David John Sherratt

List of Publications by Year
in descending order

118 papers	11,673 citations	36303 51 h-index	31849 101 g-index
133 all docs	133 docs citations	133 times ranked	6026 citing authors

#	Article	IF	Citations
1	Trans-complementable copy-number mutants of plasmid ColE1. Nature, 1980, 283, 216-218.	27.8	1,108
2	The importance of repairing stalled replication forks. Nature, 2000, 404, 37-41.	27.8	1,008
3	Multimerization of high copy number plasmids causes instability: Cole 1 encodes a determinant essential for plasmid monomerization and stability. Cell, 1984, 36, 1097-1103.	28.9	469
4	Stoichiometry and Architecture of Active DNA Replication Machinery in <i>Escherichia coli</i>. Science, 2010, 328, 498-501.	12.6	382
5	Spatial and temporal organization of replicating <i>Escherichia coli</i> chromosomes. Molecular Microbiology, 2003, 49, 731-743.	2.5	360
6	The transposon Tn1 as a probe for studying ColE1 structure and function. Molecular Genetics and Genomics, 1977, 151, 151-160.	2.4	356
7	Two related recombinases are required for site-specific recombination at dif and cer in E. coli K12. Cell, 1993, 75, 351-361.	28.9	324
8	FtsK Is a DNA Motor Protein that Activates Chromosome Dimer Resolution by Switching the Catalytic State of the XerC and XerD Recombinases. Cell, 2002, 108, 195-205.	28.9	291
9	Independent Positioning and Action of Escherichia coli Replisomes in Live Cells. Cell, 2008, 133, 90-102.	28.9	267
10	Dissection of the transposition process: A transposon-encoded site-specific recombination system. Molecular Genetics and Genomics, 1979, 175, 267-274.	2.4	260
11	In Vivo Architecture and Action of Bacterial Structural Maintenance of Chromosome Proteins. Science, 2012, 338, 528-531.	12.6	253
12	Double-Stranded DNA Translocation: Structure and Mechanism of Hexameric FtsK. Molecular Cell, 2006, 23, 457-469.	9.7	217
13	The two Escherichia coli chromosome arms locate to separate cell halves. Genes and Development, 2006, 20, 1727-1731.	5.9	198
14	Chromosome Replication and Segregation in Bacteria. Annual Review of Genetics, 2012, 46, 121-143.	7.6	194
15	MapZ marks the division sites and positions FtsZ rings in Streptococcus pneumoniae. Nature, 2014, 516, 259-262.	27.8	194
16	Site-specific recombination by Tn3 resolvase: Topological changes in the forward and reverse reactions. Cell, 1989, 58, 779-790.	28.9	188
17	Single-molecule DNA repair in live bacteria. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8063-8068.	7.1	181
18	Transposition and site-specific recombination: adapting DNA cut-and-paste mechanisms to a variety of genetic rearrangements. FEMS Microbiology Reviews, 2006, 21, 157-178.	8.6	179

