Rachel I Wilson

List of Publications by Citations

71 papers	9,571 citations	42 h-index	81 g-index
81 ext. papers	11,236 ext. citations	19.9 avg, IF	6.67 L-index

#	Paper	IF	Citations
71	Endogenous cannabinoids mediate retrograde signalling at hippocampal synapses. *Nature*, **2001**, 410, 588-92	50.4	1243
70	Endocannabinoid signaling in the brain. *Science*, **2002**, 296, 678-82	33.3	993
69	Oscillations and sparsening of odor representations in the mushroom body. *Science*, **2002**, 297, 359-65	33.3	609
68	painless, a Drosophila gene essential for nociception. *Cell*, **2003**, 113, 261-73	56.2	555
67	Presynaptic specificity of endocannabinoid signaling in the hippocampus. *Neuron*, **2001**, 31, 453-62	13.9	437
66	Transformation of olfactory representations in the Drosophila antennal lobe. *Science*, **2004**, 303, 366-70	33.3	431
65	Lateral presynaptic inhibition mediates gain control in an olfactory circuit. *Nature*, **2008**, 452, 956-60	50.4	361
64	Role of GABAergic inhibition in shaping odor-evoked spatiotemporal patterns in the Drosophila antennal lobe. *Journal of Neuroscience*, **2005**, 25, 9069-79	6.6	351
63	The role of brain-derived neurotrophic factor receptors in the mature hippocampus: modulation of long-term potentiation through a presynaptic mechanism involving TrkB. *Journal of Neuroscience*, **2000**, 20, 6888-97	6.6	334
62	Divisive normalization in olfactory population codes. *Neuron*, **2010**, 66, 287-99	13.9	300
61	Early events in olfactory processing. *Annual Review of Neuroscience*, **2006**, 29, 163-201	17	293
60	Diversity and wiring variability of olfactory local interneurons in the Drosophila antennal lobe. *Nature Neuroscience*, **2010**, 13, 439-49	25.5	242
59	Sensory processing in the Drosophila antennal lobe increases reliability and separability of ensemble odor representations. *Nature Neuroscience*, **2007**, 10, 1474-82	25.5	236
58	Early olfactory processing in Drosophila: mechanisms and principles. *Annual Review of Neuroscience*, **2013**, 36, 217-41	17	229
57	Excitatory interactions between olfactory processing channels in the Drosophila antennal lobe. *Neuron*, **2007**, 54, 89-103	13.9	213
56	Glutamate is an inhibitory neurotransmitter in the Drosophila olfactory system. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 10294-9	11.5	163
55	Biophysical mechanisms underlying olfactory receptor neuron dynamics. *Nature Neuroscience*, **2011**, 14, 208-16	25.5	137

54	Electrical coupling between olfactory glomeruli. *Neuron*, **2010**, 67, 1034-47	13.9	132
53	Homeostatic matching and nonlinear amplification at identified central synapses. *Neuron*, **2008**, 58, 401-13	13.9	122
52	Distinct roles of TRP channels in auditory transduction and amplification in Drosophila. *Neuron*, **2013**, 77, 115-28	13.9	121
51	Olfactory processing and behavior downstream from highly selective receptor neurons. *Nature Neuroscience*, **2007**, 10, 623-30	25.5	118
50	Mechanosensation and Adaptive Motor Control in Insects. *Current Biology*, **2016**, 26, R1022-R1038	6.3	117
49	Cracking neural circuits in a tiny brain: new approaches for understanding the neural circuitry of Drosophila. *Trends in Neurosciences*, **2008**, 31, 512-20	13.3	108
48	Origins of correlated activity in an olfactory circuit. *Nature Neuroscience*, **2009**, 12, 1136-44	25.5	104
47	Signal propagation in Drosophila central neurons. *Journal of Neuroscience*, **2009**, 29, 6239-49	6.6	100
46	Asymmetric neurotransmitter release enables rapid odour lateralization in Drosophila. *Nature*, **2013**, 493, 424-8	50.4	99
45	Optogenetics: 10 years after ChR2 in neurons--views from the community. *Nature Neuroscience*, **2015**, 18, 1202-12	25.5	98
44	A phosphorylation site regulates sorting of the vesicular acetylcholine transporter to dense core vesicles. *Journal of Cell Biology*, **2000**, 149, 379-96	7.3	92
43	Stereotyped connectivity and computations in higher-order olfactory neurons. *Nature Neuroscience* , **2014**, 17, 280-8	25.5	79
42	Sensorimotor experience remaps visual input to a heading-direction network. *Nature*, **2019**, 576, 121-125	50.4	73
41	Wiring variations that enable and constrain neural computation in a sensory microcircuit. *ELife*, **2017**, 6,	8.9	70
40	Thermosensory processing in the Drosophila brain. *Nature*, **2015**, 519, 353-7	50.4	65
39	Synaptic and circuit mechanisms promoting broadband transmission of olfactory stimulus dynamics. *Nature Neuroscience*, **2015**, 18, 56-65	25.5	55
38	Olfactory modulation of flight in Drosophila is sensitive, selective and rapid. *Journal of Experimental Biology*, **2010**, 213, 3625-35	3	55
37	Parallel Transformation of Tactile Signals in Central Circuits of Drosophila. *Cell*, **2016**, 164, 1046-59	56.2	54

