John van der Oost

List of Publications by Year
in descending order

144 papers	25,321 citations	30070 54 h-index	9103 144 g-index
152 all docs	152 docs citations	152 times ranked	19243 citing authors

#	Article	IF	Citations
1	Cpf1 Is a Single RNA-Guided Endonuclease of a Class 2 CRISPR-Cas System. Cell, 2015, 163, 759-771.	28.9	3,558
2	Small CRISPR RNAs Guide Antiviral Defense in Prokaryotes. Science, 2008, 321, 960-964.	12.6	2,138
3	An updated evolutionary classification of CRISPRâ€"Cas systems. Nature Reviews Microbiology, 2015, 13, 722-736.	28.6	2,081
4	Evolution and classification of the CRISPRâ€"Cas systems. Nature Reviews Microbiology, 2011, 9, 467-477.	28.6	2,078
5	Evolutionary classification of CRISPRâ€"Cas systems: a burst of class 2 and derived variants. Nature Reviews Microbiology, 2020, 18, 67-83.	28.6	1,427
6	Multiplex gene editing by CRISPRâ€"Cpf1 using a single crRNA array. Nature Biotechnology, 2017, 35, 31-34.	17.5	736
7	Interference by clustered regularly interspaced short palindromic repeat (CRISPR) RNA is governed by a seed sequence. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 10098-10103.	7.1	665
8	Pathogen-induced activation of disease-suppressive functions in the endophytic root microbiome. Science, 2019, 366, 606-612.	12.6	621
9	Unravelling the structural and mechanistic basis of CRISPRâ€"Cas systems. Nature Reviews Microbiology, 2014, 12, 479-492.	28.6	600
10	Codon Bias as a Means to Fine-Tune Gene Expression. Molecular Cell, 2015, 59, 149-161.	9.7	554
11	Diverse evolutionary roots and mechanistic variations of the CRISPR-Cas systems. Science, 2016, 353, aad5147.	12.6	523
12	Structural basis for CRISPR RNA-guided DNA recognition by Cascade. Nature Structural and Molecular Biology, 2011, 18, 529-536.	8.2	498
13	CRISPR Immunity Relies on the Consecutive Binding and Degradation of Negatively Supercoiled Invader DNA by Cascade and Cas3. Molecular Cell, 2012, 46, 595-605.	9.7	475
14	CRISPR-based adaptive and heritable immunity in prokaryotes. Trends in Biochemical Sciences, 2009, 34, 401-407.	7.5	453
15	Healthy human gut phageome. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10400-10405.	7.1	439
16	Structural Basis for Guide RNA Processing and Seed-Dependent DNA Targeting by CRISPR-Cas12a. Molecular Cell, 2017, 66, 221-233.e4.	9.7	408
17	The evolutionary journey of Argonaute proteins. Nature Structural and Molecular Biology, 2014, 21, 743-753.	8.2	400
18	DNA-guided DNA interference by a prokaryotic Argonaute. Nature, 2014, 507, 258-261.	27.8	373

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19	Structures of the RNA-guided surveillance complex from a bacterial immune system. Nature, 2011, 477, 486-489.	27.8	355
20	Adaptations of archaeal and bacterial membranes to variations in temperature, pH and pressure. Extremophiles, 2017, 21, 651-670.	2.3	293
21	RNA Targeting by the Type III-A CRISPR-Cas Csm Complex of Thermus thermophilus. Molecular Cell, 2014, 56, 518-530.	9.7	267
22	The CRISPRs, They Are A-Changin': How Prokaryotes Generate Adaptive Immunity. Annual Review of Genetics, 2012, 46, 311-339.	7.6	260
23	The Lrp family of transcriptional regulators. Molecular Microbiology, 2003, 48, 287-294.	2.5	252
24	The Role of CRISPR-Cas Systems in Virulence of Pathogenic Bacteria. Microbiology and Molecular Biology Reviews, 2014, 78, 74-88.	6.6	228
25	Crystal structure of the CRISPR RNAâ€“guided surveillance complex from <i>Escherichia coli</i>. Science, 2014, 345, 1473-1479.	12.6	226
