Eric C Greene

List of Publications by Year
in descending order

118 papers	8,209 citations	66234 42 h-index	56606 83 g-index
121 all docs	121 docs citations	121 times ranked	7637 citing authors

#	Article	IF	Citations
1	DNA interrogation by the CRISPR RNA-guided endonuclease Cas9. Nature, 2014, 507, 62-67.	13.7	1,573
2	Computed structures of core eukaryotic protein complexes. Science, 2021, 374, eabm4805.	6.0	316
3	The condensin complex is a mechanochemical motor that translocates along DNA. Science, 2017, 358, 672-676.	6.0	266
4	BRCA1â€“BARD1 promotes RAD51-mediated homologous DNA pairing. Nature, 2017, 550, 360-365.	13.7	262
5	Visualizing one-dimensional diffusion of proteins along DNA. Nature Structural and Molecular Biology, 2008, 15, 768-774.	3.6	247
6	Single-Molecule Imaging Reveals a Collapsed Conformational State for DNA-Bound Cohesin. Cell Reports, 2016, 15, 988-998.	2.9	220
7	Dynamic Basis for One-Dimensional DNA Scanning by the Mismatch Repair Complex Msh2-Msh6. Molecular Cell, 2007, 28, 359-370.	4.5	215
8	DNA Sequence Alignment by Microhomology Sampling during Homologous Recombination. Cell, 2015, 160, 856-869.	13.5	182
9	Surveillance and Processing of Foreign DNA by the Escherichia coli CRISPR-Cas System. Cell, 2015, 163, 854-865.	13.5	177
10	Concentration-Dependent Exchange of Replication Protein A on Single-Stranded DNA Revealed by Single-Molecule Imaging. PLoS ONE, 2014, 9, e87922.	1.1	176
11	Visualizing one-dimensional diffusion of eukaryotic DNA repair factors along a chromatin lattice. Nature Structural and Molecular Biology, 2010, 17, 932-938.	3.6	175
12	RPA antagonizes microhomology-mediated repair of DNA double-strand breaks. Nature Structural and Molecular Biology, 2014, 21, 405-412.	3.6	162
13	Long-distance lateral diffusion of human Rad51 on double-stranded DNA. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 1221-1226.	3.3	156
14	Single-molecule imaging reveals target-search mechanisms during DNA mismatch repair. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3074-83.	3.3	156
15	Single-molecule imaging reveals mechanisms of protein disruption by a DNA translocase. Nature, 2010, 468, 983-987.	13.7	153
16	Base triplet stepping by the Rad51/RecA family of recombinases. Science, 2015, 349, 977-981.	6.0	145
17	Organized Arrays of Individual DNA Molecules Tethered to Supported Lipid Bilayers. Langmuir, 2006, 22, 292-299.	1.6	131
18	Human Condensin I and II Drive Extensive ATP-Dependent Compaction of Nucleosome-Bound DNA. Molecular Cell, 2020, 79, 99-114.e9.	4.5	129

