JOHN GREENWOOD
Curriculum Vitae

PERSONAL DETAILS

Full Name:	John Andrew Greenwood
D.O.B.:	17 April 1981
Nationality:	Australian
Address:	Experimental Psychology University College London 26 Bedford Way London, WC1H 0AP, UK.
Telephone:	Office: +44 (0) 20 7679 1020 Mobile: +44 (0) 7739 563 632
Email:	john.greenwood@ucl.ac.uk
Website:	http://eccentricvision.com

DEGREES

2004–2008	Doctor of Philosophy
Location:	*School of Psychology, The Australian National University*
Thesis:	'The representation of multiple directions of motion within the human visual system' (supervised by Dr. Mark Edwards)
Awarded:	30 June 2008
1999–2003	Bachelor of Psychology (Honours 1st Class)
Location:	*School of Psychology, The Australian National University*
Thesis:	'A perceptual limit for transparent-motion detection based on global signal-to-noise processes' (supervised by Dr. Mark Edwards)
Awarded:	7 December 2003

ACADEMIC POSITIONS

2017-present	Senior Lecturer / Medical Research Council Career Development Fellow
Location:	*Department of Experimental Psychology, University College London* (London, UK)
2013-2017	Medical Research Council Career Development Fellow
Location:	*Department of Experimental Psychology, University College London* (London, UK)
2011-2013	Postdoctoral Research Associate
Location:	*Laboratoire Psychologie de la Perception, Université Paris Descartes* (Paris, France)
Supervisor:	Prof. Patrick Cavanagh.
2008–2010	Postdoctoral Research Associate
Location:	*Institute of Ophthalmology, University College London* (London, UK)
Supervisors:	Prof. Steven Dakin and Dr. Peter Bex.

2009-2010	Teaching Assistant
Location:	*Institute of Ophthalmology, University College London* (London, UK)
2003–2007	Teaching Assistant
Location:	*School of Psychology, The Australian National University* (Canberra, Australia)
2003	Research Assistant
Location:	*Gambling Research Centre, The Australian National University* (Canberra, Australia)
2002–2003	Summer Research Scholar
Location:	*Research School of Biological Sciences, The Australian National University* (Canberra, Australia)
Supervisors:	Prof. Michael Ibbotson and Dr. Nicholas Price.

PEER-REVIEWED PUBLICATIONS

25. Kalpadakis-Smith, AV, Goffaux, V & **Greenwood, JA** (2018). Crowding for faces is determined by visual (not holistic) similarity: Evidence from judgements of eye position. *PsyArXiv*, osf.io/preprints/psyarxiv/2z8un (*under revision at Scientific Reports*)

24. Bossi, M, Tailor, VK, Anderson, EJ, Bex, PJ, **Greenwood, JA,** Dahlmann-Noor, A, & Dakin, SC (2017). Binocular therapy for childhood amblyopia improves vision without breaking interocular suppression. *Investigative Ophthalmology & Visual Science*, *58*(7), 3031-3043.

23. **Greenwood, JA,** Sayim, B, Szinte, M, & Cavanagh, P (2017). Variations in crowding, saccadic precision, and spatial localization reveal the shared topology of spatial vision. *Proceedings of the National Academy of Sciences of the United States of America,* 114(17), E3573-E3582.

22. Goffaux, V & **Greenwood, JA** (2016). The orientation selectivity of face identification. *Scientific Reports,* 6, 34204.

21. Tailor, V, Bossi, M, **Greenwood, JA** & Dahlmann-Noor, A (2016). Childhood amblyopia: Current management and new trends. *British Medical Bulletin*, 119(1), 75-86.

20. Moutsiana, C, de Haas, B, Papageorgiou, A, van Dijk, JA, Balraj, A, **Greenwood, JA,** & Schwarzkopf, DS (2016). Cortical idiosyncrasies predict the perception of object size. *Nature Communications*, 7, 12110.

19. Goodhew, SC, **Greenwood, JA,** & Edwards, M (2016). Categorical information influences conscious perception: An interaction between object-substitution masking and repetition blindness. *Attention, Perception & Psychophysics*, 78(4), 1186-1202.

18. Tailor, V, Bossi, M, Bunce, C, **Greenwood, JA**, & Dahlmann-Noor, A. (2015). Binocular versus standard occlusion or blurring treatment for unilateral amblyopia in children aged three to eight years. *Cochrane Database of Systematic Reviews,* 8, CD011347.

