

# Rachel I Wilson

## List of Publications by Year in descending order

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Version: 2024-02-01

66  
papers

12,316  
citations

53751

45  
h-index

98753

67  
g-index

81  
all docs

81  
docs citations

81  
times ranked

8556  
citing authors

#	ARTICLE	IF	CITATIONS
1	Endogenous cannabinoids mediate retrograde signalling at hippocampal synapses. <i>Nature</i> , 2001, 410, 588-592.	13.7	1,413
2	Endocannabinoid Signaling in the Brain. <i>Science</i> , 2002, 296, 678-682.	6.0	1,124
3	Oscillations and Sparsening of Odor Representations in the Mushroom Body. <i>Science</i> , 2002, 297, 359-365.	6.0	712
4	painless, a <i>Drosophila</i> Gene Essential for Nociception. <i>Cell</i> , 2003, 113, 261-273.	13.5	696
5	Presynaptic Specificity of Endocannabinoid Signaling in the Hippocampus. <i>Neuron</i> , 2001, 31, 453-462.	3.8	497
6	Transformation of Olfactory Representations in the <i>Drosophila</i> Antennal Lobe. <i>Science</i> , 2004, 303, 366-370.	6.0	497
7	Lateral presynaptic inhibition mediates gain control in an olfactory circuit. <i>Nature</i> , 2008, 452, 956-960.	13.7	455
8	Role of GABAergic Inhibition in Shaping Odor-Evoked Spatiotemporal Patterns in the <i>Drosophila</i> Antennal Lobe. <i>Journal of Neuroscience</i> , 2005, 25, 9069-9079.	1.7	418
9	Divisive Normalization in Olfactory Population Codes. <i>Neuron</i> , 2010, 66, 287-299.	3.8	399
10	EARLY EVENTS IN OLFACTORY PROCESSING. <i>Annual Review of Neuroscience</i> , 2006, 29, 163-201.	5.0	367
11	The Role of Brain-Derived Neurotrophic Factor Receptors in the Mature Hippocampus: Modulation of Long-Term Potentiation through a Presynaptic Mechanism involving TrkB. <i>Journal of Neuroscience</i> , 2000, 20, 6888-6897.	1.7	357
12	Early Olfactory Processing in <i>Drosophila</i> : Mechanisms and Principles. <i>Annual Review of Neuroscience</i> , 2013, 36, 217-241.	5.0	336
13	Sensory processing in the <i>Drosophila</i> antennal lobe increases reliability and separability of ensemble odor representations. <i>Nature Neuroscience</i> , 2007, 10, 1474-1482.	7.1	319
14	Diversity and wiring variability of olfactory local interneurons in the <i>Drosophila</i> antennal lobe. <i>Nature Neuroscience</i> , 2010, 13, 439-449.	7.1	310
15	Fly Cell Atlas: A single-nucleus transcriptomic atlas of the adult fruit fly. <i>Science</i> , 2022, 375, eabk2432.	6.0	295
16	Excitatory Interactions between Olfactory Processing Channels in the <i>Drosophila</i> Antennal Lobe. <i>Neuron</i> , 2007, 54, 89-103.	3.8	251
17	Glutamate is an inhibitory neurotransmitter in the <i>Drosophila</i> olfactory system. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 10294-10299.	3.3	228
18	Biophysical mechanisms underlying olfactory receptor neuron dynamics. <i>Nature Neuroscience</i> , 2011, 14, 208-216.	7.1	193

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19	Mechanosensation and Adaptive Motor Control in Insects. <i>Current Biology</i> , 2016, 26, R1022-R1038.	1.8	188
20	Electrical Coupling between Olfactory Glomeruli. <i>Neuron</i> , 2010, 67, 1034-1047.	3.8	171
21	Homeostatic Matching and Nonlinear Amplification at Identified Central Synapses. <i>Neuron</i> , 2008, 58, 401-413.	3.8	153
22	Distinct Roles of TRP Channels in Auditory Transduction and Amplification in <i>Drosophila</i> . <i>Neuron</i> , 2013, 77, 115-128.	3.8	151
23	Origins of correlated activity in an olfactory circuit. <i>Nature Neuroscience</i> , 2009, 12, 1136-1144.	7.1	138
24	Sensorimotor experience remaps visual input to a heading-direction network. <i>Nature</i> , 2019, 576, 121-125.	13.7	137
25	Olfactory processing and behavior downstream from highly selective receptor neurons. <i>Nature Neuroscience</i> , 2007, 10, 623-630.	7.1	132
26	Signal Propagation in <i>Drosophila</i> Central Neurons. <i>Journal of Neuroscience</i> , 2009, 29, 6239-6249.	1.7	130
27	Asymmetric neurotransmitter release enables rapid odour lateralization in <i>Drosophila</i> . <i>Nature</i> , 2013, 493, 424-428.	13.7	127
28	Cracking neural circuits in a tiny brain: new approaches for understanding the neural circuitry of <i>Drosophila</i> . <i>Trends in Neurosciences</i> , 2008, 31, 512-520.	4.2	124
29	Optogenetics: 10 years after ChR2 in neurons—views from the community. <i>Nature Neuroscience</i> , 2015, 18, 1202-1212.	7.1	122
30	Wiring variations that enable and constrain neural computation in a sensory microcircuit. <i>ELife</i> , 2017, 6, .	2.8	108
31	Stereotyped connectivity and computations in higher-order olfactory neurons. <i>Nature Neuroscience</i> , 2014, 17, 280-288.	7.1	101
32	A Phosphorylation Site Regulates Sorting of the Vesicular Acetylcholine Transporter to Dense Core Vesicles. <i>Journal of Cell Biology</i> , 2000, 149, 379-396.	2.3	97
33	A Neural Network for Wind-Guided Compass Navigation. <i>Neuron</i> , 2020, 107, 924-940.e18.	3.8	87
34	Synaptic and circuit mechanisms promoting broadband transmission of olfactory stimulus dynamics. <i>Nature Neuroscience</i> , 2015, 18, 56-65.	7.1	86
35	The Organization of Projections from Olfactory Glomeruli onto Higher-Order Neurons. <i>Neuron</i> , 2018, 98, 1198-1213.e6.	3.8	85
36	Thermosensory processing in the <i>Drosophila</i> brain. <i>Nature</i> , 2015, 519, 353-357.	13.7	82

