William R Schafer

List of Publications by Year
in descending order

126 papers	10,460 citations	31976 53 h-index	39675 94 g-index
142 all docs	142 docs citations	142 times ranked	8111 citing authors

#	Article	IF	Citations
1	Neuropeptide signalling shapes feeding and reproductive behaviours in male Caenorhabditis elegans. Life Science Alliance, 2022, 5, e202201420.	2.8	5
2	Sleep Analysis in AdultC. elegansReveals State-Dependent Alteration of Neural and Behavioral Responses. Journal of Neuroscience, 2021, 41, 1892-1907.	3.6	13
3	Deorphanization of novel biogenic amine-gated ion channels identifies a new serotonin receptor for learning. Current Biology, 2021, 31, 4282-4292.e6.	3.9	13
4	Chemosensory Neurons Modulate the Response to Oomycete Recognition in Caenorhabditis elegans. Cell Reports, 2021, 34, 108604.	6.4	17
5	Tyramine Acts Downstream of Neuronal XBP-1s to Coordinate Inter-tissue UPRER Activation and Behavior in C.Âelegans. Developmental Cell, 2020, 55, 754-770.e6.	7.0	25
6	Multimodal Stimulation in a Microfluidic Device Facilitates Studies of Interneurons in Sensory Integration in C. elegans. Small, 2020, 16, e1905852.	10.0	13
7	Ankyrin Is An Intracellular Tether for TMC Mechanotransduction Channels. Neuron, 2020, 107, 112-125.e10.	8.1	45
8	Distinct roles for innexin gap junctions and hemichannels in mechanosensation. ELife, 2020, 9, .	6.0	19
9	EFHC1, implicated in juvenile myoclonic epilepsy, functions at the cilium and synapse to modulate dopamine signaling. ELife, 2019, 8, .	6.0	10
10	Identification of a Conserved, Orphan G Protein-Coupled Receptor Required for Efficient Pathogen Clearance in Caenorhabditis elegans. Infection and Immunity, 2019, 87, .	2.2	10
11	On-chip functional neuroimaging with mechanical stimulation inCaenorhabditis eleganslarvae for studying development and neural circuits. Lab on A Chip, 2018, 18, 601-609.	6.0	26
12	Neuropeptides encoded bynlp-49modulate locomotion, arousal and egg-laying behaviours inCaenorhabditis elegansvia the receptor SEB-3. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170368.	4.0	28
13	The Worm Connectome: Back to the Future. Trends in Neurosciences, 2018, 41, 763-765.	8.6	14
14	Caenorhabditis elegans and the network control frameworkâ€"FAQs. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170372.	4.0	23
15	An open-source platform for analyzing and sharing worm-behavior data. Nature Methods, 2018, 15, 645-646.	19.0	93
16	An Afferent Neuropeptide System Transmits Mechanosensory Signals Triggering Sensitization and Arousal in C.Âelegans. Neuron, 2018, 99, 1233-1246.e6.	8.1	49
17	The Bright Fluorescent Protein mNeonGreen Facilitates Protein Expression AnalysisIn Vivo. G3: Genes, Genomes, Genetics, 2017, 7, 607-615.	1.8	62
18	Automated and controlled mechanical stimulation and functional imaging in vivo in C. elegans. Lab on A Chip, 2017, 17, 2609-2618.	6.0	49

