Rufin VanRullen

List of Publications by Year
in descending order

158	11,060	53794	38395
papers	citations	45 h-index	95 g-index

184	184	184	6835
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The Phase of Ongoing EEG Oscillations Predicts Visual Perception. Journal of Neuroscience, 2009, 29, 7869-7876.	3.6	1,017
2	Rapid natural scene categorization in the near absence of attention. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 9596-9601.	7.1	636
3	The Time Course of Visual Processing: From Early Perception to Decision-Making. Journal of Cognitive Neuroscience, 2001, 13, 454-461.	2.3	599
4	Is perception discrete or continuous?. Trends in Cognitive Sciences, 2003, 7, 207-213.	7.8	528
5	Perceptual Cycles. Trends in Cognitive Sciences, 2016, 20, 723-735.	7.8	526
6	Spontaneous EEG oscillations reveal periodic sampling of visual attention. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 16048-16053.	7.1	503
7	An oscillatory mechanism for prioritizing salient unattended stimuli. Trends in Cognitive Sciences, 2012, 16, 200-206.	7.8	383
8	Rate Coding Versus Temporal Order Coding: What the Retinal Ganglion Cells Tell the Visual Cortex. Neural Computation, 2001, 13, 1255-1283.	2.2	378
9	Spike times make sense. Trends in Neurosciences, 2005, 28, 1-4.	8.6	376
10	The Phase of Ongoing Oscillations Mediates the Causal Relation between Brain Excitation and Visual Perception. Journal of Neuroscience, 2011, 31, 11889-11893.	3.6	318
11	Is it a Bird? Is it a Plane? Ultra-Rapid Visual Categorisation of Natural and Artifactual Objects. Perception, 2001, 30, 655-668.	1.2	298
12	The blinking spotlight of attention. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 19204-19209.	7.1	234
13	Surfing a spike wave down the ventral stream. Vision Research, 2002, 42, 2593-2615.	1.4	218
14	Ongoing EEG Phase as a Trial-by-Trial Predictor of Perceptual and Attentional Variability. Frontiers in Psychology, 2011, 2, 60.	2.1	184
15	Four Common Conceptual Fallacies in Mapping the Time Course of Recognition. Frontiers in Psychology, 2011, 2, 365.	2.1	151
16	Perceptual Echoes at 10ÂHz in the Human Brain. Current Biology, 2012, 22, 995-999.	3.9	141
17	On the cyclic nature of perception in vision versus audition. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130214.	4.0	124
18	This Is the Rhythm of Your Eyes: The Phase of Ongoing Electroencephalogram Oscillations Modulates Saccadic Reaction Time. Journal of Neuroscience, 2011, 31, 4698-4708.	3.6	121

