Rufin VanRullen

List of Publications by Year
in descending order

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158 papers	11,060 citations	53660 45 h-index	38300 95 g-index
184 all docs	184 docs citations	184 times ranked	6835 citing authors

#	Article	IF	Citations
1	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.	1.9	5
2	Deep learning in alternate reality. Nature Human Behaviour, 2022, 6, 27-28.	6.2	0
3	Î± Phase-Amplitude Tradeoffs Predict Visual Perception. ENeuro, 2022, 9, ENEURO.0244-21.2022.	0.9	16
4	Understanding the Computational Demands Underlying Visual Reasoning. Neural Computation, 2022, 34, 1075-1099.	1.3	6
5	Periodic attention operates faster during more complex visual search. Scientific Reports, 2022, 12, 6688.	1.6	7
6	Long Thoughts. Inference, 2022, 7, .	0.0	0
7	Conscious perception and perceptual echoes: a binocular rivalry study. Neuroscience of Consciousness, 2021, 2021, niab007.	1.4	5
8	Representational Content of Oscillatory Brain Activity during Object Recognition: Contrasting Cortical and Deep Neural Network Hierarchies. ENeuro, 2021, 8, ENEURO.0362-20.2021.	0.9	4
9	Occipital alpha-TMS causally modulates temporal order judgements: Evidence for discrete temporal windows in vision. NeuroImage, 2021, 237, 118173.	2.1	6
10	Theta-phase dependent neuronal coding during sequence learning in human single neurons. Nature Communications, 2021, 12, 4839.	5.8	32
11	Tentative fMRI signatures of perceptual echoes in early visual cortex. NeuroImage, 2021, 237, 118053.	2.1	2
12	Deep learning and the Global Workspace Theory. Trends in Neurosciences, 2021, 44, 692-704.	4.2	29
13	Predictive coding feedback results in perceived illusory contours in a recurrent neural network. Neural Networks, 2021, 144, 164-175.	3.3	17
14	Differential Involvement of EEG Oscillatory Components in Sameness versus Spatial-Relation Visual Reasoning Tasks. ENeuro, 2021, 8, .	0.9	0
15	Differential Involvement of EEG Oscillatory Components in Sameness versus Spatial-Relation Visual Reasoning Tasks. ENeuro, 2021, 8, ENEURO.0267-20.2020.	0.9	1
16	Dynamics of Visual Perceptual Echoes Following Short-Term Visual Deprivation. Cerebral Cortex Communications, 2020, 1, tgaa012.	0.7	9
17	Reconstructing Natural Scenes from fMRI Patterns using BigBiGAN. , 2020, , .		29
18	Prefrontal attentional saccades explore space rhythmically. Nature Communications, 2020, 11, 925.	5.8	54

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19	Full Field Masking Causes Reversals in Perceived Event Order. Frontiers in Neuroscience, 2020, 14, 217.	1.4	0
20	DMT alters cortical travelling waves. ELife, 2020, 9, .	2.8	31
21	Comparing feedforward and recurrent neural network architectures with human behavior in artificial grammar learning. Scientific Reports, 2020, 10, 22172.	1.6	11
22	Turning the Stimulus On and Off Changes the Direction of Î± Traveling Waves. ENeuro, 2020, 7, .	0.9	2
23	Turning the Stimulus On and Off Changes the Direction of Î± Traveling Waves. ENeuro, 2020, 7, ENEURO.0218-20.2020.	0.9	18
24	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.	2.9	65
25	Attention differentially modulates the amplitude of resonance frequencies in the visual cortex. NeuroImage, 2019, 203, 116146.	2.1	56
26	Alpha oscillations and traveling waves: Signatures of predictive coding?. PLoS Biology, 2019, 17, e3000487.	2.6	107
27	Reconstructing faces from fMRI patterns using deep generative neuralÂnetworks. Communications Biology, 2019, 2, 193.	2.0	88
28	Pupil-Linked Arousal Responds to Unconscious Surprisal. Journal of Neuroscience, 2019, 39, 5369-5376.	1.7	31
29	Visual Entrainment at 10 Hz Causes Periodic Modulation of the Flash Lag Illusion. Frontiers in Neuroscience, 2019, 13, 232.	1.4	20
30	Implicit visual cues tune oscillatory motor activity during decision-making. NeuroImage, 2019, 186, 424-436.	2.1	26
31	Perceptual Illusions Caused by Discrete Sampling. , 2019, , 315-338.		4
32	Contribution of FEF to Attentional Periodicity during Visual Search: A TMS Study. ENeuro, 2019, 6, ENEURO.0357-18.2019.	0.9	16
33	Which Neural Network Architecture matches Human Behavior in Artificial Grammar Learning?. , 2019, , .		1
34	fMRI signatures of perceptual echoes in early visual cortex. Journal of Vision, 2019, 19, 50b.	0.1	0
35	Occipital Alpha-TMS causally modulates Temporal Order Judgements: Evidence for discrete temporal windows in vision. Journal of Vision, 2019, 19, 50.	0.1	0
36	Oscillations modulate attentional search performance periodically. Journal of Vision, 2019, 19, 279b.	0.1	1

