

Jenny Read

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Employment

2015 –	Professor of Vision Science Institute of Neuroscience, Newcastle University, UK
2013 – 2015	Reader in Vision Science Institute of Neuroscience, Newcastle University, UK
2005 – 2013	Royal Society University Research Fellow Institute of Neuroscience, Newcastle University, UK
2001 – 2005	Postdoctoral Fellow Laboratory of Sensorimotor Research, National Eye Institute, NIH, USA
1997 – 2001	Wellcome Trust Training Fellow in Mathematical Biology Laboratory of Physiology, Oxford University, UK
1999 – 2001	College lecturer in Physics 1999-2000 at Christ Church, Oxford; 2000-2001 at Corpus Christi, Oxford.

Qualifications

2006 – 2009	Graduate diploma in psychology, with distinction, Newcastle University
1998 – 1999	M.Sc. in Neuroscience, with distinction, Merton College, Oxford University
1994 – 1997	D.Phil. in Theoretical Astrophysics, Merton College, Oxford University
1991 – 1994	B.A. (Hons.) in Physics, First Class, University College, Oxford University

Research Funding

2017 – 2018	Medical Research Council Proximity to Discovery Development Award	£24,259
	<i>Gamified vision tests</i>	
2015 – 2019	Co-Investigator on European Training Network:	£561,134
	<i>Full parallax imaging</i>	
2014 – 2017	Wellcome Trust & Department of Health	£965,699
	Health Innovation Challenge Fund: <i>Accurate and patient-friendly measurement of binocular visual function using a 3D mobile device</i>	
2013 – 2018	Leverhulme Trust Research Leadership Award	£960,528
	<i>Man, Mantis and Machine: the computation of 3D vision</i>	
2011	BSkyB	
	<i>The immediate and medium-term effects of stereo 3D TV on visuomotor function</i>	
2011 – 2012	NHS Flexibility and Sustainability Award,	£35,157
	<i>Avoiding Double Vision Despite Binocular Misalignment.</i>	
2010 – 2011	NHS Flexibility and Sustainability Award,	£18,586
	<i>Psychophysical measures of inhibitory mechanisms.</i>	
2010	NHS Flexibility and Sustainability Award,	£8,000
	<i>Suppression in intermittent exotropia.</i>	
2008 – 2011	Medical Research Council New Investigator Award,	£301,264
	<i>Incorporating vertical disparity into computational models of depth perception.</i>	
2005 – 2013	Royal Society University Research Fellowship	£659,671
	<i>A quantitative account of neuronal mechanisms supporting stereo depth.</i>	