26	Biogenesis pathways of RNA guides in archaeal and bacterial CRISPR-Cas adaptive immunity. FEMS Microbiology Reviews, 2015, 39, 428-441.	8.6	223
27	Structure and Activity of the RNA-Targeting Type III-B CRISPR-Cas Complex of Thermus thermophilus. Molecular Cell, 2013, 52, 135-145.	9.7	212
28	Argonaute of the archaeon Pyrococcus furiosus is a DNA-guided nuclease that targets cognate DNA. Nucleic Acids Research, 2015, 43, 5120-5129.	14.5	202
29	Harnessing the power of microbial autotrophy. Nature Reviews Microbiology, 2016, 14, 692-706.	28.6	189
30	Prokaryotic Argonaute proteins: novel genome-editing tools?. Nature Reviews Microbiology, 2018, 16, 5-11.	28.6	134
31	Structures of the CRISPR-Cmr complex reveal mode of RNA target positioning. Science, 2015, 348, 581-585.	12.6	126
32	FnrP and NNR of Paracoccus denitrificans are both members of the FNR family of transcriptional activators but have distinct roles in respiratory adaptation in response to oxygen limitation. Molecular Microbiology, 1997, 23, 893-907.	2.5	120
33	FnCpf1: a novel and efficient genome editing tool for Saccharomyces cerevisiae. Nucleic Acids Research, 2017, 45, 12585-12598.	14.5	116
34	DNA-guided DNA cleavage at moderate temperatures by Clostridium butyricum Argonaute. Nucleic Acids Research, 2019, 47, 5809-5821.	14.5	115
35	Next Generation Prokaryotic Engineering: The CRISPR-Cas Toolkit. Trends in Biotechnology, 2016, 34, 575-587.	9.3	113
36	Characterizing a thermostable Cas9 for bacterial genome editing and silencing. Nature Communications, 2017, 8, 1647.	12.8	112

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37	Ethyl acetate production by the elusive alcohol acetyltransferase from yeast. Metabolic Engineering, 2017, 41, 92-101.	7.0	106
38	Autonomous Generation and Loading of DNA Guides by Bacterial Argonaute. Molecular Cell, 2017, 65, 985-998.e6.	9.7	103
39	Structural and functional analysis of aa3-type and cbb3-type cytochrome c oxidases of Paracoccus denitrificans reveals significant differences in proton-pump design. Molecular Microbiology, 1996, 20, 1247-1260.	2.5	100
40	Virus-like particle nanoreactors: programmed encapsulation of the thermostable CelB glycosidase inside the P22 capsid. Soft Matter, 2012, 8, 10158.	2.7	100
41	Bowel Biofilms: Tipping Points between a Healthy and Compromised Gut?. Trends in Microbiology, 2019, 27, 17-25.	7.7	97
42	Genome editing by natural and engineered CRISPR-associated nucleases. Nature Chemical Biology, 2018, 14, 642-651.	8.0	91
43	Harnessing type I CRISPRâ€“Cas systems for genome engineering in human cells. Nature Biotechnology, 2019, 37, 1471-1477.	17.5	91
44	Molecular insights into DNA interference by CRISPR-associated nuclease-helicase Cas3. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16359-16364.	7.1	85
45	Massive Activation of Archaeal Defense Genes during Viral Infection. Journal of Virology, 2013, 87, 8419-8428.	3.4	84
46	Improving Low-Temperature Catalysis in the Hyperthermostable Pyrococcus furiosus Î²-Glucosidase CelB by Directed Evolution. Biochemistry, 2000, 39, 3656-3665.	2.5	83
47	Multiplex genome editing of microorganisms using CRISPR-Cas. FEMS Microbiology Letters, 2019, 366, .	1.8	80
48	A Global Transcriptional Regulator in Thermococcus kodakaraensis Controls the Expression Levels of Both Glycolytic and Gluconeogenic Enzyme-encoding Genes. Journal of Biological Chemistry, 2007, 282, 33659-33670.	3.4	79
