David J Heeger

List of Publications by Year
in descending order

91 papers	18,724 citations	47006 47 h-index	46799 89 g-index
113 all docs	113 docs citations	113 times ranked	10974 citing authors

#	Article	IF	Citations
1	Task-related hemodynamic responses in human early visual cortex are modulated by task difficulty and behavioral performance. ELife, 2022, 11, .	6.0	8
2	A unified model of the task-evoked pupil response. Science Advances, 2022, 8, eabi9979.	10.3	21
3	A dynamic normalization model of temporal attention. Nature Human Behaviour, 2021, 5, 1674-1685.	12.0	33
4	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, .	7.1	16
5	Spared perilesional V1 activity underlies training-induced recovery of luminance detection sensitivity in cortically-blind patients. Nature Communications, 2021, 12, 6102.	12.8	21
6	Contingent adaptation in masking and surround suppression. Vision Research, 2020, 166, 72-80.	1.4	8
7	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.	7.1	24
8	Differential impact of endogenous and exogenous attention on activity in human visual cortex. Scientific Reports, 2020, 10, 21274.	3.3	54
9	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.	7.1	11
10	Uncharacteristic Task-Evoked Pupillary Responses Implicate Atypical Locus Ceruleus Activity in Autism. Journal of Neuroscience, 2020, 40, 3815-3826.	3.6	16
11	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.	7.1	21
12	Analysis of Perceptual Expertise in Radiology â€“ Current Knowledge and a New Perspective. Frontiers in Human Neuroscience, 2019, 13, 213.	2.0	66
13	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.	7.1	16
14	Specific Visual Subregions of TPJ Mediate Reorienting of Spatial Attention. Cerebral Cortex, 2018, 28, 2375-2390.	2.9	65
15	On spatial attention and its field size on the repulsion effect. Journal of Vision, 2018, 18, 8.	0.3	15
16	Temporal Contingencies Determine Whether Adaptation Strengthens or Weakens Normalization. Journal of Neuroscience, 2018, 38, 10129-10142.	3.6	16
17	A widespread task-related hemodynamic response in human V1 is modulated by task difficulty. Journal of Vision, 2018, 18, 1261.	0.3	1
18	A non-invasive, quantitative study of broadband spectral responses in human visual cortex. PLoS ONE, 2018, 13, e0193107.	2.5	13

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19	Stimulus vignetting and orientation selectivity in human visual cortex. ELife, 2018, 7, .	6.0	35
20	Contingent adaptation in masking and surround suppression. Journal of Vision, 2018, 18, 259.	0.3	1
21	Heading Perception Depends on Time-Varying Evolution of Optic Flow. Journal of Vision, 2018, 18, 47.	0.3	0
22	Stimulus vignetting and orientation selectivity in human visual cortex. Journal of Vision, 2018, 18, 1052.	0.3	0
23	Theory of cortical function. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1773-1782.	7.1	161
24	Attention flexibly trades off across points in time. Psychonomic Bulletin and Review, 2017, 24, 1142-1151.	2.8	42
25	Attention model of binocular rivalry. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E6192-E6201.	7.1	64
26	Vision as a Beachhead. Biological Psychiatry, 2017, 81, 832-837.	1.3	28
27	Pre-training cortical activity preserved after V1 damage predicts sites of training-induced visual recovery. Journal of Vision, 2017, 17, 17.	0.3	2
28	An attention model of binocular rivalry. Journal of Vision, 2017, 17, 579.	0.3	2
29	Response: Commentary: Perceptual learning in autism: over-specificity and possible remedies. Frontiers in Integrative Neuroscience, 2016, 10, 36.	2.1	2
30	Free Viewing Gaze Behavior in Infants and Adults. Infancy, 2016, 21, 262-287.	1.6	53
31	Pattern Adaptation and Normalization Reweighting. Journal of Neuroscience, 2016, 36, 9805-9816.	3.6	37
32	Differential sensory fMRI signatures in autism and schizophrenia: Analysis of amplitude and trial-to-trial variability. Schizophrenia Research, 2016, 175, 12-19.	2.0	27
33	Overâ€Responsiveness and Greater Variability in Roughness Perception in Autism. Autism Research, 2016, 9, 393-402.	3.8	27
34	No difference in cross-modal attention or sensory discrimination thresholds in autism and matched controls. Vision Research, 2016, 121, 85-94.	1.4	13
35	Suppressive interactions underlying visually evoked fixational saccades. Vision Research, 2016, 118, 70-82.	1.4	5
36	The neural processing of hierarchical structure in music and speech at different timescales. Frontiers in Neuroscience, 2015, 9, 157.	2.8	50