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19	On second glance: Still no high-level pop-out effect for faces. Vision Research, 2006, 46, 3017-3027.	1.4	119
20	Face processing using one spike per neurone. BioSystems, 1998, 48, 229-239.	2.0	113
21	Visual Selective Behavior Can Be Triggered by a Feed-Forward Process. Journal of Cognitive Neuroscience, 2003, 15, 209-217.	2.3	113
22	Neurons Tune to the Earliest Spikes Through STDP. Neural Computation, 2005, 17, 859-879.	2.2	109
23	Alpha oscillations and traveling waves: Signatures of predictive coding?. PLoS Biology, 2019, 17, e3000487.	5.6	107
24	Attention-driven discrete sampling of motion perception. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 5291-5296.	7.1	106
25	The Continuous Wagon Wheel Illusion Is Associated with Changes in Electroencephalogram Power at Â13 Hz. Journal of Neuroscience, 2006, 26, 502-507.	3.6	105
26	EEG oscillations entrain their phase to high-level features of speech sound. NeuroImage, 2016, 124, 16-23.	4.2	102
27	Attention and biased competition in multi-voxel object representations. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21447-21452.	7.1	99
28	Theta Oscillations Modulate Attentional Search Performance Periodically. Journal of Cognitive Neuroscience, 2015, 27, 945-958.	2.3	99
29	Rhythmic Influence of Topâ€“Down Perceptual Priors in the Phase of Prestimulus Occipital Alpha Oscillations. Journal of Cognitive Neuroscience, 2016, 28, 1318-1330.	2.3	96
30	Why does natural scene categorization require little attention? Exploring attentional requirements for natural and synthetic stimuli. Visual Cognition, 2005, 12, 893-924.	1.6	94
31	Conscious updating is a rhythmic process. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10599-10604.	7.1	93
32	Visual Search and Dual Tasks Reveal Two Distinct Attentional Resources. Journal of Cognitive Neuroscience, 2004, 16, 4-14.	2.3	92
33	How to Evaluate Phase Differences between Trial Groups in Ongoing Electrophysiological Signals. Frontiers in Neuroscience, 2016, 10, 426.	2.8	89
34	Reconstructing faces from fMRI patterns using deep generative neuralÂnetworks. Communications Biology, 2019, 2, 193.	4.4	88
35	Visual saliency and spike timing in the ventral visual pathway. Journal of Physiology (Paris), 2003, 97, 365-377.	2.1	82
36	Individual Alpha Peak Frequency Predicts 10 Hz Flicker Effects on Selective Attention. Journal of Neuroscience, 2017, 37, 10173-10184.	3.6	81

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37	The power of the feed-forward sweep. Advances in Cognitive Psychology, 2007, 3, 167-176.	0.5	80
38	Faces in the cloud: Fourier power spectrum biases ultrarapid face detection. Journal of Vision, 2008, 8, 9-9.	0.3	72
39	The Psychophysics of Brain Rhythms. Frontiers in Psychology, 2011, 2, 203.	2.1	66
40	The Hidden Spatial Dimension of Alpha: 10-Hz Perceptual Echoes Propagate as Periodic Traveling Waves in the Human Brain. Cell Reports, 2019, 26, 374-380.e4.	6.4	65
41	Visual Attention: A Rhythmic Process?. Current Biology, 2013, 23, R1110-R1112.	3.9	63
42	Locus of spatial attention determines inward-outward anisotropy in crowding. Journal of Vision, 2011, 11, 1-1.	0.3	62
43	The Role of High-Level Processes for Oscillatory Phase Entrainment to Speech Sound. Frontiers in Human Neuroscience, 2015, 9, 651.	2.0	60
44	Attention searches nonuniformly in space and in time. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15214-15219.	7.1	60
45	Selective Perceptual Phase Entrainment to Speech Rhythm in the Absence of Spectral Energy Fluctuations. Journal of Neuroscience, 2015, 35, 1954-1964.	3.6	60
46	Oscillatory Mechanisms of Stimulus Processing and Selection in the Visual and Auditory Systems: State-of-the-Art, Speculations and Suggestions. Frontiers in Neuroscience, 2017, 11, 296.	2.8	60
47	Binding hardwired versus on-demand feature conjunctions. Visual Cognition, 2009, 17, 103-119.	1.6	59
48	Perception Science in the Age of Deep Neural Networks. Frontiers in Psychology, 2017, 8, 142.	2.1	59
49	Attention Cycles. Neuron, 2018, 99, 632-634.	8.1	58
50	Competition and selection during visual processing of natural scenes and objects. Journal of Vision, 2003, 3, 8.	0.3	56
51	Attention differentially modulates the amplitude of resonance frequencies in the visual cortex. NeuroImage, 2019, 203, 116146.	4.2	56
52	Prefrontal attentional saccades explore space rhythmically. Nature Communications, 2020, 11, 925.	12.8	54
53	Temporal codes and sparse representations: A key to understanding rapid processing in the visual system. Journal of Physiology (Paris), 2004, 98, 487-497.	2.1	50
54	The Flickering Wheel Illusion: When Î± Rhythms Make a Static Wheel Flicker. Journal of Neuroscience, 2013, 33, 13498-13504.	3.6	48