49	Improved oligosaccharide synthesis by protein engineering of ?-glucosidase CelB from hyperthermophilicPyrococcus furiosus. Biotechnology and Bioengineering, 2001, 73, 203-210.	3.3	77
50	Highly specific enrichment of rare nucleic acid fractions using Thermus thermophilus argonaute with applications in cancer diagnostics. Nucleic Acids Research, 2020, 48, e19-e19.	14.5	76
51	Converting <i>Escherichia coli</i> into an archaebacterium with a hybrid heterochiral membrane. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3704-3709.	7.1	68
52	CRISPRâ€“Cas ribonucleoprotein mediated homology-directed repair for efficient targeted genome editing in microalgae Nannochloropsis oceanica IMET1. Biotechnology for Biofuels, 2019, 12, 66.	6.2	66
53	Good guide, bad guide: spacer sequence-dependent cleavage efficiency of Cas12a. Nucleic Acids Research, 2020, 48, 3228-3243.	14.5	62
54	The NADH oxidase fromPyrococcus furiosus. FEBS Journal, 2001, 268, 5816-5823.	0.2	60

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55	Hijacking CRISPR-Cas for high-throughput bacterial metabolic engineering: advances and prospects. Current Opinion in Biotechnology, 2018, 50, 146-157.	6.6	59
56	Completing the sequence of the Sulfolobus solfataricus P2 genome. Extremophiles, 1998, 2, 305-312.	2.3	58
57	Bacteriophage DNA glucosylation impairs target DNA binding by type I and II but not by type V CRISPRâ€“Cas effector complexes. Nucleic Acids Research, 2018, 46, 873-885.	14.5	57
58	SCOPE enables type III CRISPR-Cas diagnostics using flexible targeting and stringent CARF ribonuclease activation. Nature Communications, 2021, 12, 5033.	12.8	57
59	Efficient Genome Editing of a Facultative Thermophile Using Mesophilic spCas9. ACS Synthetic Biology, 2017, 6, 849-861.	3.8	56
60	The Use of Defined Microbial Communities To Model Host-Microbe Interactions in the Human Gut. Microbiology and Molecular Biology Reviews, 2019, 83, .	6.6	56
61	Towards a synthetic cell cycle. Nature Communications, 2021, 12, 4531.	12.8	53
62	CRISPR-Cas9 gene editing: Delivery aspects and therapeutic potential. Journal of Controlled Release, 2016, 244, 139-148.	9.9	52
63	Genetic and biochemical characterization of a short-chain alcohol dehydrogenase from the hyperthermophilic archaeonPyrococcus furiosus. FEBS Journal, 2001, 268, 3062-3068.	0.2	50
64	Molecular characterization of a conserved archaeal copper resistance (cop) gene cluster and its copper-responsive regulator in Sulfolobus solfataricus P2. Microbiology (United Kingdom), 2006, 152, 1969-1979.	1.8	49
65	Synthesis of non-natural carbohydrates from glycerol and aldehydes in a one-pot four-enzyme cascade reaction. Green Chemistry, 2011, 13, 2895.	9.0	49
66	High-Speed Super-Resolution Imaging Using Protein-Assisted DNA-PAINT. Nano Letters, 2020, 20, 2264-2270.	9.1	45
67	New Tool for Genome Surgery. Science, 2013, 339, 768-770.	12.6	44
68	Effects of Argonaute on Gene Expression in Thermus thermophilus. PLoS ONE, 2015, 10, e0124880.	2.5	44
69	Alternative functions of CRISPRâ€“Cas systems in the evolutionary arms race. Nature Reviews Microbiology, 2022, 20, 351-364.	28.6	44
70	Molecular characterization of phosphoglycerate mutase in archaea. FEMS Microbiology Letters, 2002, 212, 111-120.	1.8	43
71	Genomic, Proteomic, and Biochemical Analysis of the Organohalide Respiratory Pathway in Desulfitobacterium dehalogenans. Journal of Bacteriology, 2015, 197, 893-904.	2.2	43
72	Sugar utilization and its control in hyperthermophiles. Extremophiles, 1998, 2, 201-205.	2.3	42

