

Academic Positions and Education

2002-present	CNRS researcher (DR1) , Centre de Recherche Cerveau et Cognition - Toulouse (France)
2019-present	AI Research Chair , Artificial & Natural Intelligence Toulouse Institute (ANITI, France)
spring 2018	Visiting scientist , Simons Institute for the Theory of Computing - Berkeley, CA (USA)
2005 - 2007	Visiting scholar , Harvard Vision Sciences Lab - Cambridge, MA (USA)
2000 - 2002	Postdoc. Pr. C. Koch's lab, California Institute of Technology.
1997 - 2000	PhD. Cognitive Science, Paul Sabatier University, Toulouse. Supervisor: Dr. Simon J. Thorpe . Mention Très Honorable avec Félicitations du Jury.
summer 1999	EU Advanced Course in Computational Neuroscience . Trieste, Italy.
summer 1998	Neuromorphic Engineering Workshop. Telluride, Colorado.
1996 - 1997	DEA de Sciences Cognitives (<i>Cognitive Science</i>), Paul Sabatier University, Toulouse Mention Très Bien. Allocataire de Recherche.
1995 - 1996	Maîtrise d'Informatique (<i>Computer Science</i>), Montpellier II University Mention Bien.
1994 - 1995	Licence de mathématiques (<i>Mathematics</i>), Montpellier II University Mention Très Bien.
1993 - 1994	Deug SSM (<i>Generic Science</i>), La Réunion University Mention Bien.
June 1992	Baccalauréat (<i>Scientific</i>), Lycée Vauvenargues, Aix-en-Provence Mention Très Bien. (Equivalent GCE 'A' level).

Awards, Honours

Sept 2007	European Young Investigator (EURYI) Award
Sept 2007	Médaille de Bronze du CNRS (Section CID 45: « Cognition, langage, traitement de l'information, systèmes naturels et artificiels »)
March 2007	Habilitation à Diriger des Recherches (Paul Sabatier University)

Publication Statistics (Google Scholar):

128 articles published in peer-reviewed international journals; cited: 13,326 times; h-index: 51.
+10 book chapters, 152 international conference presentations including **28 invited plenary talks**.

Funding History (as P.I. – numerous other grants as co-P.I.)

ANITI Research Chair (" <i>Deep Learning with Semantic, Cognitive and Biological Constraints</i> ")	€780,000	(2019-2022)
ANR – France-USA Collaborative Research in Computational Neuroscience (" <i>OsciDeep</i> ")	€312,932	(2019-2022)
ERC – Consolidator Grant (" <i>Perceptual Cycles</i> ")	€1,861,000	(2014-2019)
FP7 – Future Emerging Technologies (" <i>Spatial Cognition</i> ")	€231,000	(2013-2016)
ANR – France-Taiwan (" <i>Temporal Interactions between Conscious and Unconscious Perception</i> ")	€157,000	(2013-2016)
EURYI Award (" <i>Periodic Operations of the Brain</i> ")	€1,139,000	(2008-2013)
Fondation de France / NRJ	€40,000	(2012-2014)
ANR – Young Investigators Research Grant	€150,000	(2006-2011)
CNRS-USA – Collaborative Research Grant	€21,000	(2007-2010)
Fyssen Foundation	€30,000	(2006-2007)
Philippe Foundation – Collaborative Research Grant	\$10,000	(2006-2007)
CNRS – ACI Jeunes Chercheurs (Young Investigators)	€20,000	(2002-2004)
California Institute of Technology post-doctoral fellowship	\$100,000	(2000-2002)

Academic responsibilities

- Team Director (2021-2023): "Neuro.AI" (4 independent PIs).
- Team Director (2015-2020): "Perceptual and Attentional Fluctuations" (4 independent PIs).
- Team Director (2010-2014): "Construction of Mental States and Representations" (4 independent PIs).
- Member of the CoNRS Interdisciplinary Committee CID 51 (2016-2021): "Modelling and analysis of Biological Data and Systems" (evaluation and recruitment of ~10 tenured faculty/year).
- Scientific Advisory Board member, Brainchip Inc, USA (2016-)
- Scientific Advisory Board member, BIAL foundation, Portugal (2016-)
- Review Panel Member, European Science Foundation (2017-)
- Expert for evaluation of research teams and projects: ERC, NSF (USA), AERES, ANR (France), EPSRC, BBSRC (UK), NWO (Netherlands), BELSPO (Belgium), SNSF (Switzerland), GIF (Germany-Israel), ISF (Israel), Macquarie University (Australia)
- Member of the Program Committee for international conferences: TPNC, Taiwan (2020-21); IEEE CIMSIVP Symposium, Nashville (USA, 2009), Paris (France, 2011), Singapore (2013), Orlando (USA, 2014), Athens (Greece, 2016); Honolulu (USA, 2017); Bengaluru (India, 2018); Xiamen (China, 2019); European Conference on Visual Perception (ECVP), Toulouse (France, 2011); International Conference on Cognitive Neuroscience (ICON), Amsterdam (Netherlands, 2017).
- Reviewer for the Vision Sciences Society (VSS) yearly meeting (2011-2019)
- Reviewer for the Cognitive Computational Neuroscience (CCN) yearly meeting (2017-)
- Reviewer and committee member for 14 PhD theses defended in France, UK, Belgium, Italy & Netherlands.
- Reviewer and committee member for 3 Habilitations à Diriger des Recherches (French HDR).

Editorial responsibilities

- Specialty Chief Editor, *Frontiers in Perception Science* (2016-)
- Associate Editor for *Journal of Neuroscience* (2018-), *Consciousness & Cognition* (2017-), *Psychological Science* (2012-2014) and *Frontiers in Perception Science* (2010-2015)
- Guest Editor, *Frontiers in Perception Science* Special Issue: the timing of visual recognition (2011)
- Ad hoc reviewer for more than 300 articles in more than 50 international journals (including *Science*, *Neuron*, *Nature Comm*, *Nat Human Behav*, *PNAS*, *Current Biology*, *PLOS Biol*, *eLife*, *Psych Sci*, *Trends in Cogn Sci*, *Trends in Neurosci*, *J Neurosci*, *Cerebral Cortex*, *J Cogn Neurosci*, *J Neurophysiol*, *Vision Res*, *J Vis*, *AP&P*, *JEP:HPP*, *Perception*, *Brain Research*, *Neuroimage*, *Human Brain Mapping*, *BMC Neuroscience*, *Frontiers in Perception Science*, *PLOS One*, *PLOS Comp Biol*, *Neural Comp*, *IEEE Series*, *AI Reviews*...)

Supervision

16 post-docs (2 current); 18 graduate students (PhD defended in 2007, 2011, 2012, 2013, 2014, 2015, 3 in 2016, 2017, 1 in 2020, 2 in 2021, 3 in 2022, 2 in 2023); more than 40 Masters students

Teaching

- 2020-... Teaching and management of "Intro to AI" class (M2 level, 30h)
2011-2019 Teaching and management of a "Cognition" class (M2 level, 20h)
2016-... Co-responsible for a "Research Project Management" class (M2 level, 20h)
2017: Teacher at the BioComp Summer School, Roscoff (France)
2012: Teacher at the ESCOP 2012 Summer School "Dynamics of Consciousness", Zakopane (Poland)

Active collaborations

Thomas Serre (Brown University, USA), Ryota Kanai (Araya Inc, Japan), Patrick Cavanagh (York University, Canada), Radoslaw Cichy (Free University Berlin, Germany), Nicholas Asher (IRIT, France), Ole Jensen (Birmingham University, UK), Fred Hamker (Technische Universität Chemnitz, Germany), Anil Seth (Sussex University, UK), Leila Reddy (CNRS, Toulouse, France), Frédéric Chavane (INT, Marseille, France), Suliann Ben Hamed (Lyon, France), Frank Bremmer (Marburg, Germany)

Publications

Peer-reviewed International Journal Articles

1. Pang, Z., Biggs O'May, C., Choksi, B. & VanRullen, R. (2021). Predictive coding feedback results in perceived illusory contours in a recurrent neural network. *Neural Networks*. doi: 10.1016/j.neunet.2021.08.024.
2. VanRullen, R., & Kanai, R. (2021). Deep learning and the Global Workspace Theory. *Trends in Neurosciences*. 44(9), 692-704
3. VanRullen, R., & Alamia, A. (2021). GAttANet: Global attention agreement for convolutional neural networks. *Lecture Notes in Computer Science: Artificial Neural Networks and Machine Learning*, 12891, 1-11.