17. Sayim, B, **Greenwood, JA,** & Cavanagh, P (2014). Foveal target repetitions reduce crowding. *Journal of Vision*, 14(6):4, 1-12.

16. **Greenwood, JA,** Sayim, B, & Cavanagh, P (2014). Crowding is reduced by onset transients in the target object (but not in the flankers). *Journal of Vision*, 14(6):2, 1-21.

15. **Greenwood, JA,** Tailor, VK, Simmers, AJ, Sloper, JJ, Bex, PJ, & Dakin, SC (2012). Visual acuity, crowding and stereo-vision are linked in children with and without amblyopia. *Investigative Ophthalmology & Visual Science*, 53(12), 7655-7665.

14. Anderson, EJ, Dakin, SC, Schwarzkopf, DS, Rees, G, & **Greenwood, JA** (2012). The neural correlates of crowding-induced changes in appearance. *Current Biology*, 22(13), 1199-1206.

13. Tibber, MS, **Greenwood, JA,** & Dakin, SC (2012). Number and density discrimination rely on a common metric: Similar psychophysical effects of size, contrast and divided attention. *Journal of Vision,* 12(6):8, 1-19.

12. **Greenwood, JA,** Bex, PJ, & Dakin, SC (2012). Crowding follows the binding of relative position and orientation. *Journal of Vision*, 12(3):18, 1-20.

11. Dakin, SC, Tibber, MS, **Greenwood, JA,** Kingdom, FAA, & Morgan, MJ (2011). A common visual metric for approximate number and density. *Proceedings of the National Academy of Sciences of the United States of America,* 108(49), 19552-19557.

10. Dakin, SC, **Greenwood, JA,** Carlson, TA & Bex, PJ (2011). Crowding is tuned for perceived (not physical) location. *Journal of Vision*, 11(9):2, 1-13.

9. Dakin, SC, Cass, J, **Greenwood, JA,** & Bex, PJ (2010). Probabilistic, positional averaging predicts object-level crowding effects with letter-like stimuli, *Journal of Vision,* 10(10), 1-16.

8. **Greenwood, JA,** Bex, PJ, & Dakin, SC (2010). Crowding changes appearance. *Current Biology*, 20(6), 496-501.

7. **Greenwood, JA,** Bex, PJ, & Dakin, SC (2009). Positional averaging explains crowding with letter-like stimuli. *Proceedings of the National Academy of Sciences of the United States of America*, 106(31), 13130-13135.

6. **Greenwood, JA** & Edwards, M (2009). The detection of multiple global directions: Capacity limits with spatially segregated and transparent-motion signals. *Journal of Vision,* 9(1), 1-15.

5. **Greenwood, JA** & Edwards, M (2007). An oblique effect for transparent-motion detection caused by variation in global-motion direction-tuning bandwidths. *Vision Research*, 47(11), 1411-1423.

4. **Greenwood, JA** & Edwards, M (2006). Pushing the limits of transparent-motion detection with binocular disparity. *Vision Research,* 46(16), 2615-2624.

3. **Greenwood, JA** & Edwards, M (2006). An extension of the transparent-motion detection limit using the global-motion speed-tuned systems. *Vision Research*, 46(8-9), 1440-1449.

2. Edwards, M & **Greenwood, JA** (2005). The perception of motion transparency: A signal-to-noise limit. *Vision Research,* 45(14), 1877-1884.

1. Price, NSC, **Greenwood, JA,** & Ibbotson, MR (2004). Tuning properties of radial phantom motion aftereffects. *Vision Research*, 44(17), 1971-1979.

PUBLISHED CONFERENCE ABSTRACTS

35. **Greenwood, JA,** Danter, J, & Finnie, R (2017). Cortical distance determines the perceptual outcomes of crowding. *Journal of Vision, 17*(10), 398. (Talk).

34. Kalpadakis-Smith, AV, Tailor, VK, Dahlmann-Noor, A, & **Greenwood, JA** (2017). The perceptual effects of visual crowding in amblyopic, developing, and peripheral vision. *Perception*, 46(10), 1228-1229. (Poster)

33. **Greenwood, JA** & Parsons, MJ (2016). Dissociable effects of crowding for judgements of colour and motion. *Journal of Vision, 16*(12), 234. (Poster).