36	The Organization of Projections from Olfactory Glomeruli onto Higher-Order Neurons. *Neuron*, **2018**, 98, 1198-1213.e6	13.9	53
35	Endothelial nitric oxide synthase and LTP. *Nature*, **1997**, 386, 338	50.4	53
34	Behavior Reveals Selective Summation and Max Pooling among Olfactory Processing Channels. *Neuron*, **2016**, 91, 425-38	13.9	53
33	Functional Maps of Mechanosensory Features in the Drosophila Brain. *Current Biology*, **2018**, 28, 1189-1203.e5	6.3	52
32	Convergence, Divergence, and Reconvergence in a Feedforward Network Improves Neural Speed and Accuracy. *Neuron*, **2015**, 88, 1014-1026	13.9	50
31	Smelling on the fly: sensory cues and strategies for olfactory navigation in Drosophila. *Current Opinion in Neurobiology*, **2012**, 22, 216-22	7.6	47
30	Neural and behavioral mechanisms of olfactory perception. *Current Opinion in Neurobiology*, **2008**, 18, 408-12	7.6	45
29	Simultaneous encoding of odors by channels with diverse sensitivity to inhibition. *Neuron*, **2015**, 85, 573-89	13.9	42
28	A Neural Network for Wind-Guided Compass Navigation. *Neuron*, **2020**, 107, 924-940.e18	13.9	32
27	Mechanisms Underlying Population Response Dynamics in Inhibitory Interneurons of the Drosophila Antennal Lobe. *Journal of Neuroscience*, **2016**, 36, 4325-38	6.6	32
26	Active Mechanisms of Vibration Encoding and Frequency Filtering in Central Mechanosensory Neurons. *Neuron*, **2017**, 96, 446-460.e9	13.9	25
25	Understanding the functional consequences of synaptic specialization: insight from the Drosophila antennal lobe. *Current Opinion in Neurobiology*, **2011**, 21, 254-60	7.6	25
24	Eppendorf 2007 winner. Neural circuits underlying chemical perception. *Science*, **2007**, 318, 584-5	33.3	24
23	Neural circuit mechanisms for steering control in walkingDrosophila		24
22	Automatic detection of synaptic partners in a whole-brain Drosophila electron microscopy data set. *Nature Methods*, **2021**, 18, 771-774	21.6	24
21	Fly Cell Atlas: A single-nucleus transcriptomic atlas of the adult fruit fly.. *Science*, **2022**, 375, eabk2432	33.3	23
20	Transient and specific inactivation of Drosophila neurons in vivo using a native ligand-gated ion channel. *Current Biology*, **2013**, 23, 1202-8	6.3	21
19	A Mechanosensory Circuit that Mixes Opponent Channels to Produce Selectivity for Complex Stimulus Features. *Neuron*, **2016**, 92, 888-901	13.9	20

18	Cell death triggers olfactory circuit plasticity via glial signaling in Drosophila. *Journal of Neuroscience*, **2011**, 31, 7619-30	6.6	17
17	Automatic Detection of Synaptic Partners in a Whole-Brain Drosophila EM Dataset		17
16	Receptors, circuits, and behaviors: new directions in chemical senses. *Journal of Neuroscience*, **2008**, 28, 11802-5	6.6	10
15	Sound localization behavior in depends on inter-antenna vibration amplitude comparisons. *Journal of Experimental Biology*, **2019**, 222,	3	9
14	Vertebrate versus invertebrate neural circuits. *Current Biology*, **2013**, 23, R504-6	6.3	9
13	Transduction in Drosophila olfactory receptor neurons is invariant to air speed. *Journal of Neurophysiology*, **2012**, 108, 2051-9	3.2	9
12	Transforming representations of movement from body- to world-centric space		9
11	SPARC enables genetic manipulation of precise proportions of cells. *Nature Neuroscience*, **2020**, 23, 1168-1175	25.5	9
10	Transforming representations of movement from body- to world-centric space.. *Nature*, **2021**,	50.4	8
9	Human peptidergic nociceptive sensory neurons generated from human epidermal neural crest stem cells (hEPI-NCSC). *PLoS ONE*, **2018**, 13, e0199996	3.7	7
8	Olfactory neuroscience: normalization is the norm. *Current Biology*, **2013**, 23, R1091-3	6.3	7
7	The force be with you: a mechanoreceptor channel in proprioception and touch. *Neuron*, **2010**, 67, 349-51	13.9	6
6	It takes all kinds to make a brain. *Nature Neuroscience*, **2010**, 13, 1158-60	25.5	4
5	SPARC: a method to genetically manipulate precise proportions of cells		3
4	Wiring variations that enable and constrain neural computation in a sensory microcircuit		2
3	Author response: Wiring variations that enable and constrain neural computation in a sensory microcircuit **2017**,		2
2	Separate TRP channels mediate amplification and transduction in drosophila **2015**,		1
1	A Bayesian perspective on the ring attractor for heading-direction tracking in the Drosophila central complex		1