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37	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.	0.1	0
38	Decoding Trans-Saccadic Memory. Journal of Neuroscience, 2018, 38, 1114-1123.	1.7	29
39	The detrimental influence of attention on time-to-contact perception. Attention, Perception, and Psychophysics, 2018, 80, 1591-1598.	0.7	4
40	Different responses of spontaneous and stimulusâ€related alpha activity to ambient luminance changes. European Journal of Neuroscience, 2018, 48, 2599-2608.	1.2	17
41	Rhythmic fluctuations of saccadic reaction time arising from visual competition. Scientific Reports, 2018, 8, 15889.	1.6	9
42	Alpha Power Modulates Perception Independently of Endogenous Factors. Frontiers in Neuroscience, 2018, 12, 279.	1.4	27
43	Attention Cycles. Neuron, 2018, 99, 632-634.	3.8	58
44	Predictive Coding Produces Alpha-band Rhythmic Travelling Waves. , 2018, , .		0
45	Reconstructing faces from fMRI patterns using Generative Adversarial Networks. , 2018, , .		3
46	Characterization of neural entrainment to speech with and without slow spectral energy fluctuations in laminar recordings in monkey A1. NeuroImage, 2017, 150, 344-357.	2.1	13
47	The rhythms of predictive coding? Pre-stimulus phase modulates the influence of shape perception on luminance judgments. Scientific Reports, 2017, 7, 43573.	1.6	25
48	Predictive position computations mediated by parietal areas: TMS evidence. NeuroImage, 2017, 153, 49-57.	2.1	8
49	Individual Alpha Peak Frequency Predicts 10 Hz Flicker Effects on Selective Attention. Journal of Neuroscience, 2017, 37, 10173-10184.	1.7	81
50	Visual Perceptual Echo Reflects Learning of Regularities in Rapid Luminance Sequences. Journal of Neuroscience, 2017, 37, 8486-8497.	1.7	12
51	The Triple-Flash Illusion Reveals a Driving Role of Alpha-Band Reverberations in Visual Perception. Journal of Neuroscience, 2017, 37, 7219-7230.	1.7	42
52	Perception Science in the Age of Deep Neural Networks. Frontiers in Psychology, 2017, 8, 142.	1.1	59
53	Transcranial Magnetic Stimulation Reveals Intrinsic Perceptual and Attentional Rhythms. Frontiers in Neuroscience, 2017, 11, 154.	1.4	43
54	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.	1.4	60