32. Kalpadakis-Smith, AV, Tailor, V, Dahlmann-Noor, A, & **Greenwood, JA** (2016). The perceptual effects of crowding in amblyopic and peripheral vision. *Journal of Vision, 16*(12), 237. (Poster)

31. Dekker, T, Schwarzkopf, DS, McLean, A, Manning, C, **Greenwood, JA,** Nardini, M, & Sereno, MI (2016). The development of population receptive field size in visual cortex during childhood. *Journal of Vision, 16*(12), 206. (Talk).

30. Greenwood, JA, Lee, XK, Liu, Y, & Solomon, SG (2015). Task-specific population coding determines the perception of position. *Perception,* 44(Suppl), 183-184. (Talk).

29. Kalpadakis-Smith, AV, Goffaux, V, & **Greenwood, JA**. (2015). Crowding Is Not Holistic for Faces: Low-Level Similarity Matters. *Journal of Vision, 15*(12), 551. (Talk).

28. **Greenwood, JA**, Solomon, SG, & Dakin, SC. (2015). Interocular differences in crowding and their variation across the visual field. *Journal of Vision, 15*(12), 108. (Poster).

27. Kalpadakis-Smith, AV, Goffaux, V, & **Greenwood, JA**. (2014). Are faces lost in the crowd holistically? *Perception,* 43(Suppl), 15. (Poster).

26. Bossi, M, Anderson, EJ, Tailor, V, Bex, PJ, **Greenwood, JA**, Dahlmann-Noor, A, & Dakin, SC. (2014). An exploratory study of a novel home-based binocular therapy for childhood amblyopia. *Investigative Ophthalmolmology & Visual Science, 55*(5), 5981. (Poster).

25. **Greenwood, JA** & Cavanagh, P. (2013). A release from crowding using task-irrelevant object parts. *Journal of Vision,* 13(9), 622. (Talk).

24. Edwards, M, **Greenwood, JA,** Morse, A, & Cassanello, CR. (2013). Perception of bidirectional transparent-motion requires a bimodal population response. *Journal of Vision,* 13(9), 973. (Poster).

23. Sayim, B, **Greenwood, JA**, & Cavanagh, P. (2012). Temporal dynamics of the remote facilitation effect in crowding. *Perception,* 41(Suppl), 32. (Talk).

22. **Greenwood, JA,** Szinte, M, Sayim, B, & Cavanagh, P. (2012). Shared spatial uncertainty for crowding and saccades. *Journal of Vision,* 12(9), 599. (Talk).

21. Sayim, B, **Greenwood, JA**, & Cavanagh, P (2012). A remote target repetition reduces crowding. *Journal of Vision,* 12(9), 596. (Talk).

20. **Greenwood, JA** & Cavanagh, P (2011). Transient target signals reduce crowding; transient flanker signals do not. *Perception,* 40(Suppl), 34. (Talk).

19. **Greenwood, JA,** Tailor, VK, Simmers, AJ, Sloper, JJ, Rubin, GS, Bex, PJ, & Dakin, SC (2011). Links between acuity, crowding and binocularity in children with and without amblyopia. *Journal of Vision,* 11(11), 405. (Poster).

18. Anderson, EJ, Dakin, SC, Schwarzkopf, DS, Rees, G, & **Greenwood, JA** (2011). The neural correlates of crowding-induced changes in appearance. *Journal of Vision,* 11, 1152. (Poster).

17. Dakin, SC, Tibber, MS, **Greenwood, JA,** Kingdom, FAA, & Morgan, MJ (2011). The common perceptual metric for human discrimination of number and density. *Journal of Vision,* 11(11), 1203. (Talk).

16. Tibber, M, **Greenwood, JA,** & Dakin, SC (2011). Psychophysical evidence for a common metric underlying number & density discrimination. *Journal of Vision,* 11(11), 1205. (Poster).

15. **Greenwood, JA,** Bex, PJ & Dakin, SC (2010). Position and orientation are bound in crowding. *Journal of Vision,* 10(7), 1344. (Poster).

14. Dakin, SC, **Greenwood, JA,** & Bex, PJ (2010). Noise reveals what gets averaged in "size averaging". *Journal of Vision,* 10(7), 1357. (Poster).

13. Dakin, SC, Bex, PJ, & **Greenwood, JA** (2010). Modelling visual crowding of complex stimuli. *Frontiers in Neuroscience Conference Abstract: Computational and Systems Neuroscience 2010*, doi: 10.3389/conf.fnins.2010.3303.00297. (Poster).

12. **Greenwood, JA,** Bex, PJ, & Dakin, SC (2009). Crowding-induced changes in appearance: Bringing signal to the noise. *Journal of Vision,* 9(8), 985. (Talk).