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55	SpikeNet: real-time visual processing with one spike per neuron. Neurocomputing, 2004, 58-60, 857-864.	5.9	44
56	Theta-Gamma Coding Meets Communication-through-Coherence: Neuronal Oscillatory Multiplexing Theories Reconciled. PLoS Computational Biology, 2016, 12, e1005162.	3.2	43
57	Transcranial Magnetic Stimulation Reveals Intrinsic Perceptual and Attentional Rhythms. Frontiers in Neuroscience, 2017, 11, 154.	2.8	43
58	The Triple-Flash Illusion Reveals a Driving Role of Alpha-Band Reverberations in Visual Perception. Journal of Neuroscience, 2017, 37, 7219-7230.	3.6	42
59	Feed-forward contour integration in primary visual cortex based on asynchronous spike propagation. Neurocomputing, 2001, 38-40, 1003-1009.	5.9	40
60	Top-down and bottom-up modulation in processing bimodal face/voice stimuli. BMC Neuroscience, 2010, 11, 36.	1.9	39
61	Attentional selection of noncontiguous locations: The spotlight is only transiently "split". Journal of Vision, 2009, 9, 3-3.	0.3	34
62	Theta-phase dependent neuronal coding during sequence learning in human single neurons. Nature Communications, 2021, 12, 4839.	12.8	32
63	Pupil-Linked Arousal Responds to Unconscious Surprisal. Journal of Neuroscience, 2019, 39, 5369-5376.	3.6	31
64	DMT alters cortical travelling waves. ELife, 2020, 9, .	6.0	31
65	The dynamics of attentional sampling during visual search revealed by Fourier analysis of periodic noise interference. Journal of Vision, 2014, 14, 11-11.	0.3	30
66	At What Latency Does the Phase of Brain Oscillations Influence Perception?. ENeuro, 2017, 4, ENEURO.0078-17.2017.	1.9	30
67	Spacing affects some but not all visual searches: Implications for theories of attention and crowding. Journal of Vision, 2007, 7, 3.	0.3	29
68	The Temporal Interplay between Conscious and Unconscious Perceptual Streams. Current Biology, 2009, 19, 2003-2007.	3.9	29
69	Decoding Trans-Saccadic Memory. Journal of Neuroscience, 2018, 38, 1114-1123.	3.6	29
70	Reconstructing Natural Scenes from fMRI Patterns using BigBiGAN. , 2020, , .		29
71	Deep learning and the Global Workspace Theory. Trends in Neurosciences, 2021, 44, 692-704.	8.6	29
72	The Continuous Wagon Wheel Illusion and the â€˜Whenâ€™ Pathway of the Right Parietal Lobe: A Repetitive Transcranial Magnetic Stimulation Study. PLoS ONE, 2008, 3, e2911.	2.5	29