4. Reddy, L., Self, M.W., Zoefel, B., Poncet, M., Possel, J.K., Peters, J.C., Baayen, J.C., Idema, S., VanRullen, R. and Roelfsema, P.R., (2021). Theta-phase dependent neuronal coding during sequence learning in human single neurons. *Nature Communications*, 12(1), 1-9.
5. Devillers, B., Choksi, B., Bielawski, R., & VanRullen, R. (2021). Does language help generalization in vision models? arXiv:2104.08313 (presented at *ViGIL workshop, NAACL 2021*).
6. Reddy, L., Cichy, R. M., & VanRullen, R. (2021). Representational content of oscillatory brain activity during object recognition: contrasting cortical and deep neural network hierarchies. *eNeuro*, 8(3).
7. Chalvidal, M., Ricci, M., VanRullen, R., & Serre, T. (2021). Go with the flow: Adaptive control for Neural ODEs. *ICLR 2021: International Conference on Learning Representations*.
8. Luo, C., Brüers, S., Berry, I., VanRullen, R., & Reddy, L. (2021). Tentative fMRI signatures of perceptual echoes in early visual cortex. *NeuroImage*, 237, 118053.
9. Luo, C., VanRullen, R., & Alamia, A. (2021). Conscious perception and perceptual echoes: a binocular rivalry study. *Neuroscience of Consciousness*, 2021(1), niab007.
10. Chota, S., Marque, P., & VanRullen, R. (2021). Occipital Alpha-TMS causally modulates Temporal Order Judgements: Evidence for discrete temporal windows in vision. *NeuroImage*, 237, 118173.
11. Alamia, A., Luo, C., Ricci, M., Kim, J., Serre, T., & VanRullen, R. (2020). Differential involvement of EEG oscillatory components in sameness vs. spatial-relation visual reasoning tasks. *eNeuro*
12. Alamia, A., Timmermann, C., Nutt, D. J., VanRullen, R.*, & Carhart-Harris, R. L.* (2020). DMT alters cortical travelling waves. *eLife* 9, e64623.
13. Pang, Z., Alamia, A., & VanRullen, R. (2020). Turning the Stimulus On and Off Changes the Direction of α Traveling Waves. *eNeuro* 7(6).
14. Alamia, A., Gauducheu, V., Paisios, D., & VanRullen, R. (2020). Comparing feedforward and recurrent neural network architectures with human behavior in artificial grammar learning. *Scientific Reports* 10(1), 1-15.
15. Schwenk, J. C., VanRullen, R., & Bremmer, F. (2020). Dynamics of visual perceptual echoes following short-term visual deprivation. *Cerebral Cortex Communications*.
16. Mozafari, M., Reddy, L., & VanRullen, R. (2020). Reconstructing Natural Scenes from fMRI Patterns using BigBiGAN. *Int. Joint Conf. Neural Networks (IJCNN)*.
17. Chota, S., McLelland, D., Lavergne, L., Zimmermann, E., Cavanagh, P., & VanRullen, R. (2020). Full Field Masking Causes Reversals in Perceived Event Order. *Front. Neurosci.*, 14, 217.
18. Gaillard, C., Hassen, S. B. H., Di Bello, F., Bihan-Poudec, Y., VanRullen, R., & Hamed, S. B. (2020). Prefrontal attentional saccades explore space rhythmically. *Nature Comm*, 11(1), 1-13.
19. Alamia, A., & VanRullen, R. (2019). Alpha oscillations and traveling waves: Signatures of predictive coding? *PLoS Biol.*, 17(10).
20. VanRullen, R., Reddy, L. (2019). Reconstructing faces from fMRI patterns using deep generative neural networks *Communications Biology* 2(1), 193.
21. Gulbinaite, R., Roozendaal, D. H. M., & VanRullen, R. (2019). Attention differentially modulates the amplitude of resonance frequencies in the visual cortex. *Neuroimage*, 203(116146).
22. Alamia, A., VanRullen, R., Paqualato, E., Mouraux, A., Zenon, A. (2019). Pupil-linked arousal responds to unconscious surprisal. *J Neurosci*, 39(27), 5369-5376.
23. Dugué, L., Beck, A., Marque, P. & VanRullen, R. (2019). Contribution of FEF to attentional periodicity during visual search: a TMS study. *eNeuro*, 6(3).
24. Chota, S. & VanRullen, R. (2019). Visual entrainment at 10 Hz causes periodic modulation of the flash lag illusion. *Front. Neurosci.* 13(232).
25. Lozano-Soldevilla, D. & VanRullen, R. (2019). The hidden spatial dimension of alpha: 10 Hz perceptual echoes propagate as periodic travelling waves in the human brain. *Cell Reports*, 26(2), 374-380.
26. Alamia, A., Zenon, A., VanRullen, R., Duque, J. & Derosiere, G. (2018). Implicit visual cues tune oscillatory motor activity during decision-making. *Neuroimage*, 186, 424-436.
27. Chota, S., Luo, C., Crouzet, S.M., Boyer, L., Kienitz, R., Schmid, M.C. & VanRullen, R. (2018). Rhythmic fluctuations of saccadic reaction time arising from visual competition. *Scientific Reports* 8(1), 15889
28. VanRullen, R. (2018). Attention cycles. *Neuron*, 99(4), 632-634.
29. Bruers, S. & VanRullen, R. (2018). Alpha Power Modulates Perception Independently of Endogenous Factors. *Front. Neurosci.* 12:279.
30. Baures, R., Balestra, M., Rosito, M. & VanRullen, R. (2018). The detrimental influence of attention on time-to-contact perception. *Att. Percept. Psychophys.* 80(6), 1591-1598.
31. Benedetto, A., Lozano-Soldevilla, D. & VanRullen, R. (2018). Different responses of spontaneous and stimulus-related alpha activity to ambient luminance changes. *Eur J Neurosci*, 48(7), 2599-2608.
32. Edwards, G., VanRullen, R. & Cavanagh, P. (2018). Decoding trans-saccadic memory. *J Neurosci* 38(5), 1114-1123.
33. Gulbinaite, R., van Viegen, T., Wieling, M., Cohen. M.X. & VanRullen, R. (2017). Individual alpha peak frequency predicts 10 Hz flicker effects on selective attention. *J Neurosci*, 37(42) 10173-10184
34. Gulbinaite, R., Ilhan, B. & VanRullen, R. (2017). The triple-flash illusion reveals a driving role of alpha-band reverberations in visual perception. *J Neurosci* 37(30), 7219-7230.
35. Chang, A., Schwartzman, D.J., VanRullen, R., Kanai, R. & Seth, A.K. (2017). Visual perceptual echo reflects learning of regularities in rapid luminance sequences. *J Neurosci* 37(35), 8486-8497.
36. Brüers, S. & VanRullen, R. (2017). At what latency does the phase of brain oscillations influence perception? *eNeuro* 4(3):e0078-17.2017.
37. Dugué, L. & VanRullen, R. (2017). Transcranial Magnetic Stimulation reveals intrinsic perceptual and attentional rhythms. *Front. Neurosci.* 11:154.
38. Zoefel, B. & VanRullen, R. (2017). Oscillatory mechanisms of stimulus processing and selection in the visual and auditory systems: State-of-the-art, speculations and suggestions. *Front. Neurosci.* 11:296.
39. Edwards, G., Paeye, C., Marque, P., VanRullen, R. & Cavanagh, P. (2017). Predictive position computations mediated by parietal areas: TMS evidence. *Neuroimage* 153, 49-57