11. Dakin, SC, **Greenwood, JA,** Bex, PJ, & Cass, J (2009). Positional averaging within and without contours explains crowding between letter-like stimuli. *Journal of Vision,* 9(8), 994. (Poster).

10. **Greenwood, JA,** Bex, PJ, & Dakin, SC (2008). Low-level interference in positional encoding: Crowding falls into line. *Perception,* 37(Suppl), 164. (Poster).

9. Dakin, SC, **Greenwood, JA,** Bex, PJ, & Carlson, TA (2008). Crowding depends on perceived (not physical) position. *Perception,* 37(Suppl), 81. (Talk).

8. **Greenwood, JA** & Edwards, M (2008) Seeing multiple global directions: A maximum capacity limit of three. *Journal of Vision,* 8(6): 1027, 1027a. (Poster).

7. **Greenwood, JA** & Edwards, M (2007). The twin peaks of transparent-motion detection. *Australian Journal of Psychology,* 59(Suppl), 33-34. (Talk).

6. **Greenwood, JA** & Edwards, M (2007). Transparent-motion detection requires bimodal population activity. *Journal of Vision*, 7, 37a. (Poster).

5. **Greenwood, JA** & Edwards, M (2006). An oblique effect for transparent-motion detection and its relation to neural models. *Australian Journal of Psychology,* 58(Suppl), 76. (Talk).

4. **Greenwood, JA** & Edwards, M. (2006). An oblique effect for transparent-motion detection: Implications for population encoding. *Journal of Vision,* 6, 1045a. (Poster).

3. **Greenwood, JA** & Edwards, M (2005). Speed differences extend the motion transparency detection limit. *Australian Journal of Psychology,* 57(Suppl), 54. (Talk).

2. **Greenwood, JA** & Edwards, M (2005). Speed differences increase the number of transparent-motion signals that can be detected simultaneously. *Journal of Vision*, 5, 143a. (Poster).

1. **Greenwood, JA** & Edwards, M (2004). A limit to the perception of transparent motion based on signal-to-noise processes. *Australian Journal of Psychology*, 56(Suppl), 116. (Talk).

GRANTS HELD

2018-2020 *Crowding in glaucoma: a likely barrier to self-referral?* (co-investigator with Tony Redmond and Jennifer Acton, Cardiff University)

Source: The College of Optometrists (UK)

Value: £57,744

2018-2019 *Clinical visual neuroimaging at high field* (co-investigator with Tessa Dekker and Fred Dick)

Source: Moorfields Eye Charity (UK)

Value: £125,501

2017-2019 *Phase 2a randomised controlled trial to determine safety of and adherence with a new 'Binocularly Balanced Viewing' treatment for amblyopia compared with standard treatment* (co-investigator with Annegret Dahlmann-Noor, Andi Skilton, Ana Quartilho, and Steven Dakin)

Source: Action Medical Research (UK)

Value: £181,752

2016-2021 *Visual crowding in congenital nystagmus: A shared basis with amblyopia and unaffected vision?* (primary investigator, with Maria Theodorou, Annegret Dahlmann-Noor & Sam Schwarzkopf)

Source: Moorfields Eye Charity (UK)

Value: £162,349

2015-2018 *An understanding of amblyopic crowding from the unaffected visual system* (primary investigator, with Alan Johnston, Steven Dakin & Annegret Dahlmann-Noor)

Source: Special Trustees of Moorfields Eye Hospital and UCL Impact Award (UK)

Value: £83,551

2013-2018 *A common framework for amblyopic, developmental, and adult forms of visual crowding* (primary applicant)

Source: Medical Research Council Career Development Award (UK)

Value: £587,365

2012-2015 *An exploratory comparison study of binocular therapies for anisometropic amblyopia* (co-applicant, with Peter Bex and Steven Dakin)

Source: Special Trustees of Moorfields Eye Hospital and UCL Impact Award (UK)

Value: £96,000

2011-2013 *Visual crowding: The paradox of position* (primary applicant, with Patrick Cavanagh)

Source: Marie Curie Intra-European Fellowship, Seventh Framework Programme of the European Union

Value: €185,248

2010 *Binocularity and crowding: A new test of visual function in young children* (co-applicant, with Gary Rubin, John Sloper, Peter Bex, and Steven Dakin)

Source: Special Trustees of Moorfields Eye Hospital (UK)