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73	Transcranial Magnetic Stimulation Reveals Attentional Feedback to Area V1 during Serial Visual Search. PLoS ONE, 2011, 6, e19712.	2.5	27
74	Alpha Power Modulates Perception Independently of Endogenous Factors. Frontiers in Neuroscience, 2018, 12, 279.	2.8	27
75	Binding is a local problem for natural objects and scenes. Vision Research, 2005, 45, 3133-3144.	1.4	26
76	Implicit visual cues tune oscillatory motor activity during decision-making. NeuroImage, 2019, 186, 424-436.	4.2	26
77	No Counterpart of Visual Perceptual Echoes in the Auditory System. PLoS ONE, 2012, 7, e49287.	2.5	26
78	Visual Trails: Do the Doors of Perception Open Periodically?. PLoS Biology, 2011, 9, e1001056.	5.6	25
79	The rhythms of predictive coding? Pre-stimulus phase modulates the influence of shape perception on luminance judgments. Scientific Reports, 2017, 7, 43573.	3.3	25
80	The continuous Wagon Wheel Illusion depends on, but is not identical to neuronal adaptation. Vision Research, 2007, 47, 2143-2149.	1.4	24
81	A simple translation in cortical log-coordinates may account for the pattern of saccadic localization errors. Biological Cybernetics, 2004, 91, 131-7.	1.3	23
82	Attentional sampling of multiple wagon wheels. Attention, Perception, and Psychophysics, 2014, 76, 64-72.	1.3	21
83	The continuous Wagon Wheel Illusion is object-based. Vision Research, 2006, 46, 4091-4095.	1.4	20
84	Timing divided attention. Attention, Perception, and Psychophysics, 2010, 72, 2059-2068.	1.3	20
85	SWIFT: A novel method to track the neural correlates of recognition. NeuroImage, 2013, 81, 273-282.	4.2	20
86	Shape perception enhances perceived contrast: evidence for excitatory predictive feedback?. Scientific Reports, 2016, 6, 22944.	3.3	20
87	The phase of ongoing EEG oscillations predicts the amplitude of peri-saccadic mislocalization. Scientific Reports, 2016, 6, 29335.	3.3	20
88	Visual Entrainment at 10 Hz Causes Periodic Modulation of the Flash Lag Illusion. Frontiers in Neuroscience, 2019, 13, 232.	2.8	20
89	A Feedback Model of Attention Explains the Diverse Effects of Attention on Neural Firing Rates and Receptive Field Structure. PLoS Computational Biology, 2016, 12, e1004770.	3.2	19
90	Turning the Stimulus On and Off Changes the Direction of Î± Traveling Waves. ENeuro, 2020, 7, ENEURO.0218-20.2020.	1.9	18

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91	Bullet trains and steam engines: Exogenous attention zips but endogenous attention chugs along. Journal of Vision, 2011, 11, 12-12.	0.3	17
92	Different responses of spontaneous and stimulusâ€related alpha activity to ambient luminance changes. European Journal of Neuroscience, 2018, 48, 2599-2608.	2.6	17
93	Predictive coding feedback results in perceived illusory contours in a recurrent neural network. Neural Networks, 2021, 144, 164-175.	5.9	17
94	Contribution of FEF to Attentional Periodicity during Visual Search: A TMS Study. ENeuro, 2019, 6, ENEURO.0357-18.2019.	1.9	16
95	Î± Phase-Amplitude Tradeoffs Predict Visual Perception. ENeuro, 2022, 9, ENEURO.0244-21.2022.	1.9	16
96	Attention and scintillation. Vision Research, 2003, 43, 2191-2196.	1.4	15
97	Spatiotemporal mapping of visual attention. Journal of Vision, 2011, 11, 12-12.	0.3	14
98	The wheels keep turning. Trends in Cognitive Sciences, 2005, 9, 560-561.	7.8	13
99	A Bidirectional Link between Brain Oscillations and Geometric Patterns. Journal of Neuroscience, 2015, 35, 7921-7926.	3.6	13
100	Characterization of neural entrainment to speech with and without slow spectral energy fluctuations in laminar recordings in monkey A1. NeuroImage, 2017, 150, 344-357.	4.2	13
101	Semantic Wavelet-Induced Frequency-Tagging (SWIFT) Periodically Activates Category Selective Areas While Steadily Activating Early Visual Areas. PLoS ONE, 2015, 10, e0144858.	2.5	12
102	Multivoxel Object Representations in Adult Human Visual Cortex Are Flexible: An Associative Learning Study. Journal of Cognitive Neuroscience, 2016, 28, 852-868.	2.3	12
103	Visual Perceptual Echo Reflects Learning of Regularities in Rapid Luminance Sequences. Journal of Neuroscience, 2017, 37, 8486-8497.	3.6	12
104	Spatial attention in asynchronous neural networks. Neurocomputing, 1999, 26-27, 911-918.	5.9	11
105	Neural correlates of the continuous Wagon Wheel Illusion: A functional MRI study. Human Brain Mapping, 2011, 32, 163-170.	3.6	11
106	Comparing feedforward and recurrent neural network architectures with human behavior in artificial grammar learning. Scientific Reports, 2020, 10, 22172.	3.3	11
107	The Gamma Slideshow: Object-Based Perceptual Cycles in a Model of the Visual Cortex. Frontiers in Human Neuroscience, 2010, 4, 205.	2.0	10
108	What goes up must come down: EEG phase modulates auditory perception in both directions. Frontiers in Psychology, 2013, 4, 16.	2.1	10