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19	DNA Repair Pathway Choices in CRISPR-Cas9-Mediated Genome Editing. Trends in Genetics, 2021, 37, 639-656.	2.9	126
20	Protein dynamics of human RPA and RAD51 on ssDNA during assembly and disassembly of the RAD51 filament. Nucleic Acids Research, 2017, 45, 749-761.	6.5	120
21	DNA Curtains for High-Throughput Single-Molecule Optical Imaging. Methods in Enzymology, 2010, 472, 293-315.	0.4	116
22	Tension modulates actin filament polymerization mediated by formin and profilin. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9752-9757.	3.3	115
23	The promoter-search mechanism of Escherichia coli RNA polymerase is dominated by three-dimensional diffusion. Nature Structural and Molecular Biology, 2013, 20, 174-181.	3.6	110
24	DNA Curtains and Nanoscale Curtain Rods: High-Throughput Tools for Single Molecule Imaging. Langmuir, 2008, 24, 10524-10531.	1.6	95
25	Protein dynamics during presynaptic-complex assembly on individual single-stranded DNA molecules. Nature Structural and Molecular Biology, 2014, 21, 893-900.	3.6	81
26	Single-molecule imaging of DNA curtains reveals intrinsic energy landscapes for nucleosome deposition. Nature Structural and Molecular Biology, 2009, 16, 1056-1062.	3.6	80
27	The Dynamics of Eukaryotic Replication Initiation: Origin Specificity, Licensing, and Firing at the Single-Molecule Level. Molecular Cell, 2015, 58, 483-494.	4.5	80
28	A DNA-translocating Snf2 Molecular Motor: Saccharomyces cerevisiae Rdh54 Displays Processive Translocation and Extrudes DNA Loops. Journal of Molecular Biology, 2007, 369, 940-953.	2.0	77
29	Rad54 Drives ATP Hydrolysis-Dependent DNA Sequence Alignment during Homologous Recombination. Cell, 2020, 181, 1380-1394.e18.	13.5	77
30	Single-Stranded DNA Curtains for Real-Time Single-Molecule Visualization of Proteinâ€“Nucleic Acid Interactions. Analytical Chemistry, 2012, 84, 7607-7612.	3.2	70
31	DNA Sequence Alignment during Homologous Recombination. Journal of Biological Chemistry, 2016, 291, 11572-11580.	1.6	65
32	Nanofabricated Racks of Aligned and Anchored DNA Substrates for Single-Molecule Imaging. Langmuir, 2010, 26, 1372-1379.	1.6	62
33	Telomere Recognition and Assembly Mechanism of Mammalian Shelterin. Cell Reports, 2017, 18, 41-53.	2.9	61
34	Functional significance of the Rad51-Srs2 complex in Rad51 presynaptic filament disruption. Nucleic Acids Research, 2009, 37, 6754-6764.	6.5	60
35	Generalized nucleation and looping model for epigenetic memory of histone modifications. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4180-9.	3.3	60
36	Single-Molecule Imaging of FtsK Translocation Reveals Mechanistic Features of Protein-Protein Collisions on DNA. Molecular Cell, 2014, 54, 832-843.	4.5	58

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37	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.	3.3	56
38	Visualizing the Assembly of Human Rad51 Filaments on Double-stranded DNA. Journal of Molecular Biology, 2006, 363, 713-728.	2.0	55
39	DNA curtains. Methods in Cell Biology, 2014, 123, 217-234.	0.5	55
40	A change of view: homologous recombination at single-molecule resolution. Nature Reviews Genetics, 2018, 19, 191-207.	7.7	53
41	Direct Observation of Single MuB Polymers. Molecular Cell, 2002, 9, 1079-1089.	4.5	47
42	Human RAD52 interactions with replication protein A and the RAD51 presynaptic complex. Journal of Biological Chemistry, 2017, 292, 11702-11713.	1.6	47
43	The Rad51 paralog complex Rad55-Rad57 acts as a molecular chaperone during homologous recombination. Molecular Cell, 2021, 81, 1043-1057.e8.	4.5	45
44	Developmentally regulated initiation of DNA synthesis by telomerase: evidence for factor-assistedde novotelomere formation. EMBO Journal, 1997, 16, 2507-2518.	3.5	44
45	Parallel Arrays of Geometric Nanowells for Assembling Curtains of DNA with Controlled Lateral Dispersion. Langmuir, 2008, 24, 11293-11299.	1.6	44
46	How do proteins locate specific targets in DNA?. Chemical Physics Letters, 2013, 570, 1-11.	1.2	44
47	The importance of surfaces in single-molecule bioscience. Molecular BioSystems, 2008, 4, 394.	2.9	43
48	Structural transitions within human Rad51 nucleoprotein filaments. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12688-12693.	3.3	43
49	A Polar and Nucleotide-Dependent Mechanism of Action for RAD51 Paralogs in RAD51 Filament Remodeling. Molecular Cell, 2016, 64, 926-939.	4.5	43
50	Dissociation of Rad51 Presynaptic Complexes and Heteroduplex DNA Joints by Tandem Assemblies of Srs2. Cell Reports, 2017, 21, 3166-3177.	2.9	43
51	Monitoring Replication Protein A (RPA) dynamics in homologous recombination through site-specific incorporation of non-canonical amino acids. Nucleic Acids Research, 2017, 45, 9413-9426.	6.5	43
52	Target Immunity during Mu DNA Transposition. Molecular Cell, 2002, 10, 1367-1378.	4.5	39
53	Defining the influence of Rad51 and Dmc1 lineage-specific amino acids on genetic recombination. Genes and Development, 2019, 33, 1191-1207.	2.7	38
54	DNA Dynamics and Single-Molecule Biology. Chemical Reviews, 2014, 114, 3072-3086.	23.0	37

