Christina D Smolke

List of Publications by Year
in descending order

86 papers	8,482 citations	61857 43 h-index	56606 83 g-index
99 all docs	99 docs citations	99 times ranked	6640 citing authors

#	Article	IF	Citations
1	Engineering synthetic RNA devices for cell control. Nature Reviews Genetics, 2022, 23, 215-228.	7.7	43
2	Polymerase-guided base editing enables in vivo mutagenesis and rapid protein engineering. Nature Communications, 2021, 12, 1579.	5.8	43
3	A multiplexed, automated evolution pipeline enables scalable discovery and characterization of biosensors. Nature Communications, 2021, 12, 1437.	5.8	30
4	A computational workflow for the expansion of heterologous biosynthetic pathways to natural product derivatives. Nature Communications, 2021, 12, 1760.	5.8	40
5	A convolutional neural network for the prediction and forward design of ribozyme-based gene-control elements. ELife, 2021, 10, .	2.8	7
6	Engineering cellular metabolite transport for biosynthesis of computationally predicted tropane alkaloid derivatives in yeast. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	32
7	A novel bivalent chromatin associates with rapid induction of camalexin biosynthesis genes in response to a pathogen signal in Arabidopsis. ELife, 2021, 10, .	2.8	20
8	Complete biosynthesis of the bisbenzylisoquinoline alkaloids guattegaumerine and berbamunine in yeast. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	20
9	Discovery of a previously unknown biosynthetic capacity of naringenin chalcone synthase by heterologous expression of a tomato gene cluster in yeast. Science Advances, 2020, 6, .	4.7	13
10	Biosynthesis of medicinal tropane alkaloids in yeast. Nature, 2020, 585, 614-619.	13.7	227
11	Structure-Guided Engineering of a Scoulerine 9-O-Methyltransferase Enables the Biosynthesis of Tetrahydropalmatrubine and Tetrahydropalmatine in Yeast. ACS Catalysis, 2020, 10, 4497-4509.	5.5	15
12	Model-driven generation of artificial yeast promoters. Nature Communications, 2020, 11, 2113.	5.8	87
13	Engineering a microbial biosynthesis platform for de novo production of tropane alkaloids. Nature Communications, 2019, 10, 3634.	5.8	69
14	Massively parallel RNA device engineering in mammalian cells with RNA-Seq. Nature Communications, 2019, 10, 4327.	5.8	36
15	Programmable mutually exclusive alternative splicing for generating RNA and protein diversity. Nature Communications, 2019, 10, 2673.	5.8	17
16	Synthetic biology strategies for microbial biosynthesis of plant natural products. Nature Communications, 2019, 10, 2142.	5.8	254
17	Production of the cyanogenic glycoside dhurrin in yeast. Metabolic Engineering Communications, 2019, 9, e00092.	1.9	16
18	RNA Switches for Synthetic Biology. Cold Spring Harbor Perspectives in Biology, 2019, 11, a032532.	2.3	33

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19	Anti-CRISPR-mediated control of gene editing and synthetic circuits in eukaryotic cells. Nature Communications, 2019, 10, 194.	5.8	118
20	Biosynthesis of Complex Plantâ€Derived Natural Products. FASEB Journal, 2019, 33, 95.4.	0.2	0
21	Regulation of T cell proliferation with drug-responsive microRNA switches. Nucleic Acids Research, 2018, 46, 1541-1552.	6.5	31
22	Complete biosynthesis of noscapine and halogenated alkaloids in yeast. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3922-E3931.	3.3	195
23	Strategies for microbial synthesis of high-value phytochemicals. Nature Chemistry, 2018, 10, 395-404.	6.6	95
24	Synthetic biology strategies toward heterologous phytochemical production. Natural Product Reports, 2018, 35, 902-920.	5.2	45
25	Mammalian synthetic biology for studying the cell. Journal of Cell Biology, 2017, 216, 73-82.	2.3	38
26	Biomedical applications of RNA-based devices. Current Opinion in Biomedical Engineering, 2017, 4, 106-115.	1.8	19
27	Design and Construction of Generalizable RNA-Protein Hybrid Controllers by Level-Matched Genetic Signal Amplification. Cell Systems, 2016, 3, 549-562.e7.	2.9	20
28	Opportunities in the design and application of RNA for gene expression control. Nucleic Acids Research, 2016, 44, 2987-2999.	6.5	70
29	Engineering a microbial platform for de novo biosynthesis of diverse methylxanthines. Metabolic Engineering, 2016, 38, 191-203.	3.6	32
30	Engineering biosynthesis of the anticancer alkaloid noscapine in yeast. Nature Communications, 2016, 7, 12137.	5.8	121
31	Control of alphavirus-based gene expression using engineered riboswitches. Virology, 2015, 483, 302-311.	1.1	41
32	Engineering dynamic cell cycle control with synthetic small molecule-responsive RNA devices. Journal of Biological Engineering, 2015, 9, 21.	2.0	22
33	De novo production of the key branch point benzylisoquinoline alkaloid reticuline in yeast. Metabolic Engineering, 2015, 31, 74-83.	3.6	102
34	Engineering strategies for the fermentative production of plant alkaloids in yeast. Metabolic Engineering, 2015, 30, 96-104.	3.6	86
35	Synthetic feedback control using an RNAi-based gene-regulatory device. Journal of Biological Engineering, 2015, 9, 5.	2.0	42
36	Optimization of yeast-based production of medicinal protoberberine alkaloids. Microbial Cell Factories, 2015, 14, 144.	1.9	51