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19	Network control principles predict neuron function in the Caenorhabditis elegans connectome. Nature, 2017, 550, 519-523.	27.8	279
20	Recordings of Caenorhabditis elegans locomotor behaviour following targeted ablation of single motorneurons. Scientific Data, 2017, 4, 170156.	5.3	14
21	CIB2 interacts with TMC1 and TMC2 and is essential for mechanotransduction in auditory hair cells. Nature Communications, 2017, 8, 43.	12.8	121
22	A network for swimming. ELife, 2017, 6, .	6.0	1
23	Nematode nervous systems. Current Biology, 2016, 26, R955-R959.	3.9	48
24	Dopamine helps worms deal with stress. EMBO Journal, 2016, 35, 1851-1852.	7.8	0
25	PACRG, a protein linked to ciliary motility, mediates cellular signaling. Molecular Biology of the Cell, 2016, 27, 2133-2144.	2.1	16
26	Neuropeptidergic Signaling and Active Feeding State Inhibit Nociception inCaenorhabditis elegans. Journal of Neuroscience, 2016, 36, 3157-3169.	3.6	41
27	Neuropeptide-Driven Cross-Modal Plasticity following Sensory Loss in Caenorhabditis elegans. PLoS Biology, 2016, 14, e1002348.	5.6	26
28	The Multilayer Connectome of Caenorhabditis elegans. PLoS Computational Biology, 2016, 12, e1005283.	3.2	170
29	Sensory Neurons Arouse C. elegans Locomotion via Both Glutamate and Neuropeptide Release. PLoS Genetics, 2015, 11, e1005359.	3.5	41
30	Engineering new synaptic connections in theC. elegansconnectome. Worm, 2015, 4, e992668.	1.0	11
31	A consistent muscle activation strategy underlies crawling and swimming inCaenorhabditis elegans. Journal of the Royal Society Interface, 2015, 12, 20140963.	3.4	47
32	Mechanosensory molecules and circuits in C. elegans. Pflugers Archiv European Journal of Physiology, 2015, 467, 39-48.	2.8	59
33	Changes in Postural Syntax Characterize Sensory Modulation and Natural Variation of C. elegans Locomotion. PLoS Computational Biology, 2015, 11, e1004322.	3.2	55
34	Stochastic Blockmodeling of the Modules and Core of the Caenorhabditis elegans Connectome. PLoS ONE, 2014, 9, e97584.	2.5	59
35	The Voltage-Gated Anion Channels Encoded byclh-3Regulate Egg Laying inC. elegansby Modulating Motor Neuron Excitability. Journal of Neuroscience, 2014, 34, 764-775.	3.6	29
36	Caenorhabditis elegans nicotinic acetylcholine receptors are required for nociception. Molecular and Cellular Neurosciences, 2014, 59, 85-96.	2.2	26

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37	Rewiring neural circuits by the insertion of ectopic electrical synapses in transgenic C. elegans. Nature Communications, 2014, 5, 4442.	12.8	43
38	A database of Caenorhabditis elegans behavioral phenotypes. Nature Methods, 2013, 10, 877-879.	19.0	280
39	Sensory Neuron Fates Are Distinguished by a Transcriptional Switch that Regulates Dendrite Branch Stabilization. Neuron, 2013, 79, 266-280.	8.1	104
40	A Gap Junction Circuit Enhances Processing of Coincident Mechanosensory Inputs. Current Biology, 2013, 23, 963-967.	3.9	45
41	A dictionary of behavioral motifs reveals clusters of genes affecting Caenorhabditis elegans locomotion. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 791-796.	7.1	196
42	tmc-1 encodes a sodium-sensitive channel required for salt chemosensation in C. elegans. Nature, 2013, 494, 95-99.	27.8	126
43	The Rich Club of theC. elegansNeuronal Connectome. Journal of Neuroscience, 2013, 33, 6380-6387.	3.6	265
44	Analysis of NPR-1 Reveals a Circuit Mechanism for Behavioral Quiescence in C.Âelegans. Neuron, 2013, 78, 869-880.	8.1	115
45	Neuropeptide Signaling: From the Gut. Current Biology, 2013, 23, R481-R483.	3.9	3
46	Phase transition in the economically modeled growth of a cellular nervous system. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 7880-7885.	7.1	67
47	6 Optogenetic actuation, inhibition, modulation and readout for neuronal networks generating behavior in the nematode Caenorhabditis elegans. , 2013, , 61-78.		0
48	Locomotion analysis identifies roles of mechanosensory neurons in governing locomotion dynamics of C. elegans. Journal of Experimental Biology, 2012, 215, 3639-48.	1.7	23
49	Tackling thermosensation with multidimensional phenotyping. BMC Biology, 2012, 10, 91.	3.8	3
50	Proprioceptive Coupling within Motor Neurons Drives C.Âelegans Forward Locomotion. Neuron, 2012, 76, 750-761.	8.1	219
51	A mutation in a CLC anion channel alters serotonergic neuronal activity in C. elegans. FASEB Journal, 2012, 26, 884.5.	0.5	0
52	Preparation of Samples for Single-Worm Tracking. Cold Spring Harbor Protocols, 2011, 2011, pdb.prot066993.	0.3	16
53	C. elegans multi-dendritic sensory neurons: Morphology and function. Molecular and Cellular Neurosciences, 2011, 46, 308-317.	2.2	147
54	Lateral Facilitation between Primary Mechanosensory Neurons Controls Nose Touch Perception in C. elegans. Neuron, 2011, 70, 299-309.	8.1	74