40. VanRullen, R. (2017). Perception Science in the age of Deep Neural Networks. *Front. Psychology* 8:142.
41. Zoefel, B., Costa-Faidella, J., Lakatos, P., Schroeder, C.E. & VanRullen, R. (2017). Characterization of neural entrainment to speech with and without slow spectral energy fluctuations in laminar recordings in monkey A1. *NeuroImage* 150, 344-357.
42. Han, B. & VanRullen, R. (2017). The rhythms of predictive coding? Pre-stimulus phase modulates the influence of shape perception on luminance judgments. *Scientific Reports* 7, 43573.
43. VanRullen, R. (2016). Perceptual cycles. *Trends Cogn Sci* 20(10), 723-735.
44. McLelland, D. & VanRullen, R. (2016). Theta-Gamma Coding Meets Communication-through-Coherence: Neuronal Oscillatory Multiplexing Theories Reconciled. *PLoS Comput Biol* 12(10), e1005162
45. Sun, H-M., Inyutina, M., VanRullen, R. & Wu, C-T. (2016). The temporal advantage for reloading vs. uploading conscious representations decays over time. *Neurosci Consc* 216(1), niw017.
46. VanRullen, R. (2016). How to evaluate phase differences between trial groups in ongoing electrophysiological signals. *Front. Neurosci* 10:426.
47. Sherman, M. T., Kanai, R., Seth, A. K., & VanRullen, R. (2016). Rhythmic influence of top-down perceptual priors in the phase of pre-stimulus occipital alpha oscillations. *J Cogn Neurosci*, 28(9), 1318-1330.
48. McLelland, D., Lavergne, L. & VanRullen, R. (2016). The phase of ongoing EEG oscillations predicts the amplitude of perisaccadic mislocalization. *Scientific Reports* 6, 29335.
49. Sokoliuk, R. & VanRullen, R. (2016). Global and local oscillatory entrainment of visual behavior across retinotopic space. *Scientific Reports* 6, 25132.
50. Han, B. & VanRullen, R. (2016). Shape perception enhances perceived contrast: evidence for excitatory predictive feedback? *Scientific Reports* 6, 22944.
51. Miconi, T. & VanRullen, R. (2016). A Feedback Model of Attention Explains the Diverse Effects of Attention on Neural Firing Rates and Receptive Field Structure. *PLoS Comput Biol* 12(2): e1004770.
52. Senoussi, M., Berry, I., VanRullen, R. & Reddy, L. (2016). Multivoxel Object Representations in Adult Human Visual Cortex Are Flexible: An Associative Learning Study, *J Cogn Neurosci* 28(6), 852-868.
53. Zoefel, B. & VanRullen, R. (2016). EEG oscillations entrain their phase to high-level features of speech sound. *Neuroimage*, 124, 16-13.
54. Koenig-Robert, R., VanRullen, R. & Tsuchiya, N. (2015). Semantic wavelet-induced frequency-tagging (SWIFT) periodically activates category selective areas while steadily activating early visual areas. *PLoS ONE* 10(12): e0144858.
55. Dugué, L., McLelland, D., Lajous, M. & VanRullen, R. (2015). Attention searches nonuniformly in space and in time. *Proc Natl Acad Sci USA*, 112(49), 15214-15219.
56. Zoefel, B. & VanRullen, R. (2015). The role of high-level processes for oscillatory phase entrainment to speech sound. *Front. Hum. Neurosci.* 9, 651.
57. Zoefel, B., Reddy Pasham, N., Bruers, S. & VanRullen, R. (2015). The ability of the auditory system to cope with temporal subsampling depends on the hierarchical level of subsampling. *Neuroreport* 26(13), 773-778.
58. Collet, A-C., Fize, D. & VanRullen, R. (2015). Contextual Congruency Effect in Natural Scene Categorization: Different Strategies in Humans and Monkeys (Macaca mulatta). *PLoS ONE*, 10(7), e0133721
59. Mauro, F., Raffone, A. & VanRullen, R. (2015). A bidirectional link between brain oscillations and geometric patterns. *J Neurosci* 35(20), 7921-7926
60. Dugue, L., Marque, P. & VanRullen, R. (2015). Theta oscillations modulate attentional search periodically. *J Cogn Neurosci*, 27(5), 945-958.
61. Zoefel, B. & VanRullen, R. (2015). Selective perceptual phase entrainment to speech rhythm in the absence of spectral energy fluctuations. *J Neurosci*, 35(5), 1954-1964.
62. Chakravarthi, R., Carlson, T.A., Chaffin, J., Turret, J. & VanRullen, R. (2014). The Temporal Evolution of Coarse Location Coding of Objects: Evidence for Feedback, *J Cogn Neurosci*, 26(10), 2370-2384
63. VanRullen, R., Zoefel, B. & Ilhan, B. (2014). On the cyclic nature of perception in vision versus audition. *Phil. Trans. R. Soc. B*, 369 (1641): 20130214.
64. Dugue, L. & VanRullen, R. (2014). The dynamics of attentional sampling during visual search revealed by Fourier analysis of periodic noise interference. *Journal of Vision*, 14(2):11
65. Macdonald, J., Cavanagh, P., & VanRullen, R. (2014). Attentional sampling of multiple wagon wheels. *Attention, Perception & Psychophysics*, 76, 64-72.
66. VanRullen, R. (2013). Visual attention: a rhythmic process? *Current Biology*, 23(24): R1110-1112.
67. Sokoliuk, R., & VanRullen, R. (2013). The Flickering Wheel Illusion: When alpha Rhythms Make a Static Wheel Flicker. *J Neurosci*, 33(33), 13498-13504.
68. Koenig-Robert, R., & VanRullen, R. (2013). SWIFT: A novel method to track the neural correlates of recognition. *Neuroimage*, 81, 273-282.
69. VanRullen, R., & McLelland, D. (2013). What goes up must come down: EEG phase modulates auditory perception in both directions. *Front. Psychology* 4(16), 1-3.
70. Ilhan, B., & VanRullen, R. (2012). No counterpart of visual perceptual echoes in the auditory system. *PLoS ONE*, 7(11), e49287
71. Chakravarthi, R., & VanRullen, R. (2012). Conscious updating is a rhythmic process. *Proc Natl Acad Sci USA*, 109(26), 10599-10604
72. VanRullen, R., & Macdonald, J. (2012). Perceptual echoes at 10Hz in the human brain. *Current Biology*, 22(11), 995-999.
73. Jensen, O., Bonnefond, M., & VanRullen, R. (2012). An oscillatory mechanism for prioritizing salient unattended stimuli. *Trends Cogn Sci*, 16(4), 200-206.
74. VanRullen, R. (2011). Four common conceptual fallacies in mapping the time course of recognition. *Front. Psychology* 2(365), 1-6.
75. Koenig-Robert, R. & VanRullen, R. (2011). Spatio-temporal mapping of visual attention. *Journal of Vision*, 11(14): 12.
76. VanRullen, R. & Dubois, J. (2011). The psychophysics of brain rhythms. *Front. Psychology* 2(203), 1-10
77. Dugue, L., Marque, P. & VanRullen, R. (2011). The phase of ongoing oscillations mediates the causal relation between brain excitation and visual perception. *J Neurosci*, 31(33), 11889-11893.
78. Dubois, J., & VanRullen, R. (2011). Visual trails: do the doors of perception open periodically? *PLoS Biol*, 9(5), e1001056.