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109	Global and local oscillatory entrainment of visual behavior across retinotopic space. Scientific Reports, 2016, 6, 25132.	3.3	9
110	Rhythmic fluctuations of saccadic reaction time arising from visual competition. Scientific Reports, 2018, 8, 15889.	3.3	9
111	Dynamics of Visual Perceptual Echoes Following Short-Term Visual Deprivation. Cerebral Cortex Communications, 2020, 1, tgaa012.	1.6	9
112	Predictive position computations mediated by parietal areas: TMS evidence. NeuroImage, 2017, 153, 49-57.	4.2	8
113	Who wins the race for consciousness? Ask the phase of ongoing ~7Hz oscillations.. Journal of Vision, 2015, 15, 569.	0.3	7
114	Periodic attention operates faster during more complex visual search. Scientific Reports, 2022, 12, 6688.	3.3	7
115	Occipital alpha-TMS causally modulates temporal order judgements: Evidence for discrete temporal windows in vision. NeuroImage, 2021, 237, 118173.	4.2	6
116	A motion illusion reveals the temporally discrete nature of visual awareness. , 2010, , 521-535.		6
117	Understanding the Computational Demands Underlying Visual Reasoning. Neural Computation, 2022, 34, 1075-1099.	2.2	6
118	The ability of the auditory system to cope with temporal subsampling depends on the hierarchical level of processing. NeuroReport, 2015, 26, 773-778.	1.2	5
119	Conscious perception and perceptual echoes: a binocular rivalry study. Neuroscience of Consciousness, 2021, 2021, niab007.	2.6	5
120	Nudging the <scp>N170</scp> forward with prior stimulationâ€"Bridging the gap between <scp>N170</scp> and recognition potential. Human Brain Mapping, 2022, 43, 1214-1230.	3.6	5
121	The detrimental influence of attention on time-to-contact perception. Attention, Perception, and Psychophysics, 2018, 80, 1591-1598.	1.3	4
122	Representational Content of Oscillatory Brain Activity during Object Recognition: Contrasting Cortical and Deep Neural Network Hierarchies. ENeuro, 2021, 8, ENEURO.0362-20.2021.	1.9	4
123	Perceptual Illusions Caused by Discrete Sampling. , 2019, , 315-338.		4
124	The Temporal Evolution of Coarse Location Coding of Objects: Evidence for Feedback. Journal of Cognitive Neuroscience, 2014, 26, 2370-2384.	2.3	3
125	Contextual Congruency Effect in Natural Scene Categorization: Different Strategies in Humans and Monkeys (Macaca mulatta). PLoS ONE, 2015, 10, e0133721.	2.5	3
126	Attention effects on steady-state visual evoked potentials in response to 3-80 Hz flicker. Journal of Vision, 2017, 17, 977.	0.3	3

