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	Complete biosynthesis of opioids in yeast. Science, 2015, 349, 1095-1100.	6.0	809
2	Higher-Order Cellular Information Processing with Synthetic RNA Devices. Science, 2008, 322, 456-460.	6.0	495
3	Combinatorial engineering of intergenic regions in operons tunes expression of multiple genes. Nature Biotechnology, 2006, 24, 1027-1032.	9.4	492
4	Programmable ligand-controlled riboregulators of eukaryotic gene expression. Nature Biotechnology, 2005, 23, 337-343.	9.4	363
5	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
6	Production of benzylisoquinoline alkaloids in Saccharomyces cerevisiae. Nature Chemical Biology, 2008, 4, 564-573.	3.9	297
7	Reprogramming Cellular Behavior with RNA Controllers Responsive to Endogenous Proteins. Science, 2010, 330, 1251-1255.	6.0	293
8	Synthetic biology strategies for microbial biosynthesis of plant natural products. Nature Communications, 2019, 10, 2142.	5.8	254
9	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
10	A microbial biomanufacturing platform for natural and semisynthetic opioids. Nature Chemical Biology, 2014, 10, 837-844.	3.9	231
11	Biosynthesis of medicinal tropane alkaloids in yeast. Nature, 2020, 585, 614-619.	13.7	227
12	Realizing the potential of synthetic biology. Nature Reviews Molecular Cell Biology, 2014, 15, 289-294.	16.1	196
13	Advancing secondary metabolite biosynthesis in yeast with synthetic biology tools. FEMS Yeast Research, 2012, 12, 144-170.	1.1	195
14	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
15	Engineering Biological Systems with Synthetic RNA Molecules. Molecular Cell, 2011, 43, 915-926.	4.5	177
16	Building outside of the box: iGEM and the BioBricks Foundation. Nature Biotechnology, 2009, 27, 1099-1102.	9.4	155
17	High-throughput enzyme evolution in Saccharomyces cerevisiae using a synthetic RNA switch. Metabolic Engineering, 2012, 14, 306-316.	3.6	141
18	Design of small molecule-responsive microRNAs based on structural requirements for Drosha processing. Nucleic Acids Research, 2011, 39, 2981-2994.	6.5	130

#	Article	IF	Citations
19	Applications of genetically-encoded biosensors for the construction and control of biosynthetic pathways. Metabolic Engineering, 2012, 14, 212-222.	3.6	129
20	Engineering biosynthesis of the anticancer alkaloid noscapine in yeast. Nature Communications, 2016, 7, 12137.	5.8	121
21	Synthetic Biology: Advancing the Design of Diverse Genetic Systems. Annual Review of Chemical and Biomolecular Engineering, 2013, 4, 69-102.	3.3	120
22	Anti-CRISPR-mediated control of gene editing and synthetic circuits in eukaryotic cells. Nature Communications, 2019, 10, 194.	5.8	118
23	Design Principles for Riboswitch Function. PLoS Computational Biology, 2009, 5, e1000363.	1.5	115
24	Frameworks for Programming Biological Function through RNA Parts and Devices. Chemistry and Biology, 2009, 16, 298-310.	6.2	108
25	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
26	Modelâ€guided design of ligandâ€regulated RNAi for programmable control of gene expression. Molecular Systems Biology, 2008, 4, 224.	3.2	104
27	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
28	De novo production of the key branch point benzylisoquinoline alkaloid reticuline in yeast. Metabolic Engineering, 2015, 31, 74-83.	3.6	102
29	High-throughput cellular RNA device engineering. Nature Methods, 2015, 12, 989-994.	9.0	100
30	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
31	Strategies for microbial synthesis of high-value phytochemicals. Nature Chemistry, 2018, 10, 395-404.	6.6	95
32	Model-driven generation of artificial yeast promoters. Nature Communications, 2020, 11, 2113.	5.8	87
33	Engineering strategies for the fermentative production of plant alkaloids in yeast. Metabolic Engineering, 2015, 30, 96-104.	3.6	86
34	Informing Biological Design by Integration of Systems and Synthetic Biology. Cell, 2011, 144, 855-859.	13.5	82
35	A synthetic library of RNA control modules for predictable tuning of gene expression in yeast. Molecular Systems Biology, 2011, 7, 471.	3.2	72
36	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