79. Dugue, L., Marque, P. & VanRullen, R. (2011). Transcranial magnetic stimulation reveals attentional feedback to area V1 during serial visual search. *PLoS One*, 6(5), e19712.
80. Chakravarthi, R. & VanRullen, R. (2011). Bullet trains and steam engines: Exogenous attention zips but endogenous attention chugs along. *Journal of Vision*, 11(4): 12.
81. VanRullen, R., Busch, N. A., Drewes, J., & Dubois, J. (2011). Ongoing EEG phase as a trial-by-trial predictor of perceptual and attentional variability. *Front. Psychology* 2(60),1-9
82. Drewes, J., & VanRullen, R. (2011). This is the rhythm of your eyes: the phase of ongoing electroencephalogram oscillations modulates saccadic reaction time. *J Neurosci*, 31(12), 4698-4708.
83. Miconi, T. & VanRullen, R. (2011). A feedback model of attentional effects in the visual cortex. *IEEE 2011 Symposium on Computational Intelligence for Multimedia, Signal and Vision Processing*, IEEE Press, 106-113.
84. Reddy, L., Remy, F., Vayssiere, N. & VanRullen, R. (2011). Neural correlates of the continuous Wagon Wheel Illusion: a functional MRI study. *Human Brain Mapping*, 32(2), 163-170
85. Miconi, T. & VanRullen, R. (2010). The gamma slideshow: object-based perceptual cycles in a model of the visual cortex. *Front. Hum. Neurosci.*, 4(205), 1-11.
86. Busch, N.A. & VanRullen, R. (2010). Spontaneous EEG oscillations reveal periodic sampling of visual attention. *Proc Natl Acad Sci USA*, 107(37), 16048-16053
87. Hogendoorn, H., Carlson, T.A., VanRullen, R. & Verstraten F.A.J. (2010). Timing divided attention. *Attention, Perception & Psychophysics*, 72(8): 2059-2068.
88. Latinus, M., VanRullen, R. & Taylor, M.J. (2010). Top-down and bottom-up modulation in processing bimodal face/voice stimuli. *BMC Neuroscience*, 11:36.
89. Reddy, L., Kanwisher, N.G. & VanRullen, R. (2009). Attention and biased competition in multi-voxel object representations. *Proc Natl Acad Sci USA*, 106(50), 21447-21452.
90. Wu, C-T., Busch, N.A., Fabre-Thorpe, M. & VanRullen, R. (2009). The temporal interplay between conscious and unconscious perceptual streams. *Current Biology* 19(23), 2003-2007.
91. Busch, N.A., Dubois, J. & VanRullen, R. (2009). The phase of ongoing EEG oscillations predicts visual perception. *Journal of Neuroscience* 29(24), 7869-7876
92. Dubois, J., Hamker, F., & VanRullen, R. (2009). Attentional selection of non-contiguous locations: the spotlight is only transiently split. *Journal of Vision*, 9(5):3, 1-11.
93. VanRullen, R. (2009). Binding hardwired vs. on-demand feature conjunctions. *Visual Cognition*, 17(1-2), 103-119.
94. Honey, C., Kirchner, H., & VanRullen, R. (2008). Faces in the cloud: Fourier power spectrum biases ultra-rapid face detection. *Journal of Vision*, 8(12):9, 1-13.
95. VanRullen R, Pascual-Leone A, Battelli L (2008). The Continuous Wagon Wheel Illusion and the ‘When’ Pathway of the Right Parietal Lobe: A Repetitive Transcranial Magnetic Stimulation Study. *PLoS ONE* 3(8): e2911.
96. VanRullen, R., Carlson, T. & Cavanagh, P. (2007). The blinking spotlight of attention. *Proc Natl Acad Sci USA*, 104(49), 19204-19209.
97. VanRullen, R. (2007). The power of the feed-forward sweep. *Advances in Cognitive Psychology*, 3(1-2), 167-176.
98. VanRullen, R. (2007). The continuous Wagon Wheel Illusion depends on, but is not identical to neuronal adaptation. *Vision Research*, 47(16), 2143-2149.
99. Reddy, L. & VanRullen, R. (2007). Spacing affects some but not all visual searches: implications for theories of attention and crowding. *Journal of Vision*, 7(2):3, 1-17.
100. VanRullen, R. (2006). The continuous Wagon Wheel Illusion is object-based. *Vision Research*, 46(24), 4091-4095.
101. VanRullen, R., Reddy, L. & Koch, C. (2006). The continuous Wagon Wheel Illusion is associated with changes in EEG power around 13Hz. *Journal of Neuroscience* 26, 502-507.
102. VanRullen, R. (2006). On second glance: still no high-level pop-out effect for faces. *Vision Research*, 46(18), 3017-3027.
103. VanRullen, R., Reddy, L. & Fei-Fei, L. (2005). Binding is a local problem for natural objects and scenes. *Vision Research*, 45(25-26), 3133-3144.
104. Guyonneau, R. VanRullen, R. & Thorpe S.J. (2005). Neurons tune to the earliest spikes through STDP. *Neural Computation*, 17, 859-879.
105. Fei-Fei, L. VanRullen, R., Koch, C. & Perona, P. (2005). Why does natural scene categorization require little attention? Exploring attentional requirements for natural and synthetic stimuli. *Visual Cognition*, 12(6), 893-924.
106. Andrews, T.J., Purves, D., Simpson, W. & VanRullen, R. (2005). The wheels keep turning: Reply to Holcombe et al. *Trends in Cognitive Sciences*, 9(12), 560-561.
107. VanRullen, R., Reddy, L. & Koch, C. (2005). Attention-driven discrete sampling of motion perception. *Proc Natl Acad Sci USA*, 102(14), 5291-5296.
108. VanRullen, R., Guyonneau, R. & Thorpe, S.J. (2005). Spike times make sense. *Trends in Neurosciences* 28(1), 1-4.
109. Guyonneau, R. VanRullen, R. & Thorpe S.J. (2004). Temporal codes and sparse representations: a key to understanding rapid processing in the visual system. *Journal of Physiology (Paris)* 98(4-6), 487-497.
110. VanRullen, R. (2004). A simple translation in cortical log-coordinates may account for the pattern of saccadic localization errors. *Biological Cybernetics* 91, 131-137.
111. Thorpe, S.J., Guyonneau, R., Guilbaud, N., Allegraud, J-M. & VanRullen, R. (2004). SpikeNet: real-time visual processing with one spike per neuron. *Neurocomputing*, 58-60, 857-864.
112. VanRullen, R., Reddy, L., & Koch, C. (2004). Visual search and dual-tasks reveal two distinct attentional resources. *J. Cogn. Neurosci.* 16(1), 4-14.
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123. VanRullen, R. & Thorpe, S.J. (2001). The time course of visual processing: from early perception to decision making. *J. Cogn. Neurosci.* 13(4), 454-461.
124. VanRullen, R. & Thorpe, S.J. (2001). Rate coding vs Temporal Order coding: what the retinal ganglion cells tell the visual cortex. *Neural Computation* 13(6), 1255-1283.
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Book Chapters

1. Sokoliuk, R. & VanRullen, R. (2019). Perceptual illusions caused by discrete sampling. In *"The illusions of Time: Philosophical and Psychological Essays on Timing and Time Perception"*, Eds: A. Bardou, V. Arstila, S. Power & A. Vatakis. Palgrave Macmillan, pp. 315-338.
2. VanRullen, R. (2018). Perceptual Rhythms, in *"Stevens Handbook of Experimental Psychology and Cognitive Neuroscience, Vol 2: Sensation, Perception and Attention"* Ed: J. Serences. Wiley, doi:10.1002/9781119170174.epcn212.
3. Busch, N. & VanRullen, R. (2014). Is visual perception like a continuous flow or like a series of snapshots? in *"Subjective Time"*. Ed: V. Arstila. Cambridge: MIT Press, pp 161-178.
4. VanRullen, R., Reddy, L. & Koch, C. (2010). A motion illusion revealing the temporally discrete nature of awareness, in *"Space and Time in Perception and Action"*. Ed: R. Nijhawan. Cambridge: Cambridge University Press, pp 521-535.
5. Reddy, L. & R. VanRullen (2008). Le codage neuronal des visages. In *"Traitement et reconnaissance des visages: du percept à la personne"* E. J. Barbeau, S. Joubert and O. Felician. Marseille, Solal: 367-375.
6. VanRullen, R. & L. Reddy (2008). Visages et attention. In *"Traitement et reconnaissance des visages: du percept à la personne"* E. J. Barbeau, S. Joubert and O. Felician. Marseille, Solal: 377-391.
7. Cavanagh, P. & VanRullen, R. (2007). La résolution de l'attention : la précision spatiale et temporelle de la conscience visuelle. In *"Neuroscience cognitive de l'attention visuelle"*. Ed: G. A. Michael. Marseille: Solal. pp 63-81.
8. VanRullen, R. & Koch, C. (2005). Visual attention and visual awareness, in *"Handbook of Clinical Neurophysiology, Vol 5"*, Ed: G. Celesia. Amsterdam: Elsevier. pp 65-83
9. VanRullen, R. (2005). Visual saliency and spike timing in the ventral visual pathway, in *"The Neurobiology of attention"*, Eds: L. Itti, G. Rees & J. Tsotsos. Academic press, pp 272-278
10. VanRullen, R. (2004). Perception, décision, attention visuelles: ce que les potentiels évoqués nous apprennent sur le fonctionnement du système visuel. In *"L'imagerie fonctionnelle électrique et magnétique: ses applications en sciences cognitives"*. Ed: B. Renault. Paris: Hermes. pp 95-121.

Invited Oral Presentations in International Conferences

1. VanRullen, R. (2021). Deep predictive coding for more robust and human-like vision, Invited presentation, SMB 2021: Annual meeting of the Society for Mathematical Biology (online).
2. VanRullen, R. (2019). Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Asia-Pacific Conference on Vision (Osaka, Japan).
3. VanRullen, R. (2019). Perceptual Cycles, Waves and Predictive Coding, Invited presentation, York University VISTA - Centre for Vision Research International Conference on Predictive Vision, Toronto (Canada).
4. VanRullen, R. (2019). Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Dynamics of Vision and Touch (DyViTo), Rauschholzhhausen (Germany).
5. VanRullen, R. (2018). Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Alpha Scales workshop, European Institute of Theoretical Neuroscience, Paris (France).
6. VanRullen, R. (2018). Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Symposium on New trends in decision-making: decision as inference? Paris (France).
7. VanRullen, R. (2017). Perceptual Cycles and Waves, Invited presentation, Timing Research Forum, Strasbourg (France).
8. VanRullen, R. (2017). Perceptual Cycles, Invited keynote presentation, Association for the Scientific Study of Consciousness meeting, Beijing, (China).
9. VanRullen, R. (2017). Perceptual Cycles in Vision and Audition, Invited presentation, Neural Oscillations in Speech and Language Processing Symposium, Berlin (Germany).
10. VanRullen, R. (2015). Perceptual Cycles, Invited presentation, Tubingen MEG Symposium, Tubingen (Germany).
11. VanRullen, R. (2015). Perceptual Cycles. Invited presentation, Vision Sciences Society, St Pete Beach (FL, USA).
12. VanRullen, R. (2013). Perceptual and attentional cycles. Invited presentation, Oxford Oscillations Workshop, Oxford (UK).
13. VanRullen, R. (2013). Perceptual and attentional rhythms. Invited presentation, Trans-Pyrenees workshop on oscillations, BOLD and fluctuations of neural excitability in task-related and resting state networks. BCBL, San Sebastian (Spain).
14. VanRullen, R. (2013). Rhythms of perception and attention. Invited presentation, 5th Computational Neuroscience Workshop, Marseille (France).