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73	Isolation and Screening of Thermophilic Bacilli from Compost for Electrotransformation and Fermentation: Characterization of Bacillus smithii ET 138 as a New Biocatalyst. Applied and Environmental Microbiology, 2015, 81, 1874-1883.	3.1	42
74	Synthetic Biology Approaches To Enhance Microalgal Productivity. Trends in Biotechnology, 2021, 39, 1019-1036.	9.3	41
75	Biohydrogen Production by the Thermophilic Bacterium Caldicellulosiruptor saccharolyticus: Current Status and Perspectives. Life, 2013, 3, 52-85.	2.4	39
76	Progress of CRISPRâ€Cas Based Genome Editing in Photosynthetic Microbes. Biotechnology Journal, 2018, 13, e1700591.	3.5	38
77	Cascade-mediated binding and bending of negatively supercoiled DNA. RNA Biology, 2012, 9, 1134-1138.	3.1	37
78	High-throughput insertional mutagenesis reveals novel targets for enhancing lipid accumulation in Nannochloropsis oceanica. Metabolic Engineering, 2021, 66, 239-258.	7.0	37
79	Improving heterologous membrane protein production in Escherichia coli by combining transcriptional tuning and codon usage algorithms. PLoS ONE, 2017, 12, e0184355.	2.5	37
80	The Ongoing Quest to Crack the Genetic Code for Protein Production. Molecular Cell, 2020, 80, 193-209.	9.7	36
81	Improved protein production and codon optimization analyses in <i>Escherichia coli</i> by bicistronic design. Microbial Biotechnology, 2019, 12, 173-179.	4.2	35
82	Plasmid pGS5 from the Hyperthermophilic ArchaeonArchaeoglobus profundus Is Negatively Supercoiled. Journal of Bacteriology, 2000, 182, 4998-5000.	2.2	33
83	Activity and stability of hyperthermophilic enzymes: a comparative study on two archaeal Î²-glycosidases. Extremophiles, 2000, 4, 157-164.	2.3	32
84	Exploration and exploitation of the environment for novel specialized metabolites. Current Opinion in Biotechnology, 2018, 50, 206-213.	6.6	32
85	Guide-free Cas9 from pathogenic <i>Campylobacter jejuni</i> bacteria causes severe damage to DNA. Science Advances, 2020, 6, eaaz4849.	10.3	31
86	Bacteriophage exclusion, a new defenseÂsystem. EMBO Journal, 2015, 34, 134-135.	7.8	30
87	Comprehensive Genome Engineering Toolbox for Microalgae <i>Nannochloropsis oceanica</i> Based on CRISPR-Cas Systems. ACS Synthetic Biology, 2021, 10, 3369-3378.	3.8	29
88	Shooting the messenger: RNA-targetting CRISPR-Cas systems. Bioscience Reports, 2018, 38, .	2.4	28
89	Identification and Molecular Characterization of a Novel Type of Î±-galactosidase fromPyrococcus furiosus. Biocatalysis and Biotransformation, 2003, 21, 243-252.	2.0	27
90	Two novel conjugative plasmids from a single strain of Sulfolobus. Microbiology (United Kingdom), 2006, 152, 1951-1968.	1.8	26

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91	Analysis of proteinâ€“RNA interactions in CRISPR proteins and effector complexes by UV-induced cross-linking and mass spectrometry. Methods, 2015, 89, 138-148.	3.8	25
92	Contribution of Eat1 and Other Alcohol Acyltransferases to Ester Production in Saccharomyces cerevisiae. Frontiers in Microbiology, 2018, 9, 3202.	3.5	25
93	Cytochromes c 550 , c 552 , and c 1 in the Electron Transport Network of Paracoccus denitrificans : Redundant or Subtly Different in Function?. Journal of Bacteriology, 2001, 183, 7017-7026.	2.2	24
94	Kinetic and Stoichiometric Characterisation of Streptavidinâ€Binding Aptamers. ChemBioChem, 2012, 13, 829-836.	2.6	24