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37	High-throughput cellular RNA device engineering. Nature Methods, 2015, 12, 989-994.	9.0	100
38	Complete biosynthesis of opioids in yeast. Science, 2015, 349, 1095-1100.	6.0	809
39	In Vitro Screening and in Silico Modeling of RNA-Based Gene Expression Control. ACS Chemical Biology, 2015, 10, 2463-2467.	1.6	14
40	Protein-responsive ribozyme switches in eukaryotic cells. Nucleic Acids Research, 2014, 42, 12306-12321.	6.5	42
41	Facile Characterization of Aptamer Kinetic and Equilibrium Binding Properties Using Surface Plasmon Resonance. Methods in Enzymology, 2014, 549, 451-466.	0.4	26
42	Realizing the potential of synthetic biology. Nature Reviews Molecular Cell Biology, 2014, 15, 289-294.	16.1	196
43	A quantitative framework for the forward design of synthetic miRNA circuits. Nature Methods, 2014, 11, 1147-1153.	9.0	39
44	A system for multilocus chromosomal integration and transformation-free selection marker rescue. FEMS Yeast Research, 2014, 14, 1171-1185.	1.1	18
45	Kinetic and Equilibrium Binding Characterization of Aptamers to Small Molecules using a Label-Free, Sensitive, and Scalable Platform. Analytical Chemistry, 2014, 86, 3273-3278.	3.2	103
46	A microbial biomanufacturing platform for natural and semisynthetic opioids. Nature Chemical Biology, 2014, 10, 837-844.	3.9	231
47	Synthetic RNA Switches for Yeast Metabolic Engineering: Screening Recombinant Enzyme Libraries. Methods in Molecular Biology, 2014, 1152, 125-136.	0.4	5
48	Construction of Ligand-Responsive MicroRNAs that Operate Through Inhibition of Drosha Processing. Methods in Molecular Biology, 2014, 1111, 259-267.	0.4	6
49	A yeastâ€based rapid prototype platform for gene control elements in mammalian cells. Biotechnology and Bioengineering, 2013, 110, 1201-1210.	1.7	22
50	Synthetic Biology: Advancing the Design of Diverse Genetic Systems. Annual Review of Chemical and Biomolecular Engineering, 2013, 4, 69-102.	3.3	120
51	Molecular tools for chemical biotechnology. Current Opinion in Biotechnology, 2013, 24, 1000-1009.	3.3	11
52	Dynamically Reshaping Signaling Networks to Program Cell Fate via Genetic Controllers. Science, 2013, 341, 1235005.	6.0	63
53	A versatile cis-blocking and trans-activation strategy for ribozyme characterization. Nucleic Acids Research, 2013, 41, e41-e41.	6.5	9
54	A high-throughput, quantitative cell-based screen for efficient tailoring of RNA device activity. Nucleic Acids Research, 2012, 40, e154-e154.	6.5	60