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37	Deconstructing Interocular Suppression: Attention and Divisive Normalization. PLoS Computational Biology, 2015, 11, e1004510.	3.2	20
38	Normalization in human somatosensory cortex. Journal of Neurophysiology, 2015, 114, 2588-2599.	1.8	28
39	Cortical Variability in the Sensory-Evoked Response in Autism. Journal of Autism and Developmental Disorders, 2015, 45, 1176-1190.	2.7	99
40	Interactions between voluntary and involuntary attention modulate the quality and temporal dynamics of visual processing. Psychonomic Bulletin and Review, 2015, 22, 437-444.	2.8	30
41	Neural variability: friend or foe?. Trends in Cognitive Sciences, 2015, 19, 322-328.	7.8	188
42	Long-range traveling waves of activity triggered by local dichoptic stimulation in V1 of behaving monkeys. Journal of Neurophysiology, 2015, 113, 277-294.	1.8	12
43	Perceptual learning in autism: over-specificity and possible remedies. Nature Neuroscience, 2015, 18, 1574-1576.	14.8	70
44	Motion-Induced Blindness and Troxler Fading: Common and Different Mechanisms. PLoS ONE, 2014, 9, e92894.	2.5	35
45	Attention enhances contrast appearance via increased input baseline of neural responses. Journal of Vision, 2014, 14, 16-16.	0.3	33
46	Spontaneous Microsaccades Reflect Shifts in Covert Attention. Journal of Neuroscience, 2014, 34, 13693-13700.	3.6	141
47	Motion Direction Biases and Decoding in Human Visual Cortex. Journal of Neuroscience, 2014, 34, 12601-12615.	3.6	44
48	Modulation of Visual Responses by Gaze Direction in Human Visual Cortex. Journal of Neuroscience, 2013, 33, 9879-9889.	3.6	49
49	Coarse-Scale Biases for Spirals and Orientation in Human Visual Cortex. Journal of Neuroscience, 2013, 33, 19695-19703.	3.6	71
50	Slow Cortical Dynamics and the Accumulation of Information over Long Timescales. Neuron, 2012, 76, 423-434.	8.1	470
51	Unreliable Evoked Responses in Autism. Neuron, 2012, 75, 981-991.	8.1	267
52	Feature-based attention enhances performance by increasing response gain. Vision Research, 2012, 74, 10-20.	1.4	65
53	Normalization as a canonical neural computation. Nature Reviews Neuroscience, 2012, 13, 51-62.	10.2	1,408
54	Cross-orientation suppression in human visual cortex. Journal of Neurophysiology, 2011, 106, 2108-2119.	1.8	157