95	Adaptation and application of a two-plasmid inducible CRISPR-Cas9 system in Clostridium beijerinckii. Methods, 2020, 172, 51-60.	3.8	24
96	Gut bacteriophage dynamics during fecal microbial transplantation in subjects with metabolic syndrome. Gut Microbes, 2021, 13, 1-15.	9.8	24
97	Bicistronic Design-Based Continuous and High-Level Membrane Protein Production in <i>Escherichia coli</i>. ACS Synthetic Biology, 2019, 8, 1685-1690.	3.8	23
98	Divergent roles of CprK paralogues from Desulfitobacterium hafniense in activating gene expression. Microbiology (United Kingdom), 2008, 154, 3686-3696.	1.8	22
99	RNAi: Prokaryotes Get in on the Act. Cell, 2009, 139, 863-865.	28.9	22
100	Formation of the ether lipids archaetidylglycerol and archaetidylethanolamine in <i>Escherichia coli</i>. Biochemical Journal, 2015, 470, 343-355.	3.7	22
101	Heterologous Expression and Purification of the CRISPR-Cas12a/Cpf1 Protein. Bio-protocol, 2018, 8, e2842.	0.4	21
102	Characterization of a thermostable dihydrodipicolinate synthase from Thermoanaerobacter tengcongensis. Extremophiles, 2008, 12, 461-469.	2.3	20
103	Isolation of a genetically accessible thermophilic xylan degrading bacterium from compost. Biotechnology for Biofuels, 2016, 9, 210.	6.2	20
104	Alcohol Acetyltransferase Eat1 Is Located in Yeast Mitochondria. Applied and Environmental Microbiology, 2018, 84, .	3.1	20
105	Efficient Cas9-based genome editing of Rhodobacter sphaeroides for metabolic engineering. Microbial Cell Factories, 2019, 18, 204.	4.0	20
106	Structure of the ribosome associating GTPase HflX. Proteins: Structure, Function and Bioinformatics, 2010, 78, 705-713.	2.6	19
107	Monascus ruber as cell factory for lactic acid production at low pH. Metabolic Engineering, 2017, 42, 66-73.	7.0	19
108	Establishment of markerless gene deletion tools in thermophilic Bacillus smithii and construction of multiple mutant strains. Microbial Cell Factories, 2015, 14, 99.	4.0	18

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109	Thermal Stabilization of an Endoglucanase by Cyclization. Applied Biochemistry and Biotechnology, 2012, 167, 2039-2053.	2.9	16
110	Archaeal MBF1 binds to 30S and 70S ribosomes via its helixâ€"turnâ€"helix domain. Biochemical Journal, 2014, 462, 373-384.	3.7	16
111	Argonaute bypasses cellular obstacles without hindrance during target search. Nature Communications, 2019, 10, 4390.	12.8	16
112	Biochemical characterization of the xylan hydrolysis profile of the extracellular endo-xylanase from Geobacillus thermodenitrificans T12. BMC Biotechnology, 2017, 17, 44.	3.3	15
113	Complete Genome Sequence of Geobacillus thermodenitrificans T12, A Potential Host for Biotechnological Applications. Current Microbiology, 2018, 75, 49-56.	2.2	15
114	Engineering Geobacillus thermodenitrificans to introduce cellulolytic activity; expression of native and heterologous cellulase genes. BMC Biotechnology, 2018, 18, 42.	3.3	15
115	Growth-uncoupled isoprenoid synthesis in Rhodobacter sphaeroides. Biotechnology for Biofuels, 2020, 13, 123.	6.2	15
116	Multilevel optimisation of anaerobic ethyl acetate production in engineered Escherichia coli. Biotechnology for Biofuels, 2020, 13, 65.	6.2	15
117	Streamlined CRISPR genome engineering in wild-type bacteria using SIBR-Cas. Nucleic Acids Research, 2021, 49, 11392-11404.	14.5	15
118	Editor's cut: DNA cleavage by CRISPR RNA-guided nucleases Cas9 and Cas12a. Biochemical Society Transactions, 2020, 48, 207-219.	3.4	14