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55	Identification and treatment of heme depletion attributed to overexpression of a lineage of evolved P450 monooxygenases. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19504-19509.	3.3	72
56	Synthetic biology: advancing biological frontiers by building synthetic systems. Genome Biology, 2012, 13, 240.	13.9	65
57	High-throughput enzyme evolution in Saccharomyces cerevisiae using a synthetic RNA switch. Metabolic Engineering, 2012, 14, 306-316.	3.6	141
58	Synthetic RNA switches as a tool for temporal and spatial control over gene expression. Current Opinion in Biotechnology, 2012, 23, 679-688.	3.3	107
59	Advancing secondary metabolite biosynthesis in yeast with synthetic biology tools. FEMS Yeast Research, 2012, 12, 144-170.	1.1	195
60	Applications of genetically-encoded biosensors for the construction and control of biosynthetic pathways. Metabolic Engineering, 2012, 14, 212-222.	3.6	129
61	Synthetic biology: Emerging methodologies to catalyze the metabolic engineering design cycle. Metabolic Engineering, 2012, 14, 187-188.	3.6	4
62	A synthetic library of RNA control modules for predictable tuning of gene expression in yeast. Molecular Systems Biology, 2011, 7, 471.	3.2	72
63	Bringing It Together with RNA. Science, 2011, 333, 412-413.	6.0	4
64	Engineering Biological Systems with Synthetic RNA Molecules. Molecular Cell, 2011, 43, 915-926.	4.5	177
65	Informing Biological Design by Integration of Systems and Synthetic Biology. Cell, 2011, 144, 855-859.	13.5	82
66	From DNA to Targeted Therapeutics: Bringing Synthetic Biology to the Clinic. Science Translational Medicine, 2011, 3, 106ps42.	5.8	32
67	Engineering ligand-responsive RNA controllers in yeast through the assembly of RNase III tuning modules. Nucleic Acids Research, 2011, 39, 5299-5311.	6.5	38
68	Synthetic RNA modules for fine-tuning gene expression levels in yeast by modulating RNase III activity. Nucleic Acids Research, 2011, 39, 8651-8664.	6.5	28
69	Design of small molecule-responsive microRNAs based on structural requirements for Drosha processing. Nucleic Acids Research, 2011, 39, 2981-2994.	6.5	130
70	Reprogramming Cellular Behavior with RNA Controllers Responsive to Endogenous Proteins. Science, 2010, 330, 1251-1255.	6.0	293
71	Genetic control of mammalian T-cell proliferation with synthetic RNA regulatory systems. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 8531-8536.	3.3	238
72	Functional selection and systematic analysis of intronic splicing elements identify active sequence motifs and associated splicing factors. Nucleic Acids Research, 2010, 38, 5152-5165.	6.5	25

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73	It's the DNA That Counts. Science, 2009, 324, 1156-1157.	6.0	6
74	Design Principles for Riboswitch Function. PLoS Computational Biology, 2009, 5, e1000363.	1.5	115
75	Building outside of the box: iGEM and the BioBricks Foundation. Nature Biotechnology, 2009, 27, 1099-1102.	9.4	155
76	Frameworks for Programming Biological Function through RNA Parts and Devices. Chemistry and Biology, 2009, 16, 298-310.	6.2	108
77	Production of benzylisoquinoline alkaloids in Saccharomyces cerevisiae. Nature Chemical Biology, 2008, 4, 564-573.	3.9	297
78	Higher-Order Cellular Information Processing with Synthetic RNA Devices. Science, 2008, 322, 456-460.	6.0	495
79	Modelâ€guided design of ligandâ€regulated RNAi for programmable control of gene expression. Molecular Systems Biology, 2008, 4, 224.	3.2	104
80	Foundational advances in RNA engineering applied to control biosynthesis. FASEB Journal, 2008, 22, 529.2.	0.2	0
81	A modular and extensible RNA-based gene-regulatory platform for engineering cellular function. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 14283-14288.	3.3	358
82	Combinatorial engineering of intergenic regions in operons tunes expression of multiple genes. Nature Biotechnology, 2006, 24, 1027-1032.	9.4	492
83	The Regulatory Roles of the Galactose Permease and Kinase in the Induction Response of the GAL Network in Saccharomyces cerevisiae. Journal of Biological Chemistry, 2006, 281, 13485-13492.	1.6	54
84	Codeine-binding RNA aptamers and rapid determination of their binding constants using a direct coupling surface plasmon resonance assay. Nucleic Acids Research, 2006, 34, 5670-5682.	6.5	95
85	ENGINEERING NUCLEIC ACID-BASED MOLECULAR SENSORS FOR PROBING AND PROGRAMMING CELLULAR SYSTEMS. , 2006, , .		0
86	Programmable ligand-controlled riboregulators of eukaryotic gene expression. Nature Biotechnology, 2005, 23, 337-343.	9.4	363