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37	Automatic detection of synaptic partners in a whole-brain <i>Drosophila</i> electron microscopy data set. <i>Nature Methods</i> , 2021, 18, 771-774.	9.0	81
38	Parallel Transformation of Tactile Signals in Central Circuits of <i>Drosophila</i> . <i>Cell</i> , 2016, 164, 1046-1059.	13.5	78
39	Convergence, Divergence, and Reconvergence in a Feedforward Network Improves Neural Speed and Accuracy. <i>Neuron</i> , 2015, 88, 1014-1026.	3.8	77
40	Functional Maps of Mechanosensory Features in the <i>Drosophila</i> Brain. <i>Current Biology</i> , 2018, 28, 1189-1203.e5.	1.8	77
41	Simultaneous Encoding of Odors by Channels with Diverse Sensitivity to Inhibition. <i>Neuron</i> , 2015, 85, 573-589.	3.8	76
42	Olfactory modulation of flight in <i>Drosophila</i> is sensitive, selective and rapid. <i>Journal of Experimental Biology</i> , 2010, 213, 3625-3635.	0.8	75
43	Behavior Reveals Selective Summation and Max Pooling among Olfactory Processing Channels. <i>Neuron</i> , 2016, 91, 425-438.	3.8	72
44	Transforming representations of movement from body- to world-centric space. <i>Nature</i> , 2022, 601, 98-104.	13.7	71
45	Endothelial nitric oxide synthase and LTP. <i>Nature</i> , 1997, 386, 338-338.	13.7	61
46	Smelling on the fly: sensory cues and strategies for olfactory navigation in <i>Drosophila</i> . <i>Current Opinion in Neurobiology</i> , 2012, 22, 216-222.	2.0	57
47	Neural and behavioral mechanisms of olfactory perception. <i>Current Opinion in Neurobiology</i> , 2008, 18, 408-412.	2.0	53
48	Mechanisms Underlying Population Response Dynamics in Inhibitory Interneurons of the <i>Drosophila</i> Antennal Lobe. <i>Journal of Neuroscience</i> , 2016, 36, 4325-4338.	1.7	48
49	SPARC enables genetic manipulation of precise proportions of cells. <i>Nature Neuroscience</i> , 2020, 23, 1168-1175.	7.1	39
50	Active Mechanisms of Vibration Encoding and Frequency Filtering in Central Mechanosensory Neurons. <i>Neuron</i> , 2017, 96, 446-460.e9.	3.8	32
51	Understanding the functional consequences of synaptic specialization: insight from the <i>Drosophila</i> antennal lobe. <i>Current Opinion in Neurobiology</i> , 2011, 21, 254-260.	2.0	28
52	Transient and Specific Inactivation of <i>Drosophila</i> Neurons In Vivo Using a Native Ligand-Gated Ion Channel. <i>Current Biology</i> , 2013, 23, 1202-1208.	1.8	27
53	A Mechanosensory Circuit that Mixes Opponent Channels to Produce Selectivity for Complex Stimulus Features. <i>Neuron</i> , 2016, 92, 888-901.	3.8	27
54	Neural Circuits Underlying Chemical Perception. <i>Science</i> , 2007, 318, 584-585.	6.0	24

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55	Cell Death Triggers Olfactory Circuit Plasticity via Glial Signaling in <i>Drosophila</i> . Journal of Neuroscience, 2011, 31, 7619-7630.	1.7	24
56	Sound localization behavior in <i>Drosophila melanogaster</i> depends on inter-antenna vibration amplitude comparisons. Journal of Experimental Biology, 2019, 222, .	0.8	16
57	Human peptidergic nociceptive sensory neurons generated from human epidermal neural crest stem cells (hEPI-NCSC). PLoS ONE, 2018, 13, e0199996.	1.1	13
58	Receptors, Circuits, and Behaviors: New Directions in Chemical Senses. Journal of Neuroscience, 2008, 28, 11802-11805.	1.7	11
59	Transduction in <i>Drosophila</i> olfactory receptor neurons is invariant to air speed. Journal of Neurophysiology, 2012, 108, 2051-2059.	0.9	11
60	The Force Be With You: A Mechanoreceptor Channel in Proprioception and Touch. Neuron, 2010, 67, 349-351.	3.8	10
61	Olfactory Neuroscience: Normalization Is the Norm. Current Biology, 2013, 23, R1091-R1093.	1.8	10
62	Vertebrate versus invertebrate neural circuits. Current Biology, 2013, 23, R504-R506.	1.8	9
63	It takes all kinds to make a brain. Nature Neuroscience, 2010, 13, 1158-1160.	7.1	7
64	Scent secrets of insects. Nature, 2007, 445, 30-31.	13.7	2
65	Sensory and motor systems. Current Opinion in Neurobiology, 2011, 21, 517-519.	2.0	2
66	Separate TRP channels mediate amplification and transduction in drosophila. AIP Conference Proceedings, 2015, , .	0.3	1