15. **VanRullen, R. (2013).** Perceptual and attentional rhythms. Invited presentation, Mathematical Biology Institute workshop on Rhythms and Oscillations, Columbus (OH, USA).
16. **VanRullen, R. (2013).** Perceptual consequences of alpha: flicker, echoes and perceptual cycles. Invited presentation, ESI workshop on Alpha: from mechanism to cognition, Frankfurt (Germany).
17. **VanRullen, R. (2012).** Alpha rhythms echo the world inside the brain, and make it flicker. Invited presentation. European Conference on Visual Perception, Alghero (Italy).
18. **VanRullen, R. (2012).** Perceptual cycles: when perception fluctuates with the phase of ongoing oscillations. Invited presentation. 18th International Conference on Biomagnetism, Paris (France).
19. **VanRullen, R. (2011).** Ongoing EEG phase as a trial-by-trial signature of perceptual and attentional rhythms. Invited presentation. European Conference on Visual Perception, Toulouse (France).
20. **VanRullen, R. (2010).** Is perception periodic –and if so, with what sampling rate? Invited Presentation, Alpine Brain Imaging Meeting, Champéry (Switzerland).
21. **VanRullen, R. (2009).** Is perception discrete or continuous? Invited presentation. Association for the Scientific Study of Consciousness meeting, Berlin, (Germany).
22. **VanRullen, R. (2008).** Attention in multi-element displays: does it split, does it switch or does it blink? Invited presentation, 2nd International Symposium on Visual Search and Selective Attention, Fribourg (Switzerland).
23. **VanRullen, R. (2007).** Dividing attention between multiple locations: continuous or discrete? Invited presentation, 2nd International Symposium on Visual Attention, Buenos Aires (Argentina).
24. **VanRullen, R. (2006).** The power of the feed-forward sweep. Invited presentation, Visual Masking and the Dynamics of Vision and Consciousness, Delmenhorst (Germany).
25. **VanRullen, R. (2005).** Vision at a glance: parallel and preattentive perception of natural scenes. Invited presentation, Canadian Society for Brain, Behaviour and Cognitive Science, Montreal (Canada).
26. **VanRullen, R., Reddy, L. & Koch, C. (2005).** The temporal structure of visual perception: Insights from an illusion of reversed motion. Invited presentation. Association for the Scientific Study of Consciousness, Pasadena (CA, USA).
27. **VanRullen, R. (2005).** Vision at a glance: parallel and preattentive perception of natural scenes. Invited presentation, Cognitive Neuroscience Society meeting, New York (NY, USA).
28. **VanRullen, R. (2004).** What's in the first shot? Parallel and preattentive processes in visual scene perception. Invited Presentation, European Conference on Visual Perception (Budapest, Hungary).

Conference Proceedings:

1. **VanRullen, R. (2021).** Deep predictive coding for more robust and human-like vision, Invited presentation, SMB 2021: Annual meeting of the Society for Mathematical Biology (online).
2. **VanRullen, R., & Alamia, A. (2021).** GAttANet: Global attention agreement for convolutional neural networks. ICANN 2021: International Conference on Artificial Neural Networks.
3. **Devillers, B., Choksi, B., Bielawski, R., & VanRullen, R. (2021).** Does language help generalization in vision models? ViGIL workshop, NAACL 2021.
4. **Fakche, C., VanRullen, R., Marque, P. & Dugué, L. (2021).** Causal link between the phase and amplitude of spontaneous alpha oscillations, cortical excitability and visual perception. European Conference on Visual Perception (online).
5. **Chalvidal, M., Ricci, M., VanRullen, R., & Serre, T. (2021).** Go with the flow: Adaptive control for Neural ODEs. ICLR 2021: International Conference on Learning Representations.
6. **Choksi, B., Mozafari, M., Biggs O'May, C., Ador, B., Alamia, A. & VanRullen, R. (2020).** Brain-inspired predictive coding dynamics improve the robustness of deep neural networks. NeurIPS 2020 Workshop SVRHM
7. **Pang, Z., Choksi, B., Biggs O'May, C. & VanRullen, R. (2020).** Predictive coding results in perceived illusory contours in a recurrent neural network. NeurIPS 2020 Workshop SVRHM
8. **VanRullen, R. & Reddy, L. (2020).** Brain decoding with GANs. WCNP: Winter Conference on Neural Plasticity
9. **Mozafari, M., Reddy, L., & VanRullen, R. (2020).** Reconstructing Natural Scenes from fMRI Patterns using BigBiGAN. Int. Joint Conf. Neural Networks (IJCNN)
10. **Alamia, A., Gauducheau, V., Paisios, D. & VanRullen, R. (2019).** Which neural network architecture matches human behavior in artificial grammar learning? Annual Conference on Cognitive Computational Neuroscience (CCN), Berlin (Germany).
11. **Schwenk, J., Zavitz, E., VanRullen, R., Price, N. S. & Bremmer, F. (2019).** Neural correlates of perceptual echoes in marmoset primary visual cortex. Society for Neuroscience meeting (Chicago, USA).
12. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Asia-Pacific Conference on Vision (Osaka, Japan).
13. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, York University VISTA - Centre for Vision Research International Conference on Predictive Vision, Toronto (Canada).
14. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Dynamics of Vision and Touch (DyViTo), Rauschholzhausen (Germany).
15. **Luo, C., Brüers, S., Berry, I., VanRullen, R. & Reddy, L. (2019).** fMRI signatures of perceptual echoes in early visual cortex. Vision Sciences Society Annual Meeting, St Pete Beach (USA)
16. **Merholz, G., VanRullen, R. & Dugué, L. (2019).** Oscillations modulate attentional search performance periodically. Vision Sciences Society Annual Meeting, St Pete Beach (USA)
17. **VanRullen, R. (2018).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Alpha Scales workshop, European Institute of Theoretical Neuroscience, Paris (France).
18. **Schwenk, J., VanRullen, R. & Bremmer, F. (2018).** The effects of short-term monocular deprivation on visual perceptual echoes. Society for Neuroscience meeting (San Diego, USA).
19. **VanRullen, R. & Reddy, L. (2018).** Reconstructing faces from fMRI patterns using Generative Adversarial Networks. Annual Conference on Cognitive Computational Neuroscience (CCN), Philadelphia (USA).
20. **Alamia, A. & VanRullen, R. (2018).** Predictive Coding Produces Alpha-band Rhythmic Travelling Waves. Annual Conference on Cognitive Computational Neuroscience (CCN), Philadelphia (USA).
21. **VanRullen, R. (2018).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Symposium on New trends in decision-making: decision as inference? Paris (France).
22. **VanRullen, R. (2017).** Perceptual Cycles and Waves, Invited presentation, Timing Research Forum, Strasbourg (France).
23. **Reddy, L., Cichy, R. & VanRullen, R. (2017).** Using DNNs as a yardstick for estimating the representational value of oscillatory brain signals. Annual Conference on Cognitive Computational Neuroscience (CCN), New York (USA).
24. **VanRullen, R. (2017).** Predictive coding and neural communication delays produce alpha-band oscillatory Impulse Response Functions. Annual Conference on Cognitive Computational Neuroscience (CCN), New York (USA).

