David H Brainard

List of Publications by Year
in descending order

66 papers	18,186 citations	236925 25 h-index	138484 58 g-index
82 all docs	82 docs citations	82 times ranked	12521 citing authors

#	Article	IF	Citations
1	The Psychophysics Toolbox. Spatial Vision, 1997, 10, 433-436.	1.4	15,713
2	Functional consequences of the relative numbers of L and M cones. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2000, 17, 607.	1.5	203
3	Correction of Distortion in Flattened Representations of the Cortical Surface Allows Prediction of V1-V3 Functional Organization from Anatomy. PLoS Computational Biology, 2014, 10, e1003538.	3.2	175
4	Asymmetric color matching: how color appearance depends on the illuminant. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1992, 9, 1433.	1.5	167
5	Opponent melanopsin and S-cone signals in the human pupillary light response. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15568-15572.	7.1	161
6	Variation of outdoor illumination as a function of solar elevation and light pollution. Scientific Reports, 2016, 6, 26756.	3.3	131
7	Efficiency in detection of isoluminant and isochromatic interference fringes. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1993, 10, 2118.	1.5	104
8	Surface color perception and equivalent illumination models. Journal of Vision, 2011, 11, 1-1.	0.3	96
9	Perceived glossiness and lightness under real-world illumination. Journal of Vision, 2010, 10, 5-5.	0.3	94
10	Colour Vision: Understanding #TheDress. Current Biology, 2015, 25, R551-R554.	3.9	91
11	The human visual cortex response to melanopsin-directed stimulation is accompanied by a distinct perceptual experience. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12291-12296.	7.1	87
12	Bayesian model of human color constancy. Journal of Vision, 2006, 6, 10-10.	0.3	83
13	Surface characterizations of color thresholds. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1990, 7, 783.	1.5	58
14	Hunter-Gatherer Color Naming Provides New Insight into the Evolution of Color Terms. Current Biology, 2015, 25, 2441-2446.	3.9	54
15	Multi-modal automatic montaging of adaptive optics retinal images. Biomedical Optics Express, 2016, 7, 4899.	2.9	49
16	Trichromatic reconstruction from the interleaved cone mosaic: Bayesian model and the color appearance of small spots. Journal of Vision, 2008, 8, 15.	0.3	48
17	Design of a Trichromatic Cone Array. PLoS Computational Biology, 2010, 6, e1000677.	3.2	47
18	Selective Stimulation of Penumbral Cones Reveals Perception in the Shadow of Retinal Blood Vessels. PLoS ONE, 2015, 10, e0124328.	2.5	47

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19	A computational-observer model of spatial contrast sensitivity: Effects of wave-front-based optics, cone-mosaic structure, and inference engine. Journal of Vision, 2019, 19, 8.	0.3	45
20	Color and the Cone Mosaic. Annual Review of Vision Science, 2015, 1, 519-546.	4.4	43
21	Illumination discrimination in real and simulated scenes. Journal of Vision, 2016, 16, 2.	0.3	36
22	Human Visual Cortex Responses to Rapid Cone and Melanopsin-Directed Flicker. Journal of Neuroscience, 2016, 36, 1471-1482.	3.6	35
23	Landmark matching based retinal image alignment by enforcing sparsity in correspondence matrix. Medical Image Analysis, 2014, 18, 903-913.	11.6	32
24	The nature of instructional effects in color constancy.. Journal of Experimental Psychology: Human Perception and Performance, 2016, 42, 847-865.	0.9	31
25	Perception of color and material properties in complex scenes. Journal of Vision, 2004, 4, i.	0.3	30
26	Illumination discrimination for chromatically biased illuminations: Implications for color constancy. Journal of Vision, 2019, 19, 15.	0.3	29
27	RenderToolbox3: MATLAB tools that facilitate physically based stimulus rendering for vision research. Journal of Vision, 2014, 14, 6-6.	0.3	26
28	Visual Function at the Atrophic Border in Choroideremia Assessed with Adaptive Optics Microperimetry. Ophthalmology Retina, 2019, 3, 888-899.	2.4	23
29	Color constancy supports cross-illumination color selection. Journal of Vision, 2015, 15, 13.	0.3	22
30	Simulation of visual perception and learning with a retinal prosthesis. Journal of Neural Engineering, 2019, 16, 025003.	3.5	22
31	Selective amplification of ipRGC signals accounts for interictal photophobia in migraine. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17320-17329.	7.1	22
32	The Cost of Trichromacy for Spatial Vision. , 1991, , 11-22.		21
33	Unsupervised Learning of Cone Spectral Classes from Natural Images. PLoS Computational Biology, 2014, 10, e1003652.	3.2	20
34	Color constancy in a naturalistic, goal-directed task. Journal of Vision, 2015, 15, 3.	0.3	20
35	The perception of colour and material in naturalistic tasks. Interface Focus, 2018, 8, 20180012.	3.0	20
36	An automated drusen detection system for classifying age-related macular degeneration with color fundus photographs. , 2013, , .		19