Peer-reviewed scientific publications, reverse date order

73. Hands P, **Read JCA** (2017). True stereoscopic 3D cannot be simulated by shifting 2D content off the screen plane. *Displays* 48: 35-40.
72. Vancleef, **Read JCA**, Herbert W, Goodship N, Woodhouse M, Serrano-Pedraza I (2017). Overestimation of stereo thresholds by the TNO stereotest is not due to global stereopsis. *Ophthalmic and Physiological Optics*, 10.1111/opo.12371 .
71. Umeton D, **Read JCA**, Rowe C. Unravelling the illusion of flicker fusion effect (2017). *Biology Letters* 13:13 20160831.
70. Nityananda V, Tarawneh G, Errington S, Serrano-Pedraza I, **Read JCA** (2017). The optomotor response of the praying mantis is driven predominantly by the central visual field. *Journal of Comparative Physiology A*, 203: 77-87.
69. Yazdani P, **Read JCA**, Whittaker RG, Trevelyan AJ (2017). Assessment of epilepsy using non-invasive visual psychophysics tests of surround suppression. *Physiological Reports*, 5(5) pii: e13079.
68. Serrano-Pedraza I, Vancleef K, **Read JCA** (2016). Avoiding monocular artefacts in clinical stereotests presented on column-interleaved digital stereoscopic displays. *Journal of Vision*, 16(14):13, 1–14.
67. O'Hanlon CA, **Read JCA** (2016). Blindness to background: An inbuilt bias for visual objects. *Developmental Science*, doi:10.1111/desc.12478
66. Henriksen S, **Read JCA**, Cumming BG (2016). Neurons in striate cortex signal disparity in half-matched random dot stereograms. *Journal of Neuroscience*, 36(34): 8967– 8976.
65. Henriksen S, Cumming BG, **Read JCA** (2016). A single mechanism can account for human perception of depth in mixed correlation random dot stereograms. *PLOS Computational Biology*, 12(5):e1004906.
64. Nityananda V, Bissianna G, Tarawneh G, **Read JCA** (2016). Small or far away? Size and distance perception in the praying mantis. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371(1697) pii: 20150262
63. Serrano-Pedraza I, Herbert W, Villa-Laso L, Widdall M, Vancleef K, **Read JCA** (2016). The stereoscopic anisotropy develops during childhood. *Investigative Ophthalmology and Visual Science*, 57(3): 960-70.
62. Nityananda V, Tarawneh G, Rosner R, Nicolas J, Crichton S, **Read JCA** (2016). Insect stereopsis demonstrated using a 3D insect cinema *Scientific Reports*, 6: 18718.
61. **Read JCA**, Godfrey A, Bohr I, Simonotto J, Galna B, Smulders TV (2015). Viewing 3D TV over two months produces no discernible effects on balance, coordination or eyesight. *Ergonomics*, Jan 13: 1-16.
60. Yazdani P, Serrano-Pedraza I, Whittaker RG, Trevelyan A, **Read JCA** (2015). Two common psychophysical measures of surround suppression reflect independent neuronal mechanisms. *Journal of Vision*, 15 (21): 1-14.
59. **Read JCA**, Georgiou R, Brash C, Yazdani P, Whittaker R, Trevelyan A, Serrano-Pedraza I (2015). Moderate acute alcohol intoxication has minimal effect on surround suppression measured with a motion direction discrimination task. *Journal of Vision* 15(1):5 doi: 10.1167/15.5.6
58. **Read JCA**, Simonotto J, Bohr I, Godfrey A, Galna B, Rochester L, Smulders TV (2015). Balance and coordination after viewing stereoscopic 3D television. *Royal Society Open Science*, 2:140522.
57. **Read JCA** (2015). What is stereoscopic vision good for? *Proc. SPIE* 9391, Stereoscopic Displays and Applications XXVI, 93910N; doi:10.1117/12.2184988
56. Nityananda V, Tarawneh G, Jones L, Busby N, Herbert W, Davies R, **Read JCA** (2015). The contrast sensitivity function of the praying mantis *Sphodromantis lineola*. *Journal of Comparative Physiology A*, 201(8): 741-750.
55. Mazurek A, Bhoopathy R, **Read JCA**, Gallagher P, Smulders TV (2015) What-Where-When memory, unlike other cognitive abilities, is unimpaired in healthy people over 70. *Frontiers in Aging Neuroscience*, doi:10.3389/fnagi.2015.00074.