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55	Rad52 Restrains Resection at DNA Double-Strand Break Ends in Yeast. Molecular Cell, 2019, 76, 699-711.e6.	4.5	37
56	ATP-dependent Chromatin Remodeling by the Saccharomyces cerevisiae Homologous Recombination Factor Rdh54. Journal of Biological Chemistry, 2008, 283, 10445-10452.	1.6	36
57	Yeast Srs2 Helicase Promotes Redistribution of Single-Stranded DNA-Bound RPA and Rad52 in Homologous Recombination Regulation. Cell Reports, 2017, 21, 570-577.	2.9	36
58	Regulatory control of Sgs1 and Dna2 during eukaryotic DNA end resection. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6091-6100.	3.3	35
59	Molecular Traffic Jams on DNA. Annual Review of Biophysics, 2013, 42, 241-263.	4.5	34
60	Regulation of Hed1 and Rad54 binding during maturation of the meiosisâ€specific presynaptic complex. EMBO Journal, 2018, 37, .	3.5	33
61	Single-molecule visualization of human BLM helicase as it acts upon double- and single-stranded DNA substrates. Nucleic Acids Research, 2019, 47, 11225-11237.	6.5	32
62	Single-Stranded DNA Curtains for Studying Homologous Recombination. Methods in Enzymology, 2017, 582, 193-219.	0.4	31
63	The Unstructured Linker Arms of Mlh1â€“Pms1 Are Important for Interactions with DNA during Mismatch Repair. Journal of Molecular Biology, 2012, 422, 192-203.	2.0	30
64	Supported Lipid Bilayers and DNA Curtains for High-Throughput Single-Molecule Studies. Methods in Molecular Biology, 2011, 745, 447-461.	0.4	30
65	Functional interactions of meiotic recombination factors Rdh54 and Dmc1. DNA Repair, 2009, 8, 279-284.	1.3	29
66	Meiosis-specific recombinase Dmc1 is a potent inhibitor of the Srs2 antirecombinase. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10041-E10048.	3.3	29
67	Single-Stranded DNA Curtains for Studying the Srs2 Helicase Using Total Internal Reflection Fluorescence Microscopy. Methods in Enzymology, 2018, 600, 407-437.	0.4	29
68	Visualizing the Assembly and Disassembly Mechanisms of the MuB Transposition Targeting Complex. Journal of Biological Chemistry, 2004, 279, 16736-16743.	1.6	28
69	Visualizing protein movement on DNA at the single-molecule level using DNA curtains. DNA Repair, 2014, 20, 94-109.	1.3	28
70	ATP hydrolysis Promotes Duplex DNA Release by the RecA Presynaptic Complex. Journal of Biological Chemistry, 2016, 291, 22218-22230.	1.6	28
71	Visualizing recombination intermediates with single-stranded DNA curtains. Methods, 2016, 105, 62-74.	1.9	27
72	Dynamics of a protein polymer: the assembly and disassembly pathways of the MuB transposition target complex. EMBO Journal, 2002, 21, 1477-1486.	3.5	26

