David J Heeger

List of Publications by Year
in descending order

91 papers	18,724 citations	46984 47 h-index	46771 89 g-index
113 all docs	113 docs citations	113 times ranked	10974 citing authors

#	Article	IF	Citations
1	Linear Systems Analysis of Functional Magnetic Resonance Imaging in Human V1. Journal of Neuroscience, 1996, 16, 4207-4221.	1.7	2,099
2	Normalization of cell responses in cat striate cortex. Visual Neuroscience, 1992, 9, 181-197.	0.5	1,652
3	Normalization as a canonical neural computation. Nature Reviews Neuroscience, 2012, 13, 51-62.	4.9	1,408
4	The Normalization Model of Attention. Neuron, 2009, 61, 168-185.	3.8	1,155
5	What does fMRI tell us about neuronal activity?. Nature Reviews Neuroscience, 2002, 3, 142-151.	4.9	833
6	A model of neuronal responses in visual area MT. Vision Research, 1998, 38, 743-761.	0.7	815
7	Linearity and Normalization in Simple Cells of the Macaque Primary Visual Cortex. Journal of Neuroscience, 1997, 17, 8621-8644.	1.7	810
8	Retinotopy and Functional Subdivision of Human Areas MT and MST. Journal of Neuroscience, 2002, 22, 7195-7205.	1.7	570
9	Two Retinotopic Visual Areas in Human Lateral Occipital Cortex. Journal of Neuroscience, 2006, 26, 13128-13142.	1.7	533
10	Slow Cortical Dynamics and the Accumulation of Information over Long Timescales. Neuron, 2012, 76, 423-434.	3.8	470
11	Activity in primary visual cortex predicts performance in a visual detection task. Nature Neuroscience, 2000, 3, 940-945.	7.1	464
12	Subspace methods for recovering rigid motion I: Algorithm and implementation. International Journal of Computer Vision, 1992, 7, 95-117.	10.9	382
13	Neuronal basis of contrast discrimination. Vision Research, 1999, 39, 257-269.	0.7	355
14	Spikes versus BOLD: what does neuroimaging tell us about neuronal activity?. Nature Neuroscience, 2000, 3, 631-633.	7.1	336
15	Neuronal correlates of perception in early visual cortex. Nature Neuroscience, 2003, 6, 414-420.	7.1	322
16	Neuronal Basis of the Motion Aftereffect Reconsidered. Neuron, 2001, 32, 161-172.	3.8	300
17	Motion Opponency in Visual Cortex. Journal of Neuroscience, 1999, 19, 7162-7174.	1.7	284
18	Traveling waves of activity in primary visual cortex during binocular rivalry. Nature Neuroscience, 2005, 8, 22-23.	7.1	282

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19	Robust multiresolution alignment of MRI brain volumes. Magnetic Resonance in Medicine, 2000, 43, 705-715.	1.9	275
20	Human Cortical Activity Correlates With Stereoscopic Depth Perception. Journal of Neurophysiology, 2001, 86, 2054-2068.	0.9	269
21	When size matters: attention affects performance by contrast or response gain. Nature Neuroscience, 2010, 13, 1554-1559.	7.1	268
22	Unreliable Evoked Responses in Autism. Neuron, 2012, 75, 981-991.	3.8	267
23	Orientation Decoding Depends on Maps, Not Columns. Journal of Neuroscience, 2011, 31, 4792-4804.	1.7	245
24	Half-squaring in responses of cat striate cells. Visual Neuroscience, 1992, 9, 427-443.	0.5	239
25	Orientation-Selective Adaptation to First- and Second-Order Patterns in Human Visual Cortex. Journal of Neurophysiology, 2006, 95, 862-881.	0.9	216
26	Center-surround interactions in foveal and peripheral vision. Vision Research, 2000, 40, 3065-3072.	0.7	204
27	A Synaptic Explanation of Suppression in Visual Cortex. Journal of Neuroscience, 2002, 22, 10053-10065.	1.7	192
28	Response Suppression in V1 Agrees with Psychophysics of Surround Masking. Journal of Neuroscience, 2003, 23, 6884-6893.	1.7	190
29	Neural variability: friend or foe?. Trends in Cognitive Sciences, 2015, 19, 322-328.	4.0	188
30	Pattern-motion responses in human visual cortex. Nature Neuroscience, 2002, 5, 72-75.	7.1	177
31	Maps of Visual Space in Human Occipital Cortex Are Retinotopic, Not Spatiotopic. Journal of Neuroscience, 2008, 28, 3988-3999.	1.7	174
32	Attentional Enhancement via Selection and Pooling of Early Sensory Responses in Human Visual Cortex. Neuron, 2011, 72, 832-846.	3.8	170
33	Measurement and modeling of center-surround suppression and enhancement. Vision Research, 2001, 41, 571-583.	0.7	169
34	Theory of cortical function. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1773-1782.	3.3	161
35	Cross-orientation suppression in human visual cortex. Journal of Neurophysiology, 2011, 106, 2108-2119.	0.9	157
36	Sustained Activity in Topographic Areas of Human Posterior Parietal Cortex during Memory-Guided Saccades. Journal of Neuroscience, 2006, 26, 5098-5108.	1.7	146