Value: £54,864

TEACHING AND SUPERVISION

- Lectures in second-year, third-year, and graduate-level UCL courses including PSYC2212 *Perception*, NEUR3045 *Visual Neuroscience,* NEUR3001 *Advanced Visual Neuroscience*, and ANATG010 *Sensory Systems: From Sensation to Perception.*
- Seminar classes in the Department of Experimental Psychology, UCL
- Laboratory classes in the Department of Psychology, ANU
- Supervision of UCL research students for third-year undergraduate projects and masters projects via the MSc/MRes Cognitive Neuroscience program

- Supervision of PhD research projects (Alexandra Kalpadakis-Smith and Vijay Tailor) in Experimental Psychology, UCL

INVITED TALKS

- *Pôle Système et Cognition Symposium* (Keynote talk), Université Catholique de Louvain, Louvain-la-Neuve, Belgium.
- *Kenneth Craik Club*, Department of Psychology, University of Cambridge.
- *Controversy symposium: How does crowding limit object recognition?* Held at the 40th European Conference on Visual Perception in Berlin, Germany (symposium co-organiser).
- *Berchtesgaden Workshop on Vision Science*, Berchtesgaden, Germany.
- *Symposium on Vision Science*, Department of Psychology, University of Cambridge.
- *Crowding and Object Recognition* workshop, Jongny, Switzerland.
- School of Psychology, University of Aberdeen, Aberdeen, UK.
- Department of Psychology, Justus Liebig University of Giessen, Giessen, Germany.
- Department of Experimental Psychology, Catholic University of Leuven, Leuven, Belgium.
- School of Cognitive Science, University of Tübingen, Tübingen, Germany.
- CNR Institute of Neuroscience, Pisa, Italy.
- Laboratoire Psychologie de la Perception, Université Paris Descartes, Paris, France.
- Department of Cognitive, Perceptual & Brain Sciences, University College London, London, UK.
- *Vision@UCL*, University College London, London, UK.
- Institute of Ophthalmology, University College London, London, UK.
- School of Psychology, Cardiff University, Cardiff, UK.
- Department of Psychology, Royal Holloway, Surrey, UK.
- Experimental Psychology Department, University of Bristol, Bristol, UK.
- Department of Experimental Psychology, Oxford University, Oxford, UK.
- Schepens Eye Research Institute, Harvard Medical School, Boston, USA.
- School of Psychology, The Australian National University, Canberra, Australia.

ENABLING ACTIVITY

- Second-Year Tutor for undergraduate psychology in the department of Experimental Psychology, University College London.
- Ad-hoc reviewer for journals including *Current Biology, Journal of Vision, Vision Research, Perception, Frontiers in Perception Science, PLoS One*, the *Quarterly Journal of Experimental Psychology*, *Experimental Brain Research, Cognitive Processing,* and *Attention, Perception & Psychophysics* and for conference submissions to the *European Conference on Visual Perception* and the *Applied Vision Association* annual meeting.
- Ad-hoc reviewer for grants submitted to the UK *Biotechnology and Biological Sciences Research Council (BBSRC)*, *Economic & Social Research Council (ESRC)*, and the *Macular Society* charity.

AWARDS

2009 • UCL Research Images as Art Award (Runner-up)

2006 • ANU School of Psychology International Travel Award
• Best Postgraduate Presentation at the Australian Experimental Psychology Conference

2004 • Australian Postgraduate Award (Ph.D. Scholarship)
• ANU Vice-Chancellor's Supplementary Ph.D. Scholarship
• Australasian Experimental Psychology Conference Travel Award

2003 • ANU University Medal

- ANU Honours Scholarship
- Australian Psychological Society Prize for Honours Theses

2002
- ANU Distinguished Scholar Program (Supervisor: Dr. Mark Edwards)
- Summer Research Scholarship (Supervisor: Dr. Michael Ibbotson)

2000
- Lindsay Pryor Prize for First Year Biology

SOCIETY MEMBERSHIP

- British Psychological Society (Chartered Member)
- Applied Vision Association
- Vision Sciences Society
- Association for Research in Vision and Ophthalmology

PRESS COVERAGE

- Daily Mail Online (https://goo.gl/rZQiEE)
- UCL News (http://goo.gl/CQ2M1)
- Wellcome Trust News (http://goo.gl/XEJB0)
- Science Daily (http://goo.gl/4UIdW)
- ANU News (http://goo.gl/C54JZ)
- The RiotACT (http://goo.gl/A9E2m)