54. Hands P, Smulders TV, **Read JCA** (2015). Stereoscopic 3D content appears relatively veridical when viewed from an oblique angle. *Journal of Vision* 15(5): 6. doi:10.1167/15.5.6.
53. Hands P, Khushu A, **Read JCA** (2014). Interaction between size and disparity cues in distance judgements. *Proceedings of International Conference on 3D Imaging*, 1-5.
52. Serrano-Pedraza I, Romero-Ferreiro V, Read JCA, Diéguez-Risco T, Bagney A, Caballero-González M, Rodríguez-Torresano J, Rodríguez-Jimenez J (2014). Reduced visual surround suppression in schizophrenia shown by measuring contrast detection thresholds. *Frontiers in Psychology*, doi: 10.3389/fpsyg.2014.01431.
51. **Read JCA** (2015). Stereo vision and strabismus. *Eye* 29: 214–224
50. Tarawneh G, **Read JCA** (2014). An FPGA-based hardware accelerator for simulating spatiotemporal neurons. 21st IEEE International Conference on Electronics, Circuits and Systems (ICECS), 618-621.
49. **Read JCA** (2014). Viewer experience with stereoscopic 3D television in the home. *Displays* 35(5): 252-260
48. **Read JCA** (2014). Models of Stereo Vision. *Springer Encyclopedia of Computational Neuroscience*.
47. **Read JCA**, Bohr I (2014). User experience while viewing stereoscopic 3D television. *Ergonomics* 57(8): 1140-1153
46. **Read JCA** (2014). The place of human psychophysics in modern neuroscience. *Neuroscience* 296(18): 116-129
44. Hands P, **Read JCA** (2013) Perceptual compensation mechanisms when viewing stereoscopic 3D from an oblique angle. *Proceedings of International Conference on 3D Imaging (IC3D)*.
43. Bohr I, **Read JCA** (2013). Stereoacuity with Frisby and Revised FD2 Stereo Tests. *PLOS ONE* 8(12): e82999.
42. Serrano-Pedraza I, Brash C, **Read JCA** (2013). Testing the horizontal-vertical stereo anisotropy with the critical-band masking paradigm. *Journal of Vision*, 13(11):15.
41. **Read JCA** & Allenmark PF (2013). Visual Perception: One World from Two Eyes. Dispatch in *Current Biology*, 23(11): R483-R486.
40. **Read JCA**, Begum SF, McDonald A, Trowbridge J (2013). The binocular advantage in visuomotor tasks involving tools. *i-Perception*, 4: 101–110
39. **Read JCA**, Robson JH, Smith CL, Lucas A (2012). The scintillating grid illusion is enhanced by binocular viewing. *i-Perception*, 3: 820-830.
38. Allenmark PF, **Read JCA** (2012). Conjunctions between motion and disparity are encoded with the same spatial resolution as disparity alone. *Journal of Neuroscience*, 32(41): 14331–14343
37. Banks MS, **Read JCA**, Allison RS, Watt SJ (2012). Stereoscopia and the Human Visual System. *Motion Imaging*, 121(4): 24-43.
- [Awarded Journal Certificate of Merit by Society of Motion Picture and Television Engineers]
36. Serrano-Pedraza I, Grady J, **Read JCA** (2012) Spatial frequency bandwidth of surround suppression tuning curves. *Journal of Vision*, 12(6): 24, 1-11.
35. Vuong QC, Friedman A, **Read JCA** (2012) The relative weight of shape and non-rigid motion cues in object perception : A model of the parameters underlying dynamic object discrimination. *Journal of Vision*, 12(3): 16, 1-20.
34. **Read JCA** (2012). Understanding visual cues to depth. Dispatch in *Current Biology*, 22(5) R163-165
33. Brilot BO, Bateson M, Nettle N, Whittingham MJ, **Read JCA** (2012). When is general wariness favored in avoiding multiple predator types? *American Naturalist*, 179(6): E180-E195.
32. **Read JCA**, Vaz X, Serrano-Pedraza I (2011). Independent mechanisms for bright and dark image features in a stereo correspondence task. *Journal of Vision*, 11(12):4, 1-14
31. Allenmark PF, **Read JCA** (2011). Spatial stereoresolution for depth corrugations may be set in primary visual cortex. *PLoS Computational Biology*, 7(8): e1002142.