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37	Spontaneous Microsaccades Reflect Shifts in Covert Attention. Journal of Neuroscience, 2014, 34, 13693-13700.	1.7	141
38	Task-Related Modulation of Visual Cortex. Journal of Neurophysiology, 2000, 83, 3525-3536.	0.9	130
39	Opposite Neural Signatures of Motion-Induced Blindness in Human Dorsal and Ventral Visual Cortex. Journal of Neuroscience, 2008, 28, 10298-10310.	1.7	99
40	Cortical Variability in the Sensory-Evoked Response in Autism. Journal of Autism and Developmental Disorders, 2015, 45, 1176-1190.	1.7	99
41	Orientation-Selective Adaptation to Illusory Contours in Human Visual Cortex. Journal of Neuroscience, 2007, 27, 2186-2195.	1.7	85
42	Coarse-Scale Biases for Spirals and Orientation in Human Visual Cortex. Journal of Neuroscience, 2013, 33, 19695-19703.	1.7	71
43	Perceptual learning in autism: over-specificity and possible remedies. Nature Neuroscience, 2015, 18, 1574-1576.	7.1	70
44	Analysis of Perceptual Expertise in Radiology â€“ Current Knowledge and a New Perspective. Frontiers in Human Neuroscience, 2019, 13, 213.	1.0	66
45	Feature-based attention enhances performance by increasing response gain. Vision Research, 2012, 74, 10-20.	0.7	65
46	Specific Visual Subregions of TPJ Mediate Reorienting of Spatial Attention. Cerebral Cortex, 2018, 28, 2375-2390.	1.6	65
47	Attention model of binocular rivalry. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E6192-E6201.	3.3	64
48	Differential impact of endogenous and exogenous attention on activity in human visual cortex. Scientific Reports, 2020, 10, 21274.	1.6	54
49	Free Viewing Gaze Behavior in Infants and Adults. Infancy, 2016, 21, 262-287.	0.9	53
50	The neural processing of hierarchical structure in music and speech at different timescales. Frontiers in Neuroscience, 2015, 9, 157.	1.4	50
51	Modulation of Visual Responses by Gaze Direction in Human Visual Cortex. Journal of Neuroscience, 2013, 33, 9879-9889.	1.7	49
52	Motion Direction Biases and Decoding in Human Visual Cortex. Journal of Neuroscience, 2014, 34, 12601-12615.	1.7	44
53	Attention flexibly trades off across points in time. Psychonomic Bulletin and Review, 2017, 24, 1142-1151.	1.4	42
54	Motion without movement. Computer Graphics, 1991, 25, 27-30.	0.1	41