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55	At What Latency Does the Phase of Brain Oscillations Influence Perception?. ENeuro, 2017, 4, ENEURO.0078-17.2017.	0.9	30
56	Attention effects on steady-state visual evoked potentials in response to 3-80 Hz flicker. Journal of Vision, 2017, 17, 977.	0.1	3
57	At what latency does the phase of brain oscillations influence perception?. Journal of Vision, 2017, 17, 1099.	0.1	0
58	EEG decoding of pre-saccadic effects on post-saccadic processing. Journal of Vision, 2017, 17, 738.	0.1	0
59	Oscillatory signatures of object recognition across cortical space and time.. Journal of Vision, 2017, 17, 1346.	0.1	0
60	Ambient luminance changes modulate oscillatory properties of the visual system. Journal of Vision, 2017, 17, 724.	0.1	1
61	The temporal advantage for reloading vs. uploading conscious representations decays over time. Neuroscience of Consciousness, 2016, 2016, niw017.	1.4	0
62	How to Evaluate Phase Differences between Trial Groups in Ongoing Electrophysiological Signals. Frontiers in Neuroscience, 2016, 10, 426.	1.4	89
63	Theta-Gamma Coding Meets Communication-through-Coherence: Neuronal Oscillatory Multiplexing Theories Reconciled. PLoS Computational Biology, 2016, 12, e1005162.	1.5	43
64	Rhythmic Influence of Topâ€"Down Perceptual Priors in the Phase of Prestimulus Occipital Alpha Oscillations. Journal of Cognitive Neuroscience, 2016, 28, 1318-1330.	1.1	96
65	Perceptual Cycles. Trends in Cognitive Sciences, 2016, 20, 723-735.	4.0	526
66	Shape perception enhances perceived contrast: evidence for excitatory predictive feedback?. Scientific Reports, 2016, 6, 22944.	1.6	20
67	The phase of ongoing EEG oscillations predicts the amplitude of peri-saccadic mislocalization. Scientific Reports, 2016, 6, 29335.	1.6	20
68	Global and local oscillatory entrainment of visual behavior across retinotopic space. Scientific Reports, 2016, 6, 25132.	1.6	9
69	Multivoxel Object Representations in Adult Human Visual Cortex Are Flexible: An Associative Learning Study. Journal of Cognitive Neuroscience, 2016, 28, 852-868.	1.1	12
70	EEG oscillations entrain their phase to high-level features of speech sound. NeuroImage, 2016, 124, 16-23.	2.1	102
71	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.	1.5	19
72	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.	0.1	2

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73	Predictive position percepts mediated by parietal areas: TMS evidence. Journal of Vision, 2016, 16, 562.	0.1	0
74	Visual target detection in temporal white-noise: A "universal" forward model using oscillatory impulse response functions. Journal of Vision, 2016, 16, 1222.	0.1	0
75	Something out of nothing: The role of alpha-frequency reverberation in the triple-flash illusion. Journal of Vision, 2016, 16, 1128.	0.1	1
76	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.	0.1	0
77	The ability of the auditory system to cope with temporal subsampling depends on the hierarchical level of processing. NeuroReport, 2015, 26, 773-778.	0.6	5
78	The Role of High-Level Processes for Oscillatory Phase Entrainment to Speech Sound. Frontiers in Human Neuroscience, 2015, 9, 651.	1.0	60
79	Contextual Congruency Effect in Natural Scene Categorization: Different Strategies in Humans and Monkeys (Macaca mulatta). PLoS ONE, 2015, 10, e0133721.	1.1	3
80	Semantic Wavelet-Induced Frequency-Tagging (SWIFT) Periodically Activates Category Selective Areas While Steadily Activating Early Visual Areas. PLoS ONE, 2015, 10, e0144858.	1.1	12
81	A Bidirectional Link between Brain Oscillations and Geometric Patterns. Journal of Neuroscience, 2015, 35, 7921-7926.	1.7	13
82	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.	3.3	60
83	Selective Perceptual Phase Entrainment to Speech Rhythm in the Absence of Spectral Energy Fluctuations. Journal of Neuroscience, 2015, 35, 1954-1964.	1.7	60
84	Theta Oscillations Modulate Attentional Search Performance Periodically. Journal of Cognitive Neuroscience, 2015, 27, 945-958.	1.1	99
85	Who wins the race for consciousness? Ask the phase of ongoing ~7Hz oscillations.. Journal of Vision, 2015, 15, 569.	0.1	7
86	Perceptual cycles. Journal of Vision, 2015, 15, 1401.	0.1	1
87	Illusory reversal of temporal order around the time of visual disruptions. Journal of Vision, 2015, 15, 68.	0.1	0
88	Neuro-encryption: concealing perceptual targets in observer-dependent, experimentally controlled alpha phase patterns. Journal of Vision, 2015, 15, 807.	0.1	0
89	The dynamics of attentional sampling during visual search revealed by Fourier analysis of periodic noise interference. Journal of Vision, 2014, 14, 11-11.	0.1	30
90	On the cyclic nature of perception in vision versus audition. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130214.	1.8	124