25. **Reddy, L., Cichy, R. & VanRullen, R. (2017).** Oscillatory signatures of object recognition across cortical space and time. 40th European Conference on Visual Perception (ECVP), Berlin (Germany).
26. **Brüers, S. & VanRullen, R. (2017).** Does alpha power modulate perception independently of endogenous factors? 13th International Conference for Cognitive Neuroscience (ICON), Amsterdam (Netherlands).
27. **Reddy, L., Cichy, R. & VanRullen, R. (2017).** Oscillatory signatures of object recognition across cortical space and time. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
28. **Brüers, S. & VanRullen, R. (2017).** At what latency does the phase of brain oscillations influence perception? Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
29. **Gulbinaite, R., Roozendaal, D. & VanRullen, R. (2017).** Attention effects on steady-state visual evoked potentials in response to 3-80 Hz flicker. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
30. **Edwards, G., VanRullen, R. & Cavanagh, P. (2017).** EEG decoding of pre-saccadic effects on post-saccadic processing. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
31. **Benedetto, A., Lozano-Soldevilla, D. & VanRullen, R. (2017).** Ambient luminance changes modulate oscillatory properties of the visual system. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
32. **Chemla, S., Chavane, F. & VanRullen, R. (2016).** Revealing alpha oscillatory activity using voltage-sensitive dye imaging in monkey V1. European Conference on Visual Perception (Barcelona, Spain).
33. **Edwards, G., Marque, P., VanRullen, R. & Cavanagh, P. (2016).** Predictive position percepts mediated by parietal areas: TMS evidence. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
34. **Gulbinaite, R., Ilhan, B. & VanRullen, R. (2016).** Something out of nothing: The role of alpha-frequency reverberation in the triple-flash illusion. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
35. **Lozano-Soldevilla, D. & VanRullen, R. (2016).** The hidden spatial dimension of alpha: occipital EEG channels encode contralateral and ipsilateral visual space at distinct phases of the alpha cycle. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
36. **Crouzet, S. & VanRullen, R. (2016).** The half-time groove of divided attention: differences in EEG and decoding power spectra when attending to one vs. two items. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
37. **Bruers, S. & VanRullen, R. (2016).** Visual target detection in temporal white-noise: A “universal” forward model using oscillatory impulse response functions. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
38. **Lozano-Soldevilla, D. & VanRullen, R. (2015).** 10 Hz perceptual echoes propagate as travelling waves in the human brain. Society for Neuroscience meeting (Chicago, USA).
39. **McLelland, D., Schuster, J., Hamker, F. & VanRullen, R. (2015).** Brain circuits underlying visual stability across eye movements: Oscillatory dynamics disentangle processing of multiple items. Society for Neuroscience meeting (Chicago, USA).
40. **Senoussi, M., VanRullen, R. & Reddy, L. (2015).** Electrophysiological predictors of an anticipated stimulus during visual sequence learning. Society for Neuroscience meeting (Chicago, USA).
41. **Sun, H-M., Inyutina, M., VanRullen, R. & Wu, C-T. (2015).** Relations between alpha power and the stability of motion-induced blindness. Society for Neuroscience meeting (Chicago, USA).
42. **Zoefel, B., O’Connell, M.N., Barczak, A., VanRullen, R. & Lakatos, P. (2015).** Oscillatory mechanisms for the segregation and integration of auditory inputs. Society for Neuroscience meeting (Chicago, USA).
43. **Sherman, M.T., Kanai, R., Seth, A.K. & VanRullen, R. (2015).** Priors for perceptual decision and confidence in the pre-stimulus phase of occipital alpha-band EEG. Association for the Scientific Study of Consciousness meeting, Paris, (France).
44. **Chang, A. Y-C., VanRullen, R., Kanai, R. & Seth, A.K. (2015).** Unconscious temporal predictive processing revealed by 10 Hz perceptual echo. Association for the Scientific Study of Consciousness meeting, Paris, (France).
45. **VanRullen, R. (2015).** Perceptual Cycles. Invited presentation, Vision Sciences Society, St Pete (Florida, USA).
46. **Inyutina, M., Sun, H-M., Wu, C-T. & VanRullen, R. (2015).** Who wins the race for consciousness? Ask the phase of ongoing ~7Hz oscillations. Proceedings of the 15th Vision Sciences Society annual meeting, St Pete (Florida, USA).
47. **Bruers, S. & VanRullen, R. (2015).** Neuro-encryption: concealing perceptual targets in observer-dependent, experimentally controlled alpha phase. Proceedings of the 15th Vision Sciences Society annual meeting, St Pete (Florida, USA).
48. **McLelland, D., Lavergne, L., Zimmermann, E., Cavanagh, P. & VanRullen, R. (2015).** Illusory reversal of temporal order around the time of visual disruptions. Proceedings of the 15th Vision Sciences Society annual meeting, St Pete (Florida, USA).
49. **Zoefel, B. & VanRullen, R. (2014).** EEG oscillations entrain their phase to high-level features of speech sound. Society for Neuroscience meeting (Washington, DC).
50. **McLelland, D., Lavergne, L. & VanRullen, R. (2014).** The phase of ongoing EEG oscillations predicts the amplitude of peri-saccadic mislocalization. Society for Neuroscience meeting (Washington, DC).
51. **Han, B. & VanRullen, R. (2014).** Non-selective excitatory feedback and precise spike timing produce selective relative inhibition. Proceedings of the 23rd Computational Neuroscience Society annual meeting (Québec City, Canada).
52. **Koenig-Robert, R., VanRullen, R. & Tsuchiya, N. (2014).** Localizing category-selective BOLD signals in fMRI using SWIFT. Association for the Scientific Study of Consciousness meeting, Brisbane (Australia).
53. **Mauro, F., Raffone, A. & VanRullen, R. (2014).** A bidirectional link between neuronal oscillations and geometrical patterns. Proceedings of the 14th Vision Sciences Society annual meeting, St Pete (Florida, USA).
54. **Han, B. & VanRullen, R. (2014).** Predictive Coding of Shape Affects the Perceived Luminance of the Surrounding Region. Proceedings of the 14th Vision Sciences Society annual meeting, St Pete (Florida, USA).
55. **Senoussi, M., Berry, I., VanRullen, R. & Reddy, L. (2014).** Object Representations in Human Visual Cortex are Flexible: an Associative Learning study. Proceedings of the 14th Vision Sciences Society annual meeting, St Pete (Florida, USA).
56. **Dugué, L., McLelland, D., Lajous, M. & VanRullen, R. (2014).** Spatial deployment of attention in visual search: new evidence against a strict parallel model. Proceedings of the 14th Vision Sciences Society annual meeting, St Pete (Florida, USA).
57. **Sun, H-M., Inyutina, M., VanRullen, R. & Wu, C-T. (2014).** The temporal decay of unconscious representations in Motion Induced Blindness. Proceedings of the 14th Vision Sciences Society annual meeting, St Pete (Florida, USA).
58. **Zoefel, B. & VanRullen, R. (2013).** Perceptual phase entrainment to speech rhythm in the absence of spectral energy fluctuations. Society for Neuroscience meeting (San Diego).
59. **Wong, J., Chen, Y-P., Gau, S., Chien, Y-L., VanRullen, R. & Wu, C-T. (2013).** Atypical visio-temporal processing in Schizophrenia and Autism Spectrum Disorders revealed by the continuous Wagon Wheel Illusion. Proceedings of the 13th Vision Sciences Society annual meeting, Naples (Florida, USA).
60. **Sokoliuk, R. & VanRullen, R. (2013).** Tracking the spatio-temporal propagation of entrained alpha oscillations across the visual field. Proceedings of the 13th Vision Sciences Society annual meeting, Naples (Florida, USA).
61. **Chakravarthi, R. & VanRullen, R. (2012).** Theta-gamma coupling is modulated by the number of remembered items in short-term memory. Society for Neuroscience meeting (New Orleans).
62. **McLelland, D. & VanRullen, R. (2012).** Multiplexing visual item representations with fast and slow oscillations. Society for Neuroscience meeting (New Orleans).
63. **Koenig-Robert, R., Collet, A-C., Fize, D. & VanRullen, R. (2012).** All-or-none feedback activity as a correlate of conscious object recognition revealed by SWIFT in monkey ventral visual areas. Society for Neuroscience meeting (New Orleans).