#	ARTICLE	IF	CITATIONS
19	Bacterial Chromosome Dynamics. Science, 2003, 301, 780-785.	12.6	178
20	RecA bundles mediate homology pairing between distant sisters during DNA break repair. Nature, 2014, 506, 249-253.	27.8	174
21	Sequence-Directed DNA Translocation by Purified FtsK. Science, 2005, 307, 586-590.	12.6	163
22	Dancing around the divisome: asymmetric chromosome segregation in Escherichia coli. Genes and Development, 2005, 19, 2367-2377.	5.9	151
23	MukB colocalizes with the <i>oriC</i> region and is required for organization of the two <i>Escherichia coli</i> chromosome arms into separate cell halves. Molecular Microbiology, 2007, 65, 1485-1492.	2.5	149
24	The Single-Stranded Genome of Phage CTX Is the Form Used for Integration into the Genome of Vibrio cholerae. Molecular Cell, 2005, 19, 559-566.	9.7	146
25	The bacterial chromosome: architecture and action of bacterial SMC and SMC-like complexes. FEMS Microbiology Reviews, 2014, 38, 380-392.	8.6	128
26	Stochastic activation of a DNA damage response causes cell-to-cell mutation rate variation. Science, 2016, 351, 1094-1097.	12.6	125
27	MatP regulates the coordinated action of topoisomerase IV and MukBEF in chromosome segregation. Nature Communications, 2016, 7, 10466.	12.8	114
28	Modulation of <i>Escherichia coli</i> sister chromosome cohesion by topoisomerase IV. Genes and Development, 2008, 22, 2426-2433.	5.9	110
29	Topological Selectivity in Xer Site-Specific Recombination. Cell, 1997, 88, 855-864.	28.9	109
30	Tracking of controlled Escherichia coli replication fork stalling and restart at repressor-bound DNA in vivo. EMBO Journal, 2006, 25, 2596-2604.	7.8	107
31	Evidence for Divisome Localization Mechanisms Independent of the Min System and SlmA in Escherichia coli. PLoS Genetics, 2014, 10, e1004504.	3.5	106
32	The Localization and Action of Topoisomerase IV in Escherichia coli Chromosome Segregation Is Coordinated by the SMC Complex, MukBEF. Cell Reports, 2015, 13, 2587-2596.	6.4	100
33	Molecular Mechanism of Sequence-Directed DNA Loading and Translocation by FtsK. Molecular Cell, 2008, 31, 498-509.	9.7	97
34	Unlinking chromosome catenanes in vivo by site-specific recombination. EMBO Journal, 2007, 26, 4228-4238.	7.8	93
35	The FtsK Î³ domain directs oriented DNA translocation by interacting with KOPS. Nature Structural and Molecular Biology, 2006, 13, 965-972.	8.2	92
36	Single-molecule imaging of UvrA and UvrB recruitment to DNA lesions in living Escherichia coli. Nature Communications, 2016, 7, 12568.	12.8	88

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37	Pentapeptide scanning mutagenesis: random insertion of a variable five amino acid cassette in a target protein. Nucleic Acids Research, 1997, 25, 1866-1867.	14.5	86
38	Complete Nucleotide Sequence of Klebsiella pneumoniae Multiresistance Plasmid pJHCMW1. Antimicrobial Agents and Chemotherapy, 2002, 46, 3422-3427.	3.2	85
39	Replication and segregation of an <i>Escherichia coli</i> chromosome with two replication origins. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E243-50.	7.1	84
40	Repressor titration: a novel system for selection and stable maintenance of recombinant plasmids. Nucleic Acids Research, 1998, 26, 2120-2124.	14.5	82
41	Organization of the Escherichia coli Chromosome by a MukBEF Axial Core. Molecular Cell, 2020, 78, 250-260.e5.	9.7	81
42	Decatenation of DNA circles by FtsK-dependent Xer site-specific recombination. EMBO Journal, 2003, 22, 6399-6407.	7.8	77
43	The bacterial cell cycle, chromosome inheritance and cell growth. Nature Reviews Microbiology, 2019, 17, 467-478.	28.6	77
44	Reciprocal Control of Catalysis by the Tyrosine Recombinases XerC and XerD. Molecular Cell, 1999, 4, 949-959.	9.7	76
45	Resolution of Holliday junctions by RuvABC prevents dimer formation in rep mutants and UV-irradiated cells. Molecular Microbiology, 2000, 37, 180-191.	2.5	72
46	Single-molecule imaging of DNA gyrase activity in living<i>Escherichia coli</i>. Nucleic Acids Research, 2019, 47, 210-220.	14.5	72
47	Recombination and chromosome segregation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2004, 359, 61-69.	4.0	70
48	The SMC Complex MukBEF Recruits Topoisomerase IV to the Origin of Replication Region in Live Escherichia coli. MBio, 2014, 5, e01001-13.	4.1	66
49	The <i>Escherichia coli</i> DNA translocase FtsK. Biochemical Society Transactions, 2010, 38, 395-398.	3.4	65
50	The sss gene product, which affects pyoverdin production in Pseudomonas aeruginosa 7NSK2, is a site-specific recombinease. Molecular Microbiology, 1994, 14, 1011-1020.	2.5	64
51	Slow unloading leads to DNA-bound Î²2-sliding clamp accumulation in live Escherichia coli cells. Nature Communications, 2014, 5, 5820.	12.8	60
52	FtsK-dependent XerCD- <i>dif</i> recombination unlinks replication catenanes in a stepwise manner. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20906-20911.	7.1	58
53	Single-Molecule Imaging of FtsK Translocation Reveals Mechanistic Features of Protein-Protein Collisions on DNA. Molecular Cell, 2014, 54, 832-843.	9.7	58
54	Mutant Escherichia coli arginine repressor proteins that fail to bind l-arginine, yet retain the ability to bind their normal DNA-binding sites. Molecular Microbiology, 1994, 13, 609-618.	2.5	57