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55	Unrestrained worms bridled by the light. Nature Methods, 2011, 8, 129-130.	19.0	3
56	Food sensitizesC. elegansavoidance behaviours through acute dopamine signalling. EMBO Journal, 2011, 30, 1110-1122.	7.8	124
57	A Seven-Transmembrane Receptor That Mediates Avoidance Response to Dihydrocaffeic Acid, a Water-Soluble Repellent inCaenorhabditis elegans. Journal of Neuroscience, 2011, 31, 16603-16610.	3.6	28
58	Illumination for Worm Tracking and Behavioral Imaging: Figure 1.. Cold Spring Harbor Protocols, 2011, 2011, pdb.prot067009.	0.3	6
59	A circuit model of the temporal pattern generator of Caenorhabditis egg-laying behavior. BMC Systems Biology, 2010, 4, 81.	3.0	14
60	Automated imaging of neuronal activity in freely behaving Caenorhabditis elegans. Journal of Neuroscience Methods, 2010, 187, 229-234.	2.5	83
61	Specific roles for DEG/ENaC and TRP channels in touch and thermosensation in C. elegans nociceptors. Nature Neuroscience, 2010, 13, 861-868.	14.8	225
62	Spatial Asymmetry in the Mechanosensory Phenotypes of the C. elegans DEG/ENaC Gene mec-10. Journal of Neurophysiology, 2010, 104, 3334-3344.	1.8	30
63	C. elegans TRP Family Protein TRP-4 Is a Pore-Forming Subunit of a Native Mechanotransduction Channel. Neuron, 2010, 67, 381-391.	8.1	216
64	Worms With a Single Functional Sensory Cilium Generate Proper Neuron-Specific Behavioral Output. Genetics, 2009, 183, 595-605.	2.9	12
65	Inositol 1,4,5-Trisphosphate Signalling Regulates the Avoidance Response to Nose Touch in Caenorhabditis elegans. PLoS Genetics, 2009, 5, e1000636.	3.5	26
66	Using Articulated Models for Tracking Multiple C. elegans in Physical Contact. Journal of Signal Processing Systems, 2009, 55, 113-126.	2.1	8
67	Automated detection and analysis of foraging behavior in Caenorhabditis elegans. Journal of Neuroscience Methods, 2008, 171, 153-164.	2.5	27
68	Neuronal remodeling on the evolutionary timescale. Journal of Biology, 2008, 7, 37.	2.7	2
69	A glial DEG/ENaC channel functions with neuronal channel DEG-1 to mediate specific sensory functions in C. elegans. EMBO Journal, 2008, 27, 2388-2399.	7.8	73
70	A glial DEG/ENaC channel functions with neuronal channel DEG-1 to mediate specific sensory functions in C. elegans. EMBO Journal, 2008, 27, 2638-2638.	7.8	0
71	Functional asymmetry in Caenorhabditis elegans taste neurons and its computational role in chemotaxis. Nature, 2008, 454, 114-117.	27.8	209
72	Oxygen Homeostasis: How the Worm Adapts to Variable Oxygen Levels. Current Biology, 2008, 18, R559-R560.	3.9	11