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91	Attentional sampling of multiple wagon wheels. Attention, Perception, and Psychophysics, 2014, 76, 64-72.	0.7	21
92	The Temporal Evolution of Coarse Location Coding of Objects: Evidence for Feedback. Journal of Cognitive Neuroscience, 2014, 26, 2370-2384.	1.1	3
93	The Flickering Wheel Illusion: When Î± Rhythms Make a Static Wheel Flicker. Journal of Neuroscience, 2013, 33, 13498-13504.	1.7	48
94	Visual Attention: A Rhythmic Process?. Current Biology, 2013, 23, R1110-R1112.	1.8	63
95	SWIFT: A novel method to track the neural correlates of recognition. NeuroImage, 2013, 81, 273-282.	2.1	20
96	What goes up must come down: EEG phase modulates auditory perception in both directions. Frontiers in Psychology, 2013, 4, 16.	1.1	10
97	Conscious updating is a rhythmic process. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10599-10604.	3.3	93
98	An oscillatory mechanism for prioritizing salient unattended stimuli. Trends in Cognitive Sciences, 2012, 16, 200-206.	4.0	383
99	Perceptual Echoes at 10Â Hz in the Human Brain. Current Biology, 2012, 22, 995-999.	1.8	141
100	No Counterpart of Visual Perceptual Echoes in the Auditory System. PLoS ONE, 2012, 7, e49287.	1.1	26
101	A feedback model of attentional effects in the visual cortex. , 2011, , .		2
102	Locus of spatial attention determines inward-outward anisotropy in crowding. Journal of Vision, 2011, 11, 1-1.	0.1	62
103	Spatiotemporal mapping of visual attention. Journal of Vision, 2011, 11, 12-12.	0.1	14
104	Bullet trains and steam engines: Exogenous attention zips but endogenous attention chugs along. Journal of Vision, 2011, 11, 12-12.	0.1	17
105	Ongoing EEG Phase as a Trial-by-Trial Predictor of Perceptual and Attentional Variability. Frontiers in Psychology, 2011, 2, 60.	1.1	184
106	The Psychophysics of Brain Rhythms. Frontiers in Psychology, 2011, 2, 203.	1.1	66
107	Transcranial Magnetic Stimulation Reveals Attentional Feedback to Area V1 during Serial Visual Search. PLoS ONE, 2011, 6, e19712.	1.1	27
108	Four Common Conceptual Fallacies in Mapping the Time Course of Recognition. Frontiers in Psychology, 2011, 2, 365.	1.1	151

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109	Neural correlates of the continuous Wagon Wheel Illusion: A functional MRI study. Human Brain Mapping, 2011, 32, 163-170.	1.9	11
110	The Phase of Ongoing Oscillations Mediates the Causal Relation between Brain Excitation and Visual Perception. Journal of Neuroscience, 2011, 31, 11889-11893.	1.7	318
111	This Is the Rhythm of Your Eyes: The Phase of Ongoing Electroencephalogram Oscillations Modulates Saccadic Reaction Time. Journal of Neuroscience, 2011, 31, 4698-4708.	1.7	121
112	Visual Trails: Do the Doors of Perception Open Periodically?. PLoS Biology, 2011, 9, e1001056.	2.6	25
113	Timing divided attention. Attention, Perception, and Psychophysics, 2010, 72, 2059-2068.	0.7	20
114	Top-down and bottom-up modulation in processing bimodal face/voice stimuli. BMC Neuroscience, 2010, 11, 36.	0.8	39
115	The Gamma Slideshow: Object-Based Perceptual Cycles in a Model of the Visual Cortex. Frontiers in Human Neuroscience, 2010, 4, 205.	1.0	10
116	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.	3.3	503
117	A motion illusion reveals the temporally discrete nature of visual awareness. , 2010, , 521-535.		6
118	Timing divided attention. Attention, Perception, and Psychophysics, 2010, 72, 2059-2068.	0.7	2
119	Attentional selection of noncontiguous locations: The spotlight is only transiently "split". Journal of Vision, 2009, 9, 3-3.	0.1	34
120	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.	3.3	99
121	The Temporal Interplay between Conscious and Unconscious Perceptual Streams. Current Biology, 2009, 19, 2003-2007.	1.8	29
122	The Phase of Ongoing EEG Oscillations Predicts Visual Perception. Journal of Neuroscience, 2009, 29, 7869-7876.	1.7	1,017
123	Binding hardwired versus on-demand feature conjunctions. Visual Cognition, 2009, 17, 103-119.	0.9	59
124	Faces in the cloud: Fourier power spectrum biases ultrarapid face detection. Journal of Vision, 2008, 8, 9-9.	0.1	72
125	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.	1.1	29
126	The blinking spotlight of attention. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 19204-19209.	3.3	234