#	Article	IF	Citations
37	Opportunities in the design and application of RNA for gene expression control. Nucleic Acids Research, 2016, 44, 2987-2999.	6.5	70
38	Engineering a microbial biosynthesis platform for de novo production of tropane alkaloids. Nature Communications, 2019, 10, 3634.	5.8	69
39	Synthetic biology: advancing biological frontiers by building synthetic systems. Genome Biology, 2012, 13, 240.	13.9	65
40	Dynamically Reshaping Signaling Networks to Program Cell Fate via Genetic Controllers. Science, 2013, 341, 1235005.	6.0	63
41	A high-throughput, quantitative cell-based screen for efficient tailoring of RNA device activity. Nucleic Acids Research, 2012, 40, e154-e154.	6.5	60
42	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
43	Optimization of yeast-based production of medicinal protoberberine alkaloids. Microbial Cell Factories, 2015, 14, 144.	1.9	51
44	Synthetic biology strategies toward heterologous phytochemical production. Natural Product Reports, 2018, 35, 902-920.	5.2	45
45	Polymerase-guided base editing enables in vivo mutagenesis and rapid protein engineering. Nature Communications, 2021, 12, 1579.	5.8	43
46	Engineering synthetic RNA devices for cell control. Nature Reviews Genetics, 2022, 23, 215-228.	7.7	43
47	Protein-responsive ribozyme switches in eukaryotic cells. Nucleic Acids Research, 2014, 42, 12306-12321.	6.5	42
48	Synthetic feedback control using an RNAi-based gene-regulatory device. Journal of Biological Engineering, 2015, 9, 5.	2.0	42
49	Control of alphavirus-based gene expression using engineered riboswitches. Virology, 2015, 483, 302-311.	1.1	41
50	A computational workflow for the expansion of heterologous biosynthetic pathways to natural product derivatives. Nature Communications, 2021, 12, 1760.	5.8	40
51	A quantitative framework for the forward design of synthetic miRNA circuits. Nature Methods, 2014, 11, 1147-1153.	9.0	39
52	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
53	Mammalian synthetic biology for studying the cell. Journal of Cell Biology, 2017, 216, 73-82.	2.3	38
54	Massively parallel RNA device engineering in mammalian cells with RNA-Seq. Nature Communications, 2019, 10, 4327.	5.8	36

#	Article	IF	Citations
55	RNA Switches for Synthetic Biology. Cold Spring Harbor Perspectives in Biology, 2019, 11, a032532.	2.3	33
56	From DNA to Targeted Therapeutics: Bringing Synthetic Biology to the Clinic. Science Translational Medicine, 2011, 3, 106ps42.	5.8	32
57	Engineering a microbial platform for de novo biosynthesis of diverse methylxanthines. Metabolic Engineering, 2016, 38, 191-203.	3.6	32
58	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
59	Regulation of T cell proliferation with drug-responsive microRNA switches. Nucleic Acids Research, 2018, 46, 1541-1552.	6.5	31
60	A multiplexed, automated evolution pipeline enables scalable discovery and characterization of biosensors. Nature Communications, 2021, 12, 1437.	5.8	30
61	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
62	Facile Characterization of Aptamer Kinetic and Equilibrium Binding Properties Using Surface Plasmon Resonance. Methods in Enzymology, 2014, 549, 451-466.	0.4	26
63	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
64	A yeastâ€based rapid prototype platform for gene control elements in mammalian cells. Biotechnology and Bioengineering, 2013, 110, 1201-1210.	1.7	22
65	Engineering dynamic cell cycle control with synthetic small molecule-responsive RNA devices. Journal of Biological Engineering, 2015, 9, 21.	2.0	22
66	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
67	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
68	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
69	Biomedical applications of RNA-based devices. Current Opinion in Biomedical Engineering, 2017, 4, 106-115.	1.8	19
70	A system for multilocus chromosomal integration and transformation-free selection marker rescue. FEMS Yeast Research, 2014, 14, 1171-1185.	1.1	18
71	Programmable mutually exclusive alternative splicing for generating RNA and protein diversity. Nature Communications, 2019, 10, 2673.	5.8	17
72	Production of the cyanogenic glycoside dhurrin in yeast. Metabolic Engineering Communications, 2019, 9, e00092.	1.9	16

#	Article	IF	Citations
73	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
74	In Vitro Screening and in Silico Modeling of RNA-Based Gene Expression Control. ACS Chemical Biology, 2015, 10, 2463-2467.	1.6	14
75	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
76	Molecular tools for chemical biotechnology. Current Opinion in Biotechnology, 2013, 24, 1000-1009.	3.3	11
77	A versatile cis-blocking and trans-activation strategy for ribozyme characterization. Nucleic Acids Research, 2013, 41, e41-e41.	6.5	9
78	A convolutional neural network for the prediction and forward design of ribozyme-based gene-control elements. ELife, 2021, 10, .	2.8	7
79	It's the DNA That Counts. Science, 2009, 324, 1156-1157.	6.0	6
80	Construction of Ligand-Responsive MicroRNAs that Operate Through Inhibition of Drosha Processing. Methods in Molecular Biology, 2014, 1111, 259-267.	0.4	6
81	Synthetic RNA Switches for Yeast Metabolic Engineering: Screening Recombinant Enzyme Libraries. Methods in Molecular Biology, 2014, 1152, 125-136.	0.4	5
82	Bringing It Together with RNA. Science, 2011, 333, 412-413.	6.0	4
83	Synthetic biology: Emerging methodologies to catalyze the metabolic engineering design cycle. Metabolic Engineering, 2012, 14, 187-188.	3.6	4
84	ENGINEERING NUCLEIC ACID-BASED MOLECULAR SENSORS FOR PROBING AND PROGRAMMING CELLULAR SYSTEMS. , 2006, , .		0
85	Foundational advances in RNA engineering applied to control biosynthesis. FASEB Journal, 2008, 22, 529.2.	0.2	0
86	Biosynthesis of Complex Plantâ€Derived Natural Products. FASEB Journal, 2019, 33, 95.4.	0.2	0