64. **VanRullen, R. (2012).** Alpha rhythms echo the world inside the brain, and make it flicker. Invited presentation. European Conference on Visual Perception, Alghero (Italy).
65. **VanRullen, R. (2012).** Perceptual cycles: when perception fluctuates with the phase of ongoing oscillations. Invited presentation. 18th International Conference on Biomagnetism, Paris (France).
66. **Dugue, L. & VanRullen, R. (2012).** Periodic involvement of early visual cortex during attentional visual search: a TMS study. Proceedings of the 12th Vision Sciences Society annual meeting, Naples (Florida, USA).
67. **Sokoliuk, R. & VanRullen, R. (2012).** Cross Frequency Coupling during the resting state with and without visual input. Proceedings of the 12th Vision Sciences Society annual meeting, Naples (Florida, USA).
68. **Koenig-Robert, R. & VanRullen, R. (2012).** Semantic Wavelet-Induced Frequency Tagging (SWIFT) tracks perceptual awareness alternations in an all-or-none fashion. Proceedings of the 12th Vision Sciences Society annual meeting, Naples (Florida, USA).
69. **Dugue, L., Marque, P. & VanRullen, R. (2011).** The phase of ongoing oscillations mediates the causal relation between brain excitation and visual perception. International Conference on Cognitive Neuroscience (ICON XI), Palma de Mallorca (Spain).
70. **VanRullen, R. (2011).** Ongoing EEG phase as a trial-by-trial signature of perceptual and attentional rhythms. Invited presentation. European Conference on Visual Perception, Toulouse (France).
71. **Koenig-Robert, R. & VanRullen, R. (2011).** SWIFT: A new method to track object representations. European Conference on Visual Perception, Toulouse (France).
72. **Sokoliuk, R. & VanRullen, R. (2011).** The flickering wheel illusion: Electrophysiological and psychophysical properties. European Conference on Visual Perception, Toulouse (France).
73. **Drewes, J. & VanRullen, R. (2011).** Oscillations during pursuit eye movements: Perceptual and electrophysiological effects. European Conference on Visual Perception, Toulouse (France).
74. **Dubois, J. & VanRullen, R. (2011).** Do the doors of perception open periodically? Evidence from pathology and drug-altered states. European Conference on Visual Perception, Toulouse (France).
75. **Ilhan, B. & VanRullen, R. (2011).** Perceptual echoes in vision and audition: A comparison. European Conference on Visual Perception, Toulouse (France).
76. **Dugué, L. & VanRullen, R. (2011).** The dynamics of attentional sampling during visual search revealed by Fourier analysis of periodic noise interference. European Conference on Visual Perception, Toulouse (France).
77. **Miconi, T., Roumy, M. & VanRullen, R. (2011).** The three flashes illusion: A window into the dynamics of visual processing. European Conference on Visual Perception, Toulouse (France).
78. **Chakravarthi, R., Carlson, T., Chaffin, J., Turret, J. & VanRullen, R. (2011).** O brother, where art thou? Locations of 1st and 2nd order objects are represented in the same way but at different times, as revealed by single-trial decoding of EEG signals. European Conference on Visual Perception, Toulouse (France).
79. **Dugué, L., Marque, P. & VanRullen, R. (2011).** TMS reveals attentional feedback to area V1 during serial visual search, Proceedings of the 11th Vision Sciences Society annual meeting, Naples (Florida, USA).
80. **Miconi, T. & VanRullen, R. (2011).** A simple feedback-based model explains the diverse effects of attention on visual responses, Proceedings of the 11th Vision Sciences Society annual meeting, Naples (Florida, USA).
81. **Chakravarthi, R. & VanRullen, R. (2011).** Attention is a state of mind: Phase of ongoing EEG oscillations predicts the timing of attentional deployment, Proceedings of the 11th Vision Sciences Society annual meeting, Naples (Florida, USA).
82. **Sokoliuk, R. & VanRullen, R. (2011).** The Flickering Wheel Illusion: when alpha rhythms make a static wheel flicker, Proceedings of the 11th Vision Sciences Society annual meeting, Naples (Florida, USA).
83. **Dubois, J., Koch, C. & VanRullen, R. (2011).** Visual trails: when perceptual continuity breaks down, Proceedings of the 11th Vision Sciences Society annual meeting, Naples (Florida, USA).
84. **Koenig-Robert, R. & VanRullen, R. (2011).** Frequency-tagging object awareness, Proceedings of the 11th Vision Sciences Society annual meeting, Naples (Florida, USA).
85. **Busch, N.A. & VanRullen, R. (2010).** Pre-Stimulus EEG Oscillations Reveal Periodic Sampling Of Visual Attention , Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
86. **Dubois, J., Macdonald, J.S.P. & VanRullen, R. (2010).** Reevaluating the sustained division of the attentional spotlight at high temporal resolution, Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
87. **Chakravarthi, R. & VanRullen, R. (2010).** Beam me up, Scotty! Exogenous attention teleports but endogenous attention takes the shuttle, Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
88. **Miconi, T. & VanRullen, R. (2010).** Gamma oscillations decompose the visual scene into object-based perceptual cycles: a computational model , Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
89. **Drewes, J. & VanRullen, R. (2010).** Ongoing EEG oscillations and saccadic latency, Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
90. **Macdonald, J.S.P. & VanRullen, R. (2010).** Perceptual Echoes At 10Hz In Human EEG , Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
91. **Wu, C-T., Fabre-Thorpe, M. & VanRullen, R. (2010).** Time distorts space in both directions during apparent motion, Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
92. **Koenig-Robert, R. & VanRullen, R. (2010).** Spatio-temporal mapping of exogenous and endogenous attention , Proceedings of the 10th Vision Sciences Society annual meeting, Naples (Florida, USA).
93. **VanRullen, R. (2010).** Is perception periodic --and if so, with what sampling rate? Invited Presentation, Alpine Brain Imaging Meeting, Champéry (Switzerland).
94. **Macdonald, J. S.P., Reddy, L. & VanRullen, R. (2009).** Dynamic visual stimuli reveal perceptual echoes at 10Hz. Society For Neuroscience meeting (Chicago, IL, USA).
95. **Miconi, T. & VanRullen, R. (2009).** Spiking neurons, lateral connections and background oscillations give rise to perceptual cycles. Society For Neuroscience meeting (Chicago, IL, USA).
96. **VanRullen, R. (2009).** Is perception discrete or continuous? Invited presentation. Association for the Scientific Study of Consciousness meeting, Berlin, (Germany).
97. **Dubois, J. & VanRullen, R. (2009).** Evaluating the contribution of discrete perceptual mechanisms to psychometric performance, Association for the Scientific Study of Consciousness meeting, Berlin (Germany).
98. **Wu, C-T., Busch, N., Fabre-Thorpe, M. & VanRullen, R. (2009).** Comparing the updating of conscious and unconscious perceptual streams: a new temporal illusion. Association for the Scientific Study of Consciousness meeting, Berlin (Germany).
99. **Reddy, L., VanRullen, R. & Kanwisher, N. (2009).** Attention and biased competition in multi-voxel object representations, Proceedings of the 9th Vision Sciences Society annual meeting, Naples (Florida, USA).
100. **Busch, N., Dubois, J. & VanRullen, R. (2009).** The phase of ongoing EEG oscillations predicts visual perception, Proceedings of the 9th Vision Sciences Society annual meeting, Naples (Florida, USA).
101. **Macdonald, J.S.P. & VanRullen, R. (2009).** More wheels makes attention spin slower. Proceedings of the 9th Vision Sciences Society annual meeting, NaplesFlorida, (USA).
102. **Wu, C-T., Busch, N., Fabre-Thorpe, M. & VanRullen, R. (2009).** When an effect precedes its cause in consciousness. Proceedings of the 9th Vision Sciences Society annual meeting, Naples (Florida, USA).