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73	A Self-Regulating Feed-Forward Circuit Controlling C. elegans Egg-Laying Behavior. Current Biology, 2008, 18, 1445-1455.	3.9	89
74	The C. elegans glycosyltransferase BUS-8 has two distinct and essential roles in epidermal morphogenesis. Developmental Biology, 2008, 317, 549-559.	2.0	104
75	Automated Detection and Analysis of Foraging Behavior in C. elegans. , 2008, , .		1
76	A Putative Cation Channel, NCA-1, and a Novel Protein, UNC-80, Transmit Neuronal Activity in C. elegans. PLoS Biology, 2008, 6, e55.	5.6	109
77	AUTOMATED TRACKING OF MULTIPLE C. ELEGANS WITH ARTICULATED MODELS. , 2007, , .		12
78	C. elegans G Protein Regulator RGS-3 Controls Sensitivity to Sensory Stimuli. Neuron, 2007, 53, 39-52.	8.1	59
79	Dopamine Mediates Context-Dependent Modulation of Sensory Plasticity in C. elegans. Neuron, 2007, 55, 662-676.	8.1	150
80	Caenorhabditis elegans TRPA-1 functions in mechanosensation. Nature Neuroscience, 2007, 10, 568-577.	14.8	202
81	Regulation of nicotinic receptor trafficking by the transmembrane Golgi protein UNC-50. EMBO Journal, 2007, 26, 4313-4323.	7.8	65
82	Guidelines on nicotine dose selection for in vivo research. Psychopharmacology, 2007, 190, 269-319.	3.1	694
83	Intracellular Ca²⁺ Imaging in C. elegans. , 2006, 351, 253-264.		32
84	Automated Imaging of C. elegans Behavior. , 2006, 351, 241-252.		31
85	The Insulin/PI 3-Kinase Pathway Regulates Salt Chemotaxis Learning in Caenorhabditis elegans. Neuron, 2006, 51, 613-625.	8.1	285
86	Visualization of integral and peripheral cell surface proteins in live Caenorhabditis elegans. Journal of Neuroscience Methods, 2006, 154, 68-79.	2.5	44
87	Machine vision based detection of omega bends and reversals in C. elegans. Journal of Neuroscience Methods, 2006, 158, 323-336.	2.5	65
88	Proprioception: A Channel for Body Sense in the Worm. Current Biology, 2006, 16, R509-R511.	3.9	10
89	Effects of voltage-gated calcium channel subunit genes on calcium influx in culturedC. elegans mechanosensory neurons. Journal of Neurobiology, 2006, 66, 1125-1139.	3.6	50
90	Genetics of Egg-Laying in Worms. Annual Review of Genetics, 2006, 40, 487-509.	7.6	98

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91	Neurophysiological methods in C. elegans: an introduction. WormBook, 2006, , 1-4.	5.3	22
92	Caenorhabditis elegans Egg-Laying Detection and Behavior Study Using Image Analysis. Eurasip Journal on Advances in Signal Processing, 2005, 2005, 1.	1.7	8
93	In vivo imaging of C. elegans ASH neurons: cellular response and adaptation to chemical repellents. EMBO Journal, 2005, 24, 63-72.	7.8	293
94	In vivo imaging of C. elegans ASH neurons: cellular response and adaptation to chemical repellents. EMBO Journal, 2005, 24, 1489-1489.	7.8	1
95	Identification and characterization of novel nicotinic receptor-associated proteins in Caenorhabditis elegans. EMBO Journal, 2005, 24, 2566-2578.	7.8	160
96	Deciphering the Neural and Molecular Mechanisms of C. elegans Behavior. Current Biology, 2005, 15, R723-R729.	3.9	68
97	Egg-laying. WormBook, 2005, , 1-7.	5.3	75
98	eat-2 and eat-18 Are Required for Nicotinic Neurotransmission in the Caenorhabditis elegans Pharynx. Genetics, 2004, 166, 161-169.	2.9	143
99	The neurotoxic MEC-4(d) DEG/ENaC sodium channel conducts calcium: implications for necrosis initiation. Nature Neuroscience, 2004, 7, 1337-1344.	14.8	126
100	Dopamine modulates the plasticity of mechanosensory responses in Caenorhabditis elegans. EMBO Journal, 2004, 23, 473-482.	7.8	190
101	Automatic Tracking, Feature Extraction and Classification of C. elegans Phenotypes. IEEE Transactions on Biomedical Engineering, 2004, 51, 1811-1820.	4.2	140
102	An imaging system for standardized quantitative analysis of C. elegans behavior. BMC Bioinformatics, 2004, 5, 115.	2.6	97
103	Specific Polyunsaturated Fatty Acids Drive TRPV-Dependent Sensory Signaling In Vivo. Cell, 2004, 119, 889-900.	28.9	160
104	Addiction research in a simple animal model: the nematode Caenorhabditis elegans. Neuropharmacology, 2004, 47, 123-131.	4.1	25
105	G Protein-Coupled Receptor Kinase Function Is Essential for Chemosensation in C. elegans. Neuron, 2004, 42, 581-593.	8.1	87
106	Serotonin and Go Modulate Functional States of Neurons and Muscles Controlling C. elegans Egg-Laying Behavior. Current Biology, 2003, 13, 1910-1915.	3.9	88
107	In Vivo Imaging of C. elegans Mechanosensory Neurons Demonstrates a Specific Role for the MEC-4 Channel in the Process of Gentle Touch Sensation. Neuron, 2003, 39, 1005-1017.	8.1	263
108	Quantitative Classification and Natural Clustering of Caenorhabditis elegans Behavioral Phenotypes. Genetics, 2003, 165, 1117-1126.	2.9	62