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127	Spacing affects some but not all visual searches: Implications for theories of attention and crowding. Journal of Vision, 2007, 7, 3.	0.1	29
128	The continuous Wagon Wheel Illusion depends on, but is not identical to neuronal adaptation. Vision Research, 2007, 47, 2143-2149.	0.7	24
129	The power of the feed-forward sweep. Advances in Cognitive Psychology, 2007, 3, 167-176.	0.2	80
130	On second glance: Still no high-level pop-out effect for faces. Vision Research, 2006, 46, 3017-3027.	0.7	119
131	The continuous Wagon Wheel Illusion is object-based. Vision Research, 2006, 46, 4091-4095.	0.7	20
132	The Continuous Wagon Wheel Illusion Is Associated with Changes in Electroencephalogram Power at Â13 Hz. Journal of Neuroscience, 2006, 26, 502-507.	1.7	105
133	Binding is a local problem for natural objects and scenes. Vision Research, 2005, 45, 3133-3144.	0.7	26
134	Neurons Tune to the Earliest Spikes Through STDP. Neural Computation, 2005, 17, 859-879.	1.3	109
135	Attention-driven discrete sampling of motion perception. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 5291-5296.	3.3	106
136	The wheels keep turning. Trends in Cognitive Sciences, 2005, 9, 560-561.	4.0	13
137	Spike times make sense. Trends in Neurosciences, 2005, 28, 1-4.	4.2	376
138	Why does natural scene categorization require little attention? Exploring attentional requirements for natural and synthetic stimuli. Visual Cognition, 2005, 12, 893-924.	0.9	94
139	Visual Saliency and Spike Timing in the Ventral Visual Pathway. , 2005, , 272-278.		1
140	Visual Search and Dual Tasks Reveal Two Distinct Attentional Resources. Journal of Cognitive Neuroscience, 2004, 16, 4-14.	1.1	92
141	SpikeNet: real-time visual processing with one spike per neuron. Neurocomputing, 2004, 58-60, 857-864.	3.5	44
142	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
143	A simple translation in cortical log-coordinates may account for the pattern of saccadic localization errors. Biological Cybernetics, 2004, 91, 131-7.	0.6	23
144	Visual saliency and spike timing in the ventral visual pathway. Journal of Physiology (Paris), 2003, 97, 365-377.	2.1	82

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145	Attention and scintillation. Vision Research, 2003, 43, 2191-2196.	0.7	15
146	Is perception discrete or continuous?. Trends in Cognitive Sciences, 2003, 7, 207-213.	4.0	528
147	Visual Selective Behavior Can Be Triggered by a Feed-Forward Process. Journal of Cognitive Neuroscience, 2003, 15, 209-217.	1.1	113
148	Competition and selection during visual processing of natural scenes and objects. Journal of Vision, 2003, 3, 8.	0.1	56
149	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.	3.3	636
150	Surfing a spike wave down the ventral stream. Vision Research, 2002, 42, 2593-2615.	0.7	218
151	Rate Coding Versus Temporal Order Coding: What the Retinal Ganglion Cells Tell the Visual Cortex. Neural Computation, 2001, 13, 1255-1283.	1.3	378
152	Is it a Bird? Is it a Plane? Ultra-Rapid Visual Categorisation of Natural and Artifactual Objects. Perception, 2001, 30, 655-668.	0.5	298
153	The Time Course of Visual Processing: From Early Perception to Decision-Making. Journal of Cognitive Neuroscience, 2001, 13, 454-461.	1.1	599
154	Feed-forward contour integration in primary visual cortex based on asynchronous spike propagation. Neurocomputing, 2001, 38-40, 1003-1009.	3.5	40
155	Spatial attention in asynchronous neural networks. Neurocomputing, 1999, 26-27, 911-918.	3.5	11
156	Face processing using one spike per neurone. BioSystems, 1998, 48, 229-239.	0.9	113
157	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
158	Theta-Phase Dependent Neuronal Coding During Sequence Learning in Human Single Neurons. SSRN Electronic Journal, 0, , .	0.4	0