103. **Vanrullen, R., Reddy, L., Rémy, F., Vayssière, N., Pascual-Leone, A. & Battelli, L. (2008).** The neural correlates of the continuous wagon wheel illusion. Society For Neuroscience meeting (Washington, DC, USA).
104. **Busch, N. & VanRullen, R. (2008).** Phases of ongoing EEG oscillations are coupled with visual detection performance. *Frontiers in Human Neuroscience*. Conference Abstract: 10th International Conference on Cognitive Neuroscience.
105. **Vanrullen, R., Pascual-Leone, A. & Battelli, L. (2008).** The continuous wagon wheel illusion and the 'WHEN' pathway of the right parietal lobe: a repetitive transcranial magnetic stimulation study. European Conference on Visual Perception (Utrecht, Netherlands).
106. **Reddy, L., Remy, F., Vayssiere, N. & Vanrullen, R. (2008).** Neural correlates of the continuous wagon wheel illusion: a functional MRI study. European Conference on Visual Perception (Utrecht, Netherlands).
107. **VanRullen, R. (2008).** Attention in multi-element displays: does it split, does it switch or does it blink? Invited presentation, 2nd International Symposium on Visual Search and Selective Attention, Fribourg (Switzerland).
108. **Wilimzig, C., VanRullen, R., & Koch, C. (2008).** A new masking technique for natural scenes reveals the saliency of an image. Proceedings of the 8th Vision Sciences Society annual meeting, Naples (Florida, USA).
109. **Wilimzig, C., VanRullen, R. & Koch, C., (2008).** A new masking technique for natural scenes reveals the saliency of an image. *Cosyne Abstracts*, 236.
110. **VanRullen, R., Carlson, T. & Cavanagh, P. (2007).** The blinking spotlight of attention. European Conference on Visual Perception (Arezzo, Italy).
111. **Carlson, T., VanRullen, R., Hogendoorn, H., Verstraten, F., & Cavanagh, P. (2007).** Distinguishing models of multifocal attention: It's a matter of time. Proceedings of the 7th Vision Sciences Society annual meeting, Sarasota (Florida, USA).
112. **VanRullen, R., Carlson, T., & Cavanagh, P. (2007).** Dividing attention between multiple targets: simultaneous or sequential allocation? Proceedings of the 7th Vision Sciences Society annual meeting, Sarasota (Florida, USA).
113. **VanRullen, R. (2007).** Dividing attention between multiple locations: continuous or discrete? Invited presentation, 2nd International Symposium on Visual Attention, Buenos Aires (Argentina).
114. **VanRullen, R. (2006).** The continuous Wagon Wheel Illusion: low-level and higher-level properties. Society for Neuroscience meeting, Atlanta (GA, USA).
115. **VanRullen, R. (2006).** The power of the feed-forward sweep. Invited presentation, Visual Masking and the Dynamics of Vision and Consciousness, Delmenhorst (Germany).
116. **VanRullen, R., Reddy, L. & Koch, C. (2005).** Discrete temporal subsampling of motion perception: electrophysiological correlates. Society for Neuroscience Meeting, Washington (DC, USA).
117. **VanRullen, R. (2005).** Vision at a glance: parallel and preattentive perception of natural scenes. Invited presentation, Canadian Society for Brain, Behaviour and Cognitive Science, Montreal (Canada).
118. **VanRullen, R., Reddy, L. & Koch, C. (2005).** The temporal structure of visual perception: Insights from an illusion of reversed motion. 9th meeting of the Association for the Scientific Study of Consciousness, Pasadena (CA, USA).
119. **VanRullen, R. (2005).** Attention-dependent discrete sampling of motion perception. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
120. **VanRullen, R. (2005).** Vision at a glance: parallel and preattentive perception of natural scenes. Invited presentation, Cognitive Neuroscience Society meeting, New York (NY, USA).
121. **VanRullen, R., Reddy, L. & Koch, C. (2004).** The continuous wagon wheel illusion: evidence for discrete visual perception? Society for Neuroscience Meeting, San Diego (CA, USA).
122. **VanRullen, R. (2004).** What's in the first shot? Parallel and preattentive processes in visual scene perception. Invited Presentation, European Conference on Visual Perception (Budapest, Hungary).
123. **VanRullen, R. (2004).** Binding "hardwired" vs "arbitrary" feature conjunctions. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
124. **VanRullen, R. (2003).** Trial-by-trial variations of visual reaction time: relation with the phase of ongoing and evoked EEG. Society for Neuroscience Meeting, New Orleans (Louisiana, USA).
125. **VanRullen, R. & Dong, T. (2003).** Attention and scintillation. European Conference on Visual Perception (Paris, France).
126. **Thorpe, S., Guyonneau, R., Guilbaud, N. & VanRullen, R. (2003).** SpikeNet: Real-time visual processing with one spike per neuron. Proceedings of the Annual Computational Neuroscience Meeting (Alicante, Spain).
127. **VanRullen, R., Reddy, L., Li, F-F., Perona, P. & Koch, C. (2003).** A neural framework for visual search and attention. Munich Visual Search Symposium (Munich, Germany).
128. **VanRullen, R., Reddy, L., Li, F-F., Perona, P. & Koch, C. (2003).** A neural framework for visual search & attention. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
129. **Reddy, L., VanRullen, R. & Koch, C. (2003).** Interstimulus distance effects in visual search. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
130. **Li, F-F., VanRullen, R., Koch, C. & Perona, P. (2003).** Natural scene categorization in the near absence of attention: further explorations. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
131. **Li, F-F., VanRullen, R., Koch, C. & Perona, P. (2002).** Rapid natural scene categorization in the near absence of attention. *Sensory Coding and the Natural Environment*, Gordon Research Conference, Mount Holyoke (MA, USA).
132. **VanRullen, R., & Koch, C. (2002).** Competition and selection during visual processing of natural scenes and objects. *Sensory Coding and the Natural Environment*, Gordon Research Conference, Mount Holyoke (MA, USA).
133. **Li, F-F., VanRullen, R., Koch, C. & Perona, P. (2002).** Rapid natural scene categorization in the near absence of attention. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
134. **Reddy, L., VanRullen, R. & Koch, C. (2002).** Parallel and preattentive processing are not equivalent. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
135. **Hamker, F., & VanRullen, R. (2002).** The time course of attentional selection among competing locations. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
136. **Li, F-F., VanRullen, R., Koch, C. & Perona, P. (2002).** Natural scene categorization in the near absence of attention. Proceedings of the Cognitive Neuroscience Society, San Francisco (California, USA).
137. **VanRullen, R. & Koch, C. (2002).** Visual selective behavior can be triggered by a feed-forward process. Proceedings of the Cognitive Neuroscience Society, San Francisco (California, USA).
138. **Li, F-F., VanRullen, R., Koch, C. & Perona, P. (2001).** Rapid natural scene categorization without attention. Society for Neuroscience meeting, San Diego (California, USA).
139. **VanRullen, R., & Koch, C. (2001).** On the processing capacity of the human visual system. Proceedings of the Vision Sciences Society annual meeting, Sarasota (Florida, USA).
140. **Paquier, W., Delorme, A., VanRullen, R. & Thorpe, S.J. (2000).** Détection de mouvements apparents par codage asynchrone. X^{èmes} Journées Neurosciences et Sciences de l'Ingénieur, Dinard (France).
141. **VanRullen, R. & Thorpe, S.J. (2000).** Neural Coding for Ultra-Rapid Visual Processing: Theoretical Issues. Proceedings of the colloquium "Spike Timing in the Visual System", Fondation des Treilles, Tourtour (France).
142. **VanRullen, R., Delorme, A. & Thorpe, S.J. (2000).** Feed-forward contour integration in primary visual cortex based on asynchronous spike propagation. Proceedings of the 9th Annual Computational Neuroscience Meeting, Brugges (Belgium).

143. **Delorme, A., VanRullen, R. & Thorpe, S. (2000).** Object recognition using spiking neurons I. Paper presented at the symposium "Neural binding of space and time". Leipzig, Germany.
144. **VanRullen, R., Delorme, A., et Thorpe, S. (2000).** Object recognition using spiking neurons II: Spatial attention explained by temporal precedence of information. Paper presented at the symposium "Neural binding of space and time". Leipzig, Germany.
145. **Delorme, A., VanRullen, R., & Thorpe, S.J. (1999).** Rapid object recognition based on asynchronous feed-forward processing. 22th European Conference on Visual Perception, Trieste (Italy). *Perception*, 28 (suppl.), pp. 128-129.
146. **VanRullen, R. & Thorpe, S.J. (1998),** Ultra-Rapid Visual Categorization of Natural Scenes: Order of Spiking in Ganglion Cells as a code. 21st European Conference on Visual Perception, Oxford (UK). *Perception*, 27 (suppl.).
147. **Thorpe, S.J., VanRullen, R., Delorme, A., & Gautrais, J. (1998).** Ultra-rapid visual categorisation: large-scale simulations using SpikeNET. 21st European Conference on Visual Perception, Oxford (UK). *Perception*, 27 (suppl.).
148. **VanRullen, R. & Thorpe, S.J. (1998).** Spatial attention in asynchronous neural networks. Proceedings of the 7th Annual Computational Neuroscience Meeting, Santa Barbara (California, USA).
149. **Delorme, A., Gautrais, J., VanRullen, R., & Thorpe, S.J. (1998).** SpikeNET: A simulator for modeling large networks of integrate and fire neurons. Proceedings of the 7th Annual Computational Neuroscience Meeting, Santa Barbara (California, USA).
150. **Thorpe, S., Gautrais, J., VanRullen, R., & Delorme, A. (1998).** A model for rapid visual object recognition based on asynchronous spike propagation and rank order coding. Cognitive Neuroscience Society, 1998 Annual Meeting Abstract program, *Journal of Cognitive Neuroscience* (suppl.), pp. 19.
151. **VanRullen, R., Gautrais, J., Delorme, A. & Thorpe, S.J. (1997).** Détection des Visages par Codage Asynchrone. VIIèmes journées Neurosciences et Sciences de l'Ingénieur, Munster (France).
152. **VanRullen, R., Gautrais, J., Delorme, A. & Thorpe, S.J. (1997).** Face detection using one spike per neuron. Neural Coding Symposium, Versailles (France).