011, 2, 289-292.	2.8	19
72	Building communities one bacterium at a time. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 18075-18076.	7.1	18

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73	The Synthesis and Antimicrobial Activity of Heterocyclic Derivatives of Totarol. ACS Medicinal Chemistry Letters, 2012, 3, 818-822.	2.8	18
74	Divin: A Small Molecule Inhibitor of Bacterial Divisome Assembly. Journal of the American Chemical Society, 2013, 135, 9768-9776.	13.7	17
75	Straining soft colloids in aqueous nematic liquid crystals. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5564-5569.	7.1	17
76	Bacterial Swarming Reduces Proteus mirabilis and Vibrio parahaemolyticus Cell Stiffness and Increases Î²-Lactam Susceptibility. MBio, 2019, 10, .	4.1	17
77	Chiral Silylation Reagents:â€% Determining Configuration via NMR-Spectroscopic Coanalysis. Organic Letters, 2004, 6, 3019-3022.	4.6	16
78	Rcs Phosphorelay Activation in Cardiolipin-Deficient Escherichia coli Reduces Biofilm Formation. Journal of Bacteriology, 2019, 201, .	2.2	15
79	Structureâ€Activity Studies of Divin: An Inhibitor of Bacterial Cell Division. ACS Medicinal Chemistry Letters, 2013, 4, 880-885.	2.8	13
80	Synthesis of Mayolene-16 and Mayolene-18:Â Larval Defensive Lipids from the European Cabbage Butterfly. Journal of Organic Chemistry, 2002, 67, 5896-5900.	3.2	12
81	Dissecting microbiological systems using materials science. Trends in Microbiology, 2009, 17, 100-108.	7.7	11
82	Membrane-Targeting DCAP Analogues with Broad-Spectrum Antibiotic Activity against Pathogenic Bacteria. ACS Medicinal Chemistry Letters, 2015, 6, 466-471.	2.8	11
83	Studying the Symbiotic Bacterium Xenorhabdus nematophila in Individual, Living <i>Steinernema carpcapsae</i> Nematodes Using Microfluidic Systems. MSphere, 2018, 3, .	2.9	11
84	Small Molecule Chelators Reveal That Iron Starvation Inhibits Late Stages of Bacterial Cytokinesis. ACS Chemical Biology, 2018, 13, 235-246.	3.4	10
85	Targeting quinolone- and aminocoumarin-resistant bacteria with new gyramide analogs that inhibit DNA gyrase. MedChemComm, 2017, 8, 942-951.	3.4	9
86	Oligochlorophens Are Potent Inhibitors of <i>Bacillus anthracis</i>. Antimicrobial Agents and Chemotherapy, 2010, 54, 3988-3990.	3.2	8
87	Maspin binds to cardiolipin in mitochondria and triggers apoptosis. FASEB Journal, 2019, 33, 6354-6364.	0.5	8
88	5-Alkyloxytryptamines are membrane-targeting, broad-spectrum antibiotics. Bioorganic and Medicinal Chemistry Letters, 2016, 26, 5539-5544.	2.2	5
89	Decoding the Chemical Language of Motile Bacteria by Using Highâ€Throughput Microfluidic Assays. ChemBioChem, 2015, 16, 2151-2155.	2.6	4
90	Exploring Predatory Nematode Chemotaxis Using Low-Cost and Easy-to-Use Microfluidics. American Biology Teacher, 2017, 79, 753-762.	0.2	3

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91	Spatial Structure of Microbes in Nature and the Biophysics of Cell-Cell Communication. Biological and Medical Physics Series, 2015, , 53-81.	0.4	3
92	Soft Materials that Intercept, Respond to, and Sequester Bacterial Siderophores. Chemistry of Materials, 2021, 33, 5401-5412.	6.7	2
93	Cycloalkene budding: mass spectrometric studies of competitive and dual cycloalkene extrusion reactions from doubly unsaturated aldehydeN,N-dimethylhydrazones. Rapid Communications in Mass Spectrometry, 2000, 14, 1105-1109.	1.5	1
94	Laboratory Activity Using Accessible Microfluidics to Study Nematode Behavior in an Electrical Field. Journal of Microbiology and Biology Education, 2018, 19, .	1.0	1
95	A chemist building paths to cell biology. Molecular Biology of the Cell, 2013, 24, 3264-3266.	2.1	0