30. Serrano-Pedraza I, Hogg EL, **Read JCA** (2011). Spatial non-homogeneity of the antagonistic surround in motion perception. *Journal of Vision*, 11(2):3 1-9.
29. Serrano-Pedraza I, Manjunath V, Osunkunle O, Clarke MP, **Read JCA** (2011) . Visual suppression in intermittent exotropia during binocular alignment. *Investigative Ophthalmology and Vision Science*, 52(5): 2352-2364
28. Serrano-Pedraza I, Clarke MP, **Read JCA** (2011). Single vision during ocular deviation in intermittent exotropia. *Ophthalmic and Physiological Optics*, 31:45-55.
27. Serrano-Pedraza I, **Read JCA** (2010). Multiple channels for horizontal, but only one for vertical corrugations? A new look at the stereo anisotropy. *Journal of Vision*, 10(12):10, 1–11.
26. Phillipson GP, **Read JCA** (2010). Stereo correspondence is optimized for large viewing distances. *European Journal of Neuroscience*, 32(11): 1959-69
25. **Read JCA**, Phillipson GP, Serrano-Pedraza I, Milner AD, Parker AJ (2010). Stereoscopic vision in the absence of the lateral occipital cortex. *PLOS ONE* 5(9): e12608
24. Allenmark PF, **Read JCA** (2010). Detectability of sine- versus square-wave disparity gratings: a challenge for current models of depth perception. *Journal of Vision*, 10(8):17, 1-16.
23. **Read JCA** (2010). Vertical binocular disparity is encoded implicitly within a model neuronal population tuned to horizontal disparity and orientation. *PLoS Computational Biology*, 6(4): e1000754
22. Serrano-Pedraza I, Phillipson GP, **Read JCA** (2010). A specialization for relative vertical disparity detection. *Journal of Vision*, 10(3):2, 1-25
21. Hardingham NR, **Read JCA**, Trevelyan AJ, Nelson JC, Jack JJB & Bannister NJ (2010). Quantal analysis reveals a functional correlation between pre- and postsynaptic efficacy in excitatory connections from rat neocortex. *Journal of Neuroscience*, 30(4): 1441-51
20. **Read JCA**, Phillipson GP, Glennerster A (2009) Latitude and longitude vertical disparities. *Journal of Vision*, 9(13):11, 1-37.
19. Bredfeldt C, **Read JCA**, Cumming BG. (2009). A quantitative explanation of responses to disparity defined edges in macaque V2. *Journal of Neurophysiology*, 101: 701-713
18. Serrano-Pedraza I, **Read JCA** (2009). Stereo vision requires an explicit encoding of vertical disparity. *Journal of Vision*, 9(4):3, 1-13
17. **Read JCA** , Cumming BG (2007) Sensors for impossible stimuli may solve the stereo correspondence problem. *Nature Neuroscience*, 10: 1322-1328
16. **Read JCA**, Cumming BG (2006) Does visual perception require vertical disparity detectors? *Journal of Vision*, 6(12): 1323-1355
15. Hardingham NR, Bannister NJ, **Read JCA**, Fox KD, Hardingham GE, Jack JJB (2006) Extracellular calcium regulates postsynaptic efficacy through group 1 metabotropic glutamate receptors. *Journal of Neuroscience* 26(23): 6337-45
14. **Read JCA**, Cumming BG (2005) All Pulfrich-like illusions can be explained without joint encoding of motion and disparity. *Journal of Vision*, 5(11): 901-927
13. **Read JCA**, Cumming BG (2005) The stroboscopic Pulfrich effect is not evidence for the joint encoding of motion and depth. *Journal of Vision*, 5(5): 417-434
12. **Read JCA**, Cumming BG (2005) The effect of interocular delay on disparity-selective V1 neurons: relationship to stereoacuity and the Pulfrich effect. *Journal of Neurophysiology*, 94: 1541-1553
11. **Read JCA** (2005) Early computational processing in binocular vision and depth perception. *Progress in Biophysics and Molecular Biology*, 87: 77-108.
10. **Read JCA**, Cumming BG (2004) Understanding the cortical specialization for horizontal disparity. *Neural Computation*, 16(10):1983-2020.
9. **Read JCA**, Cumming BG (2004) Ocular dominance predicts neither strength nor class of disparity selectivity with random-dot stimuli in primate V1. *Journal of Neurophysiology* 91: 1271-1281

8. **Read JCA**, Cumming BG (2003) Testing quantitative models of binocular disparity selectivity in primary visual cortex. *Journal of Neurophysiology* 90: 2795-2817
7. **Read JCA**, Cumming BG (2003) Measuring V1 receptive fields despite eye movements in awake monkeys. *Journal of Neurophysiology* 90: 946-960
6. **Read JCA**, Parker AJ, Cumming BG (2002) A simple model accounts for the response of disparity-tuned V1 neurons to anti-correlated images. *Visual Neuroscience* 19: 735-753
5. **Read JCA** (2002) A Bayesian approach to the stereo correspondence problem. *Neural Computation* 14:1371-1392
4. **Read JCA** (2002) A Bayesian model of stereo depth / motion direction discrimination. *Biological Cybernetics* 82: 117-136
3. **Read JCA** & Eagle RA (2000) Reversed stereo depth and motion direction with anti-correlated stimuli. *Vision Research* 40: 3345-3358
2. Evans NW & **Read JCA** (1998) Stability of power-law discs I: The Fredholm integral equation. *Monthly Notices of the Royal Astronomical Society*, 300: 106-130
1. Evans NW & **Read JCA** (1998) Stability of power-law discs II: The global spiral modes. *Monthly Notices of Royal Astronomical Society*, 300: 83-105