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55	Conservation of xer site-specific recombination genes in bacteria. Molecular Microbiology, 1999, 34, 1146-1148.	2.5	56
56	Single-molecule imaging of DNA curtains reveals mechanisms of KOPS sequence targeting by the DNA translocase FtsK. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6531-6536.	7.1	56
57	Dissection of a functional interaction between the DNA translocase, FtsK, and the XerD recombinase. Molecular Microbiology, 2006, 59, 1754-1766.	2.5	55
58	Interplay between recombination, cell division and chromosome structure during chromosome dimer resolution in Escherichia coli. Molecular Microbiology, 2001, 39, 904-913.	2.5	54
59	Shaping the landscape of the<i>Escherichia coli</i>chromosome: replication-transcription encounters in cells with an ectopic replication origin. Nucleic Acids Research, 2015, 43, 7865-7877.	14.5	53
60	The ArcA/ArcB twoâ€component regulatory system of <i>Escherichia coli</i> is essential for Xer siteâ€specific recombination at <i>psi</i>. Molecular Microbiology, 1998, 28, 521-530.	2.5	52
61	Asymmetric activation of Xer siteâ€specific recombination by FtsK. EMBO Reports, 2004, 5, 399-404.	4.5	52
62	Transient non-specific DNA binding dominates the target search of bacterial DNA-binding proteins. Molecular Cell, 2021, 81, 1499-1514.e6.	9.7	51
63	Interactions of the site-specific recombinases XerC and XerD with the recombination site dif. Nucleic Acids Research, 1994, 22, 5613-5620.	14.5	50
64	The Escherichia coli SMC Complex, MukBEF, Shapes Nucleoid Organization Independently of DNA Replication. Journal of Bacteriology, 2012, 194, 4669-4676.	2.2	50
65	MukB ATPases are regulated independently by the N- and C-terminal domains of MukF kleisin. ELife, 2018, 7, .	6.0	50
66	Replication fork blockage by transcription factor-DNA complexes in Escherichia coli. Nucleic Acids Research, 2006, 34, 5194-5202.	14.5	49
67	Small Plasmids HarboringqnrB19: a Model for Plasmid Evolution Mediated by Site-Specific Recombination atoriTand Xer Sites. Antimicrobial Agents and Chemotherapy, 2012, 56, 1821-1827.	3.2	49
68	Sequence-specific assembly of FtsK hexamers establishes directional translocation on DNA. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20263-20268.	7.1	46
69	MinC, MinD, and MinE Drive Counter-oscillation of Early-Cell-Division Proteins Prior to Escherichia coli Septum Formation. MBio, 2013, 4, e00856-13.	4.1	45
70	CRISPR-mediated control of the bacterial initiation of replication. Nucleic Acids Research, 2016, 44, 3801-3810.	14.5	41
71	Coordinated control of XerC and XerD catalytic activities during holliday junction resolution 1 1Edited by M. Yaniv. Journal of Molecular Biology, 2000, 299, 391-403.	4.2	39
72	The N-Terminal Membrane-Spanning Domain of the Escherichia coli DNA Translocase FtsK Hexamerizes at Midcell. MBio, 2013, 4, e00800-13.	4.1	36