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109	PKG and the Neural Basis for Behavioral Phenotypes. Neuron, 2002, 36, 991-993.	8.1	10
110	Serotonin Promotes Go-Dependent Neuronal Migration in Caenorhabditis elegans. Current Biology, 2002, 12, 1738-1747.	3.9	33
111	Genetic analysis of nicotinic signaling in worms and flies. Journal of Neurobiology, 2002, 53, 535-541.	3.6	11
112	Using machine vision to analyze and classify Caenorhabditis elegans behavioral phenotypes quantitatively. Journal of Neuroscience Methods, 2002, 118, 9-21.	2.5	121
113	Serotonin modulates locomotory behavior and coordinates egg-laying and movement inCaenorhabditis elegans. Journal of Neurobiology, 2001, 49, 303-313.	3.6	133
114	Genes Affecting the Activity of Nicotinic Receptors Involved in Caenorhabditis elegans Egg-Laying Behavior. Genetics, 2001, 157, 1599-1610.	2.9	57
115	Long-Term Nicotine Adaptation inCaenorhabditis elegansInvolves PKC-Dependent Changes in Nicotinic Receptor Abundance. Journal of Neuroscience, 2000, 20, 8802-8811.	3.6	79
116	Voltage-Gated Calcium Channels Direct Neuronal Migration in Caenorhabditis elegans. Developmental Biology, 2000, 226, 104-117.	2.0	46
117	Optical Imaging of Calcium Transients in Neurons and Pharyngeal Muscle of C. elegans. Neuron, 2000, 26, 583-594.	8.1	364
118	Effect of a Neuropeptide Gene on Behavioral States in Caenorhabditis elegans Egg-Laying. Genetics, 2000, 154, 1181-1192.	2.9	89
119	How Do Antidepressants Work? Prospects for Genetic Analysis of Drug Mechanisms. Cell, 1999, 98, 551-554.	28.9	53
120	Control of Alternative Behavioral States by Serotonin in Caenorhabditis elegans. Neuron, 1998, 21, 203-214.	8.1	222
121	Genes Affecting Sensitivity to Serotonin in Caenorhabditis elegans. Genetics, 1996, 143, 1219-1230.	2.9	60
122	A calcium-channel homologue required for adaptation to dopamine and serotonin in Caenorhabditis elegans. Nature, 1995, 375, 73-78.	27.8	296
123	Protein Prenylation: Genes, Enzymes, Targets, and Functions. Annual Review of Genetics, 1992, 26, 209-237.	7.6	367
124	Automated behavioural fingerprinting of Caenorhabditis elegans mutants. , 0, , 234-256.		0
125	Genetics of Behavior in C. elegans. , 0, , 151-170.		6
126	Distinct roles for two Caenorhabditis elegans acid-sensing ion channels in an ultradian clock. ELife, 0, 11, .	6.0	6