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55	Attentional Enhancement via Selection and Pooling of Early Sensory Responses in Human Visual Cortex. Neuron, 2011, 72, 832-846.	8.1	170
56	Orientation Decoding Depends on Maps, Not Columns. Journal of Neuroscience, 2011, 31, 4792-4804.	3.6	245
57	Human primary visual cortex (V1) is selective for second-order spatial frequency. Journal of Neurophysiology, 2011, 105, 2121-2131.	1.8	31
58	When size matters: attention affects performance by contrast or response gain. Nature Neuroscience, 2010, 13, 1554-1559.	14.8	268
59	Orientation Selectivity of Motion-Boundary Responses in Human Visual Cortex. Journal of Neurophysiology, 2010, 104, 2940-2950.	1.8	34
60	The Normalization Model of Attention. Neuron, 2009, 61, 168-185.	8.1	1,155
61	Maps of Visual Space in Human Occipital Cortex Are Retinotopic, Not Spatiotopic. Journal of Neuroscience, 2008, 28, 3988-3999.	3.6	174
62	Opposite Neural Signatures of Motion-Induced Blindness in Human Dorsal and Ventral Visual Cortex. Journal of Neuroscience, 2008, 28, 10298-10310.	3.6	99
63	Orientation-Selective Adaptation to Illusory Contours in Human Visual Cortex. Journal of Neuroscience, 2007, 27, 2186-2195.	3.6	85
64	Orientation-Selective Adaptation to First- and Second-Order Patterns in Human Visual Cortex. Journal of Neurophysiology, 2006, 95, 862-881.	1.8	216
65	Two Retinotopic Visual Areas in Human Lateral Occipital Cortex. Journal of Neuroscience, 2006, 26, 13128-13142.	3.6	533
66	Sustained Activity in Topographic Areas of Human Posterior Parietal Cortex during Memory-Guided Saccades. Journal of Neuroscience, 2006, 26, 5098-5108.	3.6	146
67	Traveling waves of activity in primary visual cortex during binocular rivalry. Nature Neuroscience, 2005, 8, 22-23.	14.8	282
68	Neuronal correlates of perception in early visual cortex. Nature Neuroscience, 2003, 6, 414-420.	14.8	322
69	Response Suppression in V1 Agrees with Psychophysics of Surround Masking. Journal of Neuroscience, 2003, 23, 6884-6893.	3.6	190
70	What does fMRI tell us about neuronal activity?. Nature Reviews Neuroscience, 2002, 3, 142-151.	10.2	833
71	A Synaptic Explanation of Suppression in Visual Cortex. Journal of Neuroscience, 2002, 22, 10053-10065.	3.6	192
72	Retinotopy and Functional Subdivision of Human Areas MT and MST. Journal of Neuroscience, 2002, 22, 7195-7205.	3.6	570

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73	Pattern-motion responses in human visual cortex. Nature Neuroscience, 2002, 5, 72-75.	14.8	177
74	Neuronal Basis of the Motion Aftereffect Reconsidered. Neuron, 2001, 32, 161-172.	8.1	300
75	Measurement and modeling of center-surround suppression and enhancement. Vision Research, 2001, 41, 571-583.	1.4	169
76	Human Cortical Activity Correlates With Stereoscopic Depth Perception. Journal of Neurophysiology, 2001, 86, 2054-2068.	1.8	269
77	Robust multiresolution alignment of MRI brain volumes. Magnetic Resonance in Medicine, 2000, 43, 705-715.	3.0	275
78	Spikes versus BOLD: what does neuroimaging tell us about neuronal activity?. Nature Neuroscience, 2000, 3, 631-633.	14.8	336
79	Activity in primary visual cortex predicts performance in a visual detection task. Nature Neuroscience, 2000, 3, 940-945.	14.8	464
80	Task-Related Modulation of Visual Cortex. Journal of Neurophysiology, 2000, 83, 3525-3536.	1.8	130
81	Center-surround interactions in foveal and peripheral vision. Vision Research, 2000, 40, 3065-3072.	1.4	204
82	Motion Opponency in Visual Cortex. Journal of Neuroscience, 1999, 19, 7162-7174.	3.6	284
83	Neuronal basis of contrast discrimination. Vision Research, 1999, 39, 257-269.	1.4	355
84	A model of neuronal responses in visual area MT. Vision Research, 1998, 38, 743-761.	1.4	815
85	Linearity and Normalization in Simple Cells of the Macaque Primary Visual Cortex. Journal of Neuroscience, 1997, 17, 8621-8644.	3.6	810
86	The "Plastic Retina": Image Enhancement Using Polymer Grid Triode Arrays. ACS Symposium Series, 1997, , 297-305.	0.5	0
87	Linear Systems Analysis of Functional Magnetic Resonance Imaging in Human V1. Journal of Neuroscience, 1996, 16, 4207-4221.	3.6	2,099
88	Normalization of cell responses in cat striate cortex. Visual Neuroscience, 1992, 9, 181-197.	1.0	1,652
89	Half-squaring in responses of cat striate cells. Visual Neuroscience, 1992, 9, 427-443.	1.0	239
90	Subspace methods for recovering rigid motion I: Algorithm and implementation. International Journal of Computer Vision, 1992, 7, 95-117.	15.6	382

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91	Motion without movement. Computer Graphics, 1991, 25, 27-30.	0.1	41