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73	Sequence imperfections and base triplet recognition by the Rad51/RecA family of recombinases. Journal of Biological Chemistry, 2017, 292, 11125-11135.	1.6	26
74	The RecQ helicase Sgs1 drives ATP-dependent disruption of Rad51 filaments. Nucleic Acids Research, 2019, 47, 4694-4706.	6.5	26
75	RADX controls RAD51 filament dynamics to regulate replication fork stability. Molecular Cell, 2021, 81, 1074-1083.e5.	4.5	26
76	Visualizing the Disassembly of S. cerevisiae Rad51 Nucleoprotein Filaments. Journal of Molecular Biology, 2009, 388, 703-720.	2.0	24
77	Spontaneous self-segregation of Rad51 and Dmc1 DNA recombinases within mixed recombinase filaments. Journal of Biological Chemistry, 2018, 293, 4191-4200.	1.6	24
78	The biochemistry of early meiotic recombination intermediates. Cell Cycle, 2018, 17, 2520-2530.	1.3	24
79	Single-Molecule Studies of Transcription: From One RNA Polymerase at a Time to the Gene Expression Profile of a Cell. Journal of Molecular Biology, 2011, 412, 814-831.	2.0	23
80	Flexible Positioning of the Telomerase-Associated Nuclease Leads to Preferential Elimination of Nontelomeric DNA. Molecular and Cellular Biology, 1998, 18, 1544-1552.	1.1	21
81	Sequential eviction of crowded nucleoprotein complexes by the exonuclease RecBCD molecular motor. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E6322-E6331.	3.3	21
82	Helicase Mechanisms During Homologous Recombination in Saccharomyces cerevisiae. Annual Review of Biophysics, 2019, 48, 255-273.	4.5	21
83	Dynamic interactions of the homologous pairing 2 (Hop2)â€“meiotic nuclear divisions 1 (Mnd1) protein complex with meiotic presynaptic filaments in budding yeast. Journal of Biological Chemistry, 2019, 294, 490-501.	1.6	19
84	Biochemical attributes of mitotic and meiotic presynaptic complexes. DNA Repair, 2018, 71, 148-157.	1.3	18
85	Single molecule studies of homologous recombination. Molecular BioSystems, 2008, 4, 1094.	2.9	17
86	Rad54 and Rdh54 occupy spatially and functionally distinct sites within the Rad51â€ss <scp>DNA</scp> presynaptic complex. EMBO Journal, 2020, 39, e105705.	3.5	17
87	Analyses of the yeast Rad51 recombinase A265V mutant reveal different in vivo roles of Swi2-like factors. Nucleic Acids Research, 2011, 39, 6511-6522.	6.5	16
88	Structures and single-molecule analysis of bacterial motor nuclease AdnAB illuminate the mechanism of DNA double-strand break resection. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 24507-24516.	3.3	16
89	Assembly of Recombinant Nucleosomes on Nanofabricated DNA Curtains for Single-Molecule Imaging. Methods in Molecular Biology, 2011, 778, 243-258.	0.4	16
90	Single-molecule visualization of human RECQ5 interactions with single-stranded DNA recombination intermediates. Nucleic Acids Research, 2021, 49, 285-305.	6.5	15