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37	Optimal design of photoreceptor mosaics: Why we do not see color at night. Visual Neuroscience, 2009, 26, 5-19.	1.0	17
38	27.2: Distinguished Paper: Modeling Visible Differences: The Computational Observer Model. Digest of Technical Papers SID International Symposium, 2014, 45, 352-356.	0.3	17
39	Spatial summation in the human fovea: Do normal optical aberrations and fixational eye movements have an effect?. Journal of Vision, 2018, 18, 6.	0.3	17
40	What we talk about when we talk about colors. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	17
41	Automatic longitudinal montaging of adaptive optics retinal images using constellation matching. Biomedical Optics Express, 2019, 10, 6476.	2.9	16
42	No measured effect of a familiar contextual object on color constancy. Color Research and Application, 2014, 39, 347-359.	1.6	14
43	Hadza Color Terms Are Sparse, Diverse, and Distributed, and Presage the Universal Color Categories Found in Other World Languages. I-Perception, 2016, 7, 204166951668180.	1.4	13
44	Illumination discrimination in the absence of a fixed surface-reflectance layout. Journal of Vision, 2018, 18, 11.	0.3	13
45	Ray tracing 3D spectral scenes through human optics models. Journal of Vision, 2019, 19, 23.	0.3	12
46	Computational luminance constancy from naturalistic images. Journal of Vision, 2018, 18, 19.	0.3	9
47	The relative contribution of color and material in object selection. PLoS Computational Biology, 2019, 15, e1006950.	3.2	9
48	A computational observer model of spatial contrast sensitivity: Effects of photocurrent encoding, fixational eye movements, and inference engine. Journal of Vision, 2020, 20, 17.	0.3	9
49	Simulating retinal encoding: factors influencing Vernier acuity. IS&T International Symposium on Electronic Imaging, 2017, 29, 177-181.	0.4	8
50	Scaling Measurements of the Effect of Surface Slant on Perceived Lightness. I-Perception, 2014, 5, 53-72.	1.4	7
51	Pulses of Melanopsin-Directed Contrast Produce Highly Reproducible Pupil Responses That Are Insensitive to a Change in Background Radiance. , 2018, 59, 5615.		7
52	A Conversation with Jacob Nachmias. Annual Review of Vision Science, 2019, 5, 1-13.	4.4	7
53	Quantifying how humans trade off color and material in object identification. IS&T International Symposium on Electronic Imaging, 2018, 30, 1-6.	0.4	6
54	Color, pattern, and the retinal cone mosaic. Current Opinion in Behavioral Sciences, 2019, 30, 41-47.	3.9	6

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55	Neuronal population mechanisms of lightness perception. Journal of Neurophysiology, 2018, 120, 2296-2310.	1.8	5
56	Reflexive Eye Closure in Response to Cone and Melanopsin Stimulation. Neurology, 2021, 97, e1672-e1680.	1.1	5
57	Melanopic stimulation does not alter psychophysical threshold sensitivity for luminance flicker. Scientific Reports, 2021, 11, 20167.	3.3	5
58	An image reconstruction framework for characterizing initial visual encoding. ELife, 2022, 11, .	6.0	5
59	A quadratic model captures the human V1 response to variations in chromatic direction and contrast. ELife, 2021, 10, .	6.0	3
60	Computational-observer analysis of illumination discrimination. Journal of Vision, 2019, 19, 11.	0.3	2
61	The relative amplitude of pupil response to melanopsin stimulation is a stable individual difference. Journal of Vision, 2017, 17, 14.	0.3	1
62	The population mean pupil response to melanopsin stimulation is reliable across sessions and background light levels. Journal of Vision, 2018, 18, 878.	0.3	0
63	A Quadratic Model of the fMRI BOLD Response to Chromatic Modulations in V1. Journal of Vision, 2019, 19, 68c.	0.3	0
64	Adaptation to melanopic stimulation does not affect cone-mediated flicker sensitivity. Journal of Vision, 2019, 19, 72c.	0.3	0
65	Bayesian Image Reconstruction from Retinal Cone Signals. Journal of Vision, 2020, 20, 842.	0.3	0
66	Proximity matters. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	0