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55	Pattern Adaptation and Normalization Reweighting. Journal of Neuroscience, 2016, 36, 9805-9816.	1.7	37
56	Motion-Induced Blindness and Troxler Fading: Common and Different Mechanisms. PLoS ONE, 2014, 9, e92894.	1.1	35
57	Stimulus vignetting and orientation selectivity in human visual cortex. ELife, 2018, 7, .	2.8	35
58	Orientation Selectivity of Motion-Boundary Responses in Human Visual Cortex. Journal of Neurophysiology, 2010, 104, 2940-2950.	0.9	34
59	Attention enhances contrast appearance via increased input baseline of neural responses. Journal of Vision, 2014, 14, 16-16.	0.1	33
60	A dynamic normalization model of temporal attention. Nature Human Behaviour, 2021, 5, 1674-1685.	6.2	33
61	Human primary visual cortex (V1) is selective for second-order spatial frequency. Journal of Neurophysiology, 2011, 105, 2121-2131.	0.9	31
62	Interactions between voluntary and involuntary attention modulate the quality and temporal dynamics of visual processing. Psychonomic Bulletin and Review, 2015, 22, 437-444.	1.4	30
63	Normalization in human somatosensory cortex. Journal of Neurophysiology, 2015, 114, 2588-2599.	0.9	28
64	Vision as a Beachhead. Biological Psychiatry, 2017, 81, 832-837.	0.7	28
65	Differential sensory fMRI signatures in autism and schizophrenia: Analysis of amplitude and trial-to-trial variability. Schizophrenia Research, 2016, 175, 12-19.	1.1	27
66	Overâ€Responsiveness and Greater Variability in Roughness Perception in Autism. Autism Research, 2016, 9, 393-402.	2.1	27
67	A recurrent circuit implements normalization, simulating the dynamics of V1 activity. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 22494-22505.	3.3	24
68	Oscillatory recurrent gated neural integrator circuits (ORGaNICs), a unifying theoretical framework for neural dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 22783-22794.	3.3	21
69	Spared perilesional V1 activity underlies training-induced recovery of luminance detection sensitivity in cortically-blind patients. Nature Communications, 2021, 12, 6102.	5.8	21
70	A unified model of the task-evoked pupil response. Science Advances, 2022, 8, eabi9979.	4.7	21
71	Deconstructing Interocular Suppression: Attention and Divisive Normalization. PLoS Computational Biology, 2015, 11, e1004510.	1.5	20
72	Temporal Contingencies Determine Whether Adaptation Strengthens or Weakens Normalization. Journal of Neuroscience, 2018, 38, 10129-10142.	1.7	16

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73	Positionâ€"theta-phase model of hippocampal place cell activity applied to quantification of running speed modulation of firing rate. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 27035-27042.	3.3	16
74	Uncharacteristic Task-Evoked Pupillary Responses Implicate Atypical Locus Ceruleus Activity in Autism. Journal of Neuroscience, 2020, 40, 3815-3826.	1.7	16
75	An image-computable model of how endogenous and exogenous attention differentially alter visual perception. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	16
76	On spatial attention and its field size on the repulsion effect. Journal of Vision, 2018, 18, 8.	0.1	15
77	No difference in cross-modal attention or sensory discrimination thresholds in autism and matched controls. Vision Research, 2016, 121, 85-94.	0.7	13
78	A non-invasive, quantitative study of broadband spectral responses in human visual cortex. PLoS ONE, 2018, 13, e0193107.	1.1	13
79	Long-range traveling waves of activity triggered by local dichoptic stimulation in V1 of behaving monkeys. Journal of Neurophysiology, 2015, 113, 277-294.	0.9	12
80	Heading perception depends on time-varying evolution of optic flow. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 33161-33169.	3.3	11
81	Contingent adaptation in masking and surround suppression. Vision Research, 2020, 166, 72-80.	0.7	8
82	Task-related hemodynamic responses in human early visual cortex are modulated by task difficulty and behavioral performance. ELife, 2022, 11, .	2.8	8
83	Suppressive interactions underlying visually evoked fixational saccades. Vision Research, 2016, 118, 70-82.	0.7	5
84	Response: Commentary: Perceptual learning in autism: over-specificity and possible remedies. Frontiers in Integrative Neuroscience, 2016, 10, 36.	1.0	2
85	Pre-training cortical activity preserved after V1 damage predicts sites of training-induced visual recovery. Journal of Vision, 2017, 17, 17.	0.1	2
86	An attention model of binocular rivalry. Journal of Vision, 2017, 17, 579.	0.1	2
87	A widespread task-related hemodynamic response in human V1 is modulated by task difficulty. Journal of Vision, 2018, 18, 1261.	0.1	1
88	Contingent adaptation in masking and surround suppression. Journal of Vision, 2018, 18, 259.	0.1	1
89	The "Plastic Retina": Image Enhancement Using Polymer Grid Triode Arrays. ACS Symposium Series, 1997, , 297-305.	0.5	0
90	Heading Perception Depends on Time-Varying Evolution of Optic Flow. Journal of Vision, 2018, 18, 47.	0.1	0

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91	Stimulus vignetting and orientation selectivity in human visual cortex. Journal of Vision, 2018, 18, 1052.	0.1	0