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91	Measuring intermolecular rupture forces with a combined TIRF-optical trap microscope and DNA curtains. Biochemical and Biophysical Research Communications, 2012, 426, 565-570.	1.0	11
92	Rad54 and Rdh54 prevent Srs2-mediated disruption of Rad51 presynaptic filaments. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	11
93	Bloom helicase mediates formation of large singleâ€“stranded DNA loops during DNA end processing. Nature Communications, 2022, 13, 2248.	5.8	11
94	Visualizing the Behavior of Human Rad51 at the Single-Molecule Level. Cell Cycle, 2006, 5, 1033-1038.	1.3	7
95	New roles for RAD52 in DNA repair. Cell Research, 2018, 28, 1127-1128.	5.7	7
96	Mechanistic Insights From Single-Molecule Studies of Repair of Double Strand Breaks. Frontiers in Cell and Developmental Biology, 2021, 9, 745311.	1.8	7
97	DNA Curtains Shed Light on Complex Molecular Systems During Homologous Recombination. Journal of Visualized Experiments, 2020, , .	0.2	6
98	Clutch mechanism of chemomechanical coupling in a DNA resecting motor nuclease. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2023955118.	3.3	6
99	The Role of the Rad55â€“Rad57 Complex in DNA Repair. Genes, 2021, 12, 1390.	1.0	6
100	Srs2 and Pif1 as Model Systems for Understanding Sf1a and Sf1b Helicase Structure and Function. Genes, 2021, 12, 1319.	1.0	5
101	Single-Stranded DNA Curtains for Single-Molecule Visualization of Rad51-ssDNA Filament Dynamics. Methods in Molecular Biology, 2021, 2281, 193-207.	0.4	4
102	Demystifying the D-loop during DNA recombination. Nature, 2020, 586, 677-678.	13.7	4
103	XPD Helicase Speeds through a Molecular Traffic Jam. Molecular Cell, 2009, 35, 549-550.	4.5	2
104	Target search dynamics during post-replicative mismatch repair. Cell Cycle, 2013, 12, 537-538.	1.3	2
105	On the influence of protein-DNA register during homologous recombination. Cell Cycle, 2016, 15, 172-175.	1.3	2
106	Sliding to the rescue of damaged DNA. ELife, 2012, 1, e00347.	2.8	2
107	Structureâ€“activity relationships at a nucleobase-stacking tryptophan required for chemomechanical coupling in the DNA resecting motor-nuclease AdnAB. Nucleic Acids Research, 2022, 50, 952-961.	6.5	2
108	Molecular Traffic Jams on DNA Highways: Single Molecule Observation of Collisions Between RecBCD Helicase and DNA Binding Proteins. Biophysical Journal, 2010, 98, 61a-62a.	0.2	1

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109	Single-Molecule DNA Curtains Reveals the Details of KOPS Targeting, Translocation, and Collision with Protein Roadblocks of DNA Translocase FtsK. Biophysical Journal, 2013, 104, 173a.	0.2	1
110	A Molecular Take on Aesopâ€™s The Oak and the Reeds. Cell, 2015, 160, 1039-1040.	13.5	1
111	Visual Biochemistry: High Throughput Single Molecule Imaging of Protein DNA Interactions. Biophysical Journal, 2010, 98, 185a-186a.	0.2	0
112	Single-Molecule Imaging Reveals Mechanisms of Roadblock Clearance by DNA Motor Enzymes. Biophysical Journal, 2012, 102, 610a-611a.	0.2	0
113	Single-Stranded DNA Curtains for Real-Time Single-Molecule Visualization of Proteinâ^'Nucleic Acid Interactions. Biophysical Journal, 2013, 104, 178a.	0.2	0
114	E. Coli RNA Polymerase Searches for Promoters through 3D Diffusion. Biophysical Journal, 2013, 104, 541a.	0.2	0
115	Replication Protein A Blocks the Way. Biochemistry, 2017, 56, 1809-1810.	1.2	0
116	Visualizing DNA repair proteins in action. FASEB Journal, 2006, 20, .	0.2	0
117	Editorial overview: Recombination â€" the ends justify the means. Current Opinion in Genetics and Development, 2021, 71, iii-vii.	1.5	0
118	Single-molecule studies of yeast Rad51 paralogs. Methods in Enzymology, 2021, 661, 343-362.	0.4	0