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127	Reconstructing faces from fMRI patterns using Generative Adversarial Networks. , 2018, , .		3
128	A feedback model of attentional effects in the visual cortex. , 2011, , .		2
129	Tentative fMRI signatures of perceptual echoes in early visual cortex. NeuroImage, 2021, 237, 118053.	4.2	2
130	Timing divided attention. Attention, Perception, and Psychophysics, 2010, 72, 2059-2068.	1.3	2
131	The hidden spatial dimension of alpha: occipital EEG channels encode contralateral and ipsilateral visual space at distinct phases of the alpha cycle. Journal of Vision, 2016, 16, 1226.	0.3	2
132	Turning the Stimulus On and Off Changes the Direction of Î± Traveling Waves. ENeuro, 2020, 7, .	1.9	2
133	Visual Saliency and Spike Timing in the Ventral Visual Pathway. , 2005, , 272-278.		1
134	Perceptual cycles. Journal of Vision, 2015, 15, 1401.	0.3	1
135	Something out of nothing: The role of alpha-frequency reverberation in the triple-flash illusion. Journal of Vision, 2016, 16, 1128.	0.3	1
136	Ambient luminance changes modulate oscillatory properties of the visual system. Journal of Vision, 2017, 17, 724.	0.3	1
137	The Hidden Spatial Dimension of Alpha: 10 Hz Perceptual Echoes Propagate as Periodic Travelling Waves in the Human Brain. SSRN Electronic Journal, 0, , .	0.4	1
138	Which Neural Network Architecture matches Human Behavior in Artificial Grammar Learning?. , 2019, , .		1
139	Oscillations modulate attentional search performance periodically. Journal of Vision, 2019, 19, 279b.	0.3	1
140	Differential Involvement of EEG Oscillatory Components in Sameness versus Spatial-Relation Visual Reasoning Tasks. ENeuro, 2021, 8, ENEURO.0267-20.2020.	1.9	1
141	The temporal advantage for reloading vs. uploading conscious representations decays over time. Neuroscience of Consciousness, 2016, 2016, niw017.	2.6	0
142	Full Field Masking Causes Reversals in Perceived Event Order. Frontiers in Neuroscience, 2020, 14, 217.	2.8	0
143	Illusory reversal of temporal order around the time of visual disruptions. Journal of Vision, 2015, 15, 68.	0.3	0
144	Neuro-encryption: concealing perceptual targets in observer-dependent, experimentally controlled alpha phase patterns. Journal of Vision, 2015, 15, 807.	0.3	0

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145	Predictive position percepts mediated by parietal areas: TMS evidence. Journal of Vision, 2016, 16, 562.	0.3	0
146	Visual target detection in temporal white-noise: A "universal" forward model using oscillatory impulse response functions. Journal of Vision, 2016, 16, 1222.	0.3	0
147	The half-time groove of divided attention: differences in EEG and decoding power spectra when attending to one vs. two items. Journal of Vision, 2016, 16, 584.	0.3	0
148	At what latency does the phase of brain oscillations influence perception?. Journal of Vision, 2017, 17, 1099.	0.3	0
149	EEG decoding of pre-saccadic effects on post-saccadic processing. Journal of Vision, 2017, 17, 738.	0.3	0
150	Oscillatory signatures of object recognition across cortical space and time.. Journal of Vision, 2017, 17, 1346.	0.3	0
151	Predictive Coding Produces Alpha-band Rhythmic Travelling Waves. , 2018, , .		0
152	Theta-Phase Dependent Neuronal Coding During Sequence Learning in Human Single Neurons. SSRN Electronic Journal, 0, , .	0.4	0
153	fMRI signatures of perceptual echoes in early visual cortex. Journal of Vision, 2019, 19, 50b.	0.3	0
154	Occipital Alpha-TMS causally modulates Temporal Order Judgements: Evidence for discrete temporal windows in vision. Journal of Vision, 2019, 19, 50.	0.3	0
155	Pre-stimulation alpha phase/power and gamma power modulate the strength of feedback and feedforward in human visual areas. Journal of Vision, 2019, 19, 169b.	0.3	0
156	Differential Involvement of EEG Oscillatory Components in Sameness versus Spatial-Relation Visual Reasoning Tasks. ENeuro, 2021, 8, .	1.9	0
157	Deep learning in alternate reality. Nature Human Behaviour, 2022, 6, 27-28.	12.0	0
158	Long Thoughts. Inference, 2022, 7, .	0.0	0