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73	Stability by multimer resolution of pJHCMW1 is due to the Tn1331 resolvase and not to the Escherichia coli Xer system The GenBank accession number for the sequence of the pJHCMW1 EcoRIâ€“SacI fragment reported in this paper is AF135798.. Microbiology (United Kingdom), 2000, 146, 581-589.	1.8	36
74	Chromosome segregation. Current Opinion in Microbiology, 2001, 4, 653-659.	5.1	35
75	Independent Segregation of the Two Arms of the<i>Escherichia coli ori</i>Region Requires neither RNA Synthesis nor MreB Dynamics. Journal of Bacteriology, 2010, 192, 6143-6153.	2.2	35
76	KOPSâ€guided DNA translocation by FtsK safeguards <i>Escherichia coli</i> chromosome segregation. Molecular Microbiology, 2009, 71, 1031-1042.	2.5	32
77	Visualizing Protein-DNA Interactions in Live Bacterial Cells Using Photoactivated Single-molecule Tracking. Journal of Visualized Experiments, 2014, , .	0.3	32
78	DNA binding of Escherichia coli arginine repressor mutants altered in oligomeric state. Molecular Microbiology, 1997, 24, 1143-1156.	2.5	31
79	Single-Molecule Analysis of Bacterial DNA Repair and Mutagenesis. Annual Review of Biophysics, 2017, 46, 411-432.	10.0	29
80	Site-specific recombination at dif by Haemophilus influenzae XerC. Molecular Microbiology, 1999, 31, 915-926.	2.5	28
81	Conformational transitions during FtsK translocase activation of individual XerCD-dif recombination complexes. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17302-17307.	7.1	28
82	Whole-Genome Comparative Analysis of Two Carbapenem-Resistant ST-258Klebsiella pneumoniaeStrains Isolated during a North-Eastern Ohio Outbreak: Differences within the High Heterogeneity Zones. Genome Biology and Evolution, 2016, 8, 2036-2043.	2.5	28
83	Self-organised segregation of bacterial chromosomal origins. ELife, 2019, 8, .	6.0	27
84	Cis and trans in site-specific recombination. Molecular Microbiology, 1996, 20, 234-237.	2.5	26
85	Direct observation of end resection by RecBCD during double-stranded DNA break repair in vivo. Nucleic Acids Research, 2018, 46, 1821-1833.	14.5	26
86	Replicationâ€directed sister chromosome alignment in <i>Escherichia coli</i>. Molecular Microbiology, 2010, 75, 1090-1097.	2.5	23
87	Pathways of DNA unlinking: A story of stepwise simplification. Scientific Reports, 2017, 7, 12420.	3.3	23
88	Small Klebsiella pneumoniae Plasmids: Neglected Contributors to Antibiotic Resistance. Frontiers in Microbiology, 2019, 10, 2182.	3.5	23
89	SMC complexes organize the bacterial chromosome by lengthwise compaction. Current Genetics, 2020, 66, 895-899.	1.7	23
90	Differences in Resolution of mwr -Containing Plasmid Dimers Mediated by the Klebsiella pneumoniae and Escherichia coli XerC Recombinases: Potential Implications in Dissemination of Antibiotic Resistance Genes. Journal of Bacteriology, 2006, 188, 2812-2820.	2.2	22