119	Complete genome sequence of thermophilic Bacillus smithii type strain DSM 4216T. Standards in Genomic Sciences, 2016, 11, 52.	1.5	13
120	Incorporation of a Synthetic Amino Acid into dCas9 Improves Control of Gene Silencing. ACS Synthetic Biology, 2019, 8, 216-222.	3.8	12
121	From Eat to trEat: engineering the mitochondrial Eat1 enzyme for enhanced ethyl acetate production in Escherichia coli. Biotechnology for Biofuels, 2020, 13, 76.	6.2	12
122	Distant Non-Obvious Mutations Influence the Activity of a Hyperthermophilic Pyrococcus furiosus Phosphoglucose Isomerase. Biomolecules, 2019, 9, 212.	4.0	11
123	(R)evolution-on-a-chip. Trends in Biotechnology, 2022, 40, 60-76.	9.3	11
124	Development of a Cas12a-Based Genome Editing Tool for Moderate Thermophiles. CRISPR Journal, 2021, 4, 82-91.	2.9	10
125	Streptococcus caviae sp. nov., isolated from guinea pig faecal samples. International Journal of Systematic and Evolutionary Microbiology, 2017, 67, 1551-1556.	1.7	10
126	Integrated In Silico Analysis of Pathway Designs for Synthetic Photo-Electro-Autotrophy. PLoS ONE, 2016, 11, e0157851.	2.5	9

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127	CRISPR with a Happy Ending: Nonâ€Templated DNA Repair for Prokaryotic Genome Engineering. Biotechnology Journal, 2020, 15, e1900404.	3.5	9
128	Structural and biochemical characterisation of Archaeoglobus fulgidus esterase reveals a bound CoA molecule in the vicinity of the active site. Scientific Reports, 2016, 6, 25542.	3.3	8
129	Transcriptomic and Phenotypic Analysis of a spoIIE Mutant in Clostridium beijerinckii. Frontiers in Microbiology, 2020, 11, 556064.	3.5	8
130	A Hyperthermoactive-Cas9 Editing Tool Reveals the Role of a Unique Arsenite Methyltransferase in the Arsenic Resistance System of Thermus thermophilus HB27. MBio, 2021, 12, e0281321.	4.1	8
131	Comparative Metagenomic Analysis of Biosynthetic Diversity across Sponge Microbiomes Highlights Metabolic Novelty, Conservation, and Diversification. MSystems, 2022, 7, .	3.8	8
132	Eat1-Like Alcohol Acyl Transferases From Yeasts Have High Alcoholysis and Thiolysis Activity. Frontiers in Microbiology, 2020, 11, 579844.	3.5	7
133	First structural insights into CRISPR-Cas-guided DNA transposition. Cell Research, 2020, 30, 193-194.	12.0	7
134	A growthâ€•and bioluminescenceâ€based bioreporter for the <i>inÂvivo</i> detection of novel biocatalysts. Microbial Biotechnology, 2017, 10, 625-641.	4.2	5
135	Addiction systems antagonize bacterial adaptive immunity. FEMS Microbiology Letters, 2019, 366, .	1.8	5
136	Prokaryotic Argonautes â€" variations on the RNA interference theme. Microbial Cell, 2014, 1, 158-159.	3.2	5
137	CRISPR sabotage. Genome Biology, 2015, 16, 248.	8.8	3
138	(Hyper)Thermophilic Enzymes: Production and Purification. Methods in Molecular Biology, 2021, 2178, 469-478.	0.9	3
139	Mining for novel bacterial defence systems. Nature Microbiology, 2018, 3, 535-536.	13.3	2
140	Microbial Diversity and Organic Acid Production of Guinea Pig Faecal Samples. Current Microbiology, 2019, 76, 425-434.	2.2	2
141	Medium-throughput in vitro detection of DNA cleavage by CRISPR-Cas12a. Methods, 2020, 172, 27-31.	3.8	2
142	Beat their swords into ploughshares. Microbial Biotechnology, 2015, 8, 34-35.	4.2	1
143	Domestication of proteins â€" from evolution to revolution. Microbial Biotechnology, 2022, 15, 189-190.	4.2	1
144	Adaptation by Type V-A and V-B CRISPR-Cas Systems Demonstrates Conserved Protospacer Selection Mechanisms Between Diverse CRISPR-Cas Types. CRISPR Journal, 0, , .	2.9	1