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91	DNA sequence of recombinaseâ€binding sites can determine Xer siteâ€specific recombination outcome. Molecular Microbiology, 1997, 23, 387-398.	2.5	21
92	C-terminal interactions between the XerC and XerD site-specific recombinases. Molecular Microbiology, 1999, 32, 1031-1042.	2.5	21
93	Dynamic architecture of the Escherichia coli structural maintenance of chromosomes (SMC) complex, MukBEF. Nucleic Acids Research, 2019, 47, 9696-9707.	14.5	20
94	Switching catalytic activity in the XerCD site-specific recombination machine 1 1Edited by J. Karn. Journal of Molecular Biology, 2001, 312, 45-57.	4.2	19
95	Tethered Fluorophore Motion: Studying Large DNA Conformational Changes by Single-fluorophore Imaging. Biophysical Journal, 2014, 107, 1205-1216.	0.5	19
96	Functional Analysis of the Acinetobacter baumannii XerC and XerD Site-Specific Recombinases: Potential Role in Dissemination of Resistance Genes. Antibiotics, 2020, 9, 405.	3.7	19
97	Relating primary structure to function in the Escherichia coli XerD siteâ€specific recombinase. Molecular Microbiology, 1997, 24, 1071-1082.	2.5	17
98	Osmoregulation of Dimer Resolution at the Plasmid pJHCMW1 mwr Locus by Escherichia coli XerCD Recombination. Journal of Bacteriology, 2002, 184, 1607-1616.	2.2	17
99	Activation of Xer-recombination at dif: structural basis of the FtsKÎ³â€"XerD interaction. Scientific Reports, 2016, 6, 33357.	3.3	17
100	mwr Xer site-specific recombination is hypersensitive to DNA supercoiling. Nucleic Acids Research, 2009, 37, 3580-3587.	14.5	15
101	Functional Analysis of the C-terminal Domains of the Site-specific Recombinases XerC and XerD. Journal of Molecular Biology, 2003, 330, 15-27.	4.2	14
102	Assembly, translocation, and activation of XerCD-difrecombination by FtsK translocase analyzed in real-time by FRET and two-color tethered fluorophore motion. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5133-E5141.	7.1	14
103	Competition between DivIVA and the nucleoid for ParA binding promotes segrosome separation and modulates mycobacterial cell elongation. Molecular Microbiology, 2019, 111, 204-220.	2.5	14
104	The progression of replication forks at natural replication barriers in live bacteria. Nucleic Acids Research, 2016, 44, 6262-6273.	14.5	12
105	Acyl carrier protein promotes MukBEF action in Escherichia coli chromosome organization-segregation. Nature Communications, 2021, 12, 6721.	12.8	12
106	<i>fpr</i> , a Deficient Xer Recombination Site from a <i>Salmonella</i> Plasmid, Fails To Confer Stability by Dimer Resolution: Comparative Studies with the pJHCMW1 <i>mwr</i> Site. Journal of Bacteriology, 2010, 192, 883-887.	2.2	11
107	Nonrandom segregation of sister chromosomes by Escherichia coli MukBEF. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2022078118.	7.1	11
108	Transposition and site-specific recombination: adapting DNA cut-and-paste mechanisms to a variety of genetic rearrangements. FEMS Microbiology Reviews, 1997, 21, 157-178.	8.6	9

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109	Chromosome Dimer Resolution. , 0, , 513-524.		9
110	Plasmid partition: sisters drifting apart. EMBO Journal, 2013, 32, 1208-1210.	7.8	8
111	Competitive binding of MatP and topoisomerase IV to the MukB hinge domain. ELife, 2021, 10, .	6.0	8
112	Breaking symmetry in SMCs. Nature Structural and Molecular Biology, 2013, 20, 246-249.	8.2	5
113	Oscillation helps to get division right. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2803-2805.	7.1	5
114	Enzymes that keep DNA under control. EMBO Reports, 2001, 2, 271-276.	4.5	2
115	Chromosome stitch-up?. Science, 2017, 355, 460-461.	12.6	1
116	The journey of a molecular detective. Heredity, 2019, 123, 18-22.	2.6	0
117	Catching an invader. Nature Reviews Microbiology, 2020, 18, 194-194.	28.6	0
118	A molecular carâ€crash: a speeding motor hits a new ultraâ€stable nonâ€covalent interaction. FASEB Journal, 2010, 24, lb168.	0.5	0