

RAMAKRISHNA CHAKRAVARTHI



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education and employment

2023-present	Senior Lecturer, School of Psychology, University of Aberdeen, Scotland, UK
2012-23	Lecturer, School of Psychology, University of Aberdeen, Scotland, UK
2009-12	Post-Doctoral Fellow; Advisor: Prof Rufin VanRullen Centre de Recherche Cerveau et Cognition, CNRS, Toulouse, France
2007-09	Post-Doctoral Fellow; Psychology and Neural Science; Advisor: Prof Denis Pelli New York University, New York NY
2002-07	PhD in Cognition, Brain and Behaviour; Advisor: Prof Patrick Cavanagh Harvard University, Cambridge MA
1999-2001	M.S. in Consciousness Studies; First class with Distinction Birla Institute of Technology and Science, Pilani, India
1993-99	M.B., B.S. (Bachelor of Medicine, Bachelor of Surgery); First class with Distinction. Manipal Academy of Higher Education, Manipal, India

grants and funding

2021-22	Visual processing in humans and machines, Internal Funding to Pump-Prime Interdisciplinary Research and Impact Activities awarded to me (PI), Murilo Batista and Alasdair Clarke, £6,040
2019-20	Experiencing myself through you: Self-agency in social interactions, Carnegie Research Incentive Grant awarded to Bert Timmermans (PI) and me (Co-I), £9,914
2019-21	Investigating the microstructure of human visual fields and generating low-vision applications, BBSRC International Partnering award granted to Dr Jasna Martinovic (PI), Dr Daniel Coates (Houston, external partner), Dr Josephine Reuther (post-doc) and me (Co-I), £10,000
2018-21	Neural mechanisms of long-range spatial vision: an investigation of perceptive, integrative and association fields across the lifespan, BBSRC grant awarded to Dr Jasna Martinovic (PI) and me (Co-I), £344,000 (@80% fEC).
2006-07	Graduate Society Dissertation Completion Fellowship, Harvard University, \$ 18,000
2007	Stimson Travel Grant for presenting at VSS conference 2007, \$ 500
2006	McMasters Travel Grant for presenting at VSS conference 2006, \$ 500

2005	Graduate Society Fellowship Summer Award, Harvard University, \$ 3,000
2004	Mind, Brain and Behavior Graduate Student Award, Harvard University, \$ 5,000
2003-04	Harvard University Graduate Summer Awards, \$ 3,000/yr
2002-07	Harvard University GSAS Merit Fellowship, \$ 70,000
2000-01	Sir Ratan Tata Trust Scholarship for the M.S. Program, INR 15,000

funding for supervised students

2023	Neural correlates of processing wallpaper symmetries. Annual internship awarded to Ms Felicia Ilaladewa, £1600
2023	When and why do we ignore learnt probabilities? Discovering research summer internship awarded to Ms Veronika Wendler, £1850
2022-26	Beauty in the brain: The neural organisation of Aesthetics, BBSRC EASTBIO Doctoral Training Programme studentship awarded to Mx. Andy Nordqvist, ~£100,000
2022	How does attention keep up with moving stimuli? An EEG study, Developing Scientists Summer Placement awarded to Ms. Feride Akalan £1,000
2021-24	Individual differences in decision-making, Anderson Postgraduate (PhD) Scholarship awarded to Mr. Justin Claydon, ~£65,000
2021	How rational is the eye of the beholder? Carnegie Trust Undergraduate Vacation Scholarship to Ms. Amanda Nordqvist, £3,750
2020	The effect of the organisation of the Infero-Temporal cortex on perception: An EEG study, Carnegie Trust Undergraduate Vacation Scholarship to Mr. Jirko Rubruck, £3,780
2020	The effect of grouping cues on numerosity estimation, Development Trust Discovering Research Psychology Scholarship to Ms. Amanda Nordqvist £1,000
2019-22	Dealing with irrelevant information: An inter-domain examination of visual perception and cognitive psychology approaches, Carnegie Trust PhD Scholarship awarded to Ms. Danai Papadaki, ~£65,000
2019-23	Mechanisms of social interaction, BBSRC EASTBIO Doctoral Training Programme studentship awarded to Ms. Crystal Silver, ~£92,000
2019	Neural and behavioural oscillations in feature based visual attention, BBSRC/EASTBIO Research Experience Placements awarded to Mr. Justin Claydon, £2,500
2018	Free will and neural activity in consequential action, Wellcome Trust Vacation Scholarship awarded to Mr. Thomas Binns, £2,000
2017-19	Erasmus Research Exchange internships granted to Ms. Paraskevi Batziou and Ms. Chloe Deroux

2016-20	The interplay between enhancement and suppression mechanisms in feature-based attentional selection, SGSSS ESRC Doctoral Studentship awarded to Mr. Plamen Antonov, ~£80,000
2016-19	The oscillatory nature of consciousness explored through perceptual suppression, Anderson Postgraduate (PhD) Scholarship awarded to Ms. Oana Iosif, ~£60,000
2014-18	Exploring the neural basis of visual crowding, Eastbio BBSRC Doctoral Training Programme awarded to Ms. Leili Soo, ~£92,000
2014-15	Neural correlates of Blindsight, Elphinstone Scholarship awarded to Mr. Nicholas Hall, ~£5,000
2014	Developing Scientists Summer Placement awarded to Mr. Robert Ainsley, £1,000
2013-17	Mechanisms of Visual Crowding, Anderson Postgraduate (PhD) Scholarship awarded to Ms. Josephine Reuther, ~£50,000
2012	Developing Scientists Summer Placement awarded to Mr. Sindre Henriksen, £1,000

research supervision

Post-doctoral fellowship Josephine Reuther (2018-2021)

PhD

Primary supervisor

Josephine Reuther (2013-17)
 Oana Iosif (2016-2020)
 Danai Papadaki (2019-2024)
 Alexander Donald (2019-2024)
 Andy Nordqvist (2022-present)
 Matthew Johnson (2023-present)
 Sanni Ahonen (2021-present)

Second supervisor

Leili Soo (2014-18)
 Plamen Antonov (2016-2020)
 Crystal Silver (2019-present)
 Justin Claydon (2021-present)
 Barbora Illithova (2023-present)

Masters (MRes)

Danai Papadaki (2018-19)
 Kyle Ferris (2017-18)
 Nicholas Jeerakun (2017-18)
 Samuel Pitt (2013-14)
 Nicholas Hall (2014-15)

Level 4

Honours (research-based) thesis: 2-6 students per year

Level 3

Small group research projects (5-7 students per semester)

admin responsibilities

Current	Chair of Ethics Committee (2024-) Course developer and Coordinator: Cognitive Neuroscience (2018-) Member of Research Committee (2024-) Perception and Attention group meetings Organiser (2012-) Personal tutor (non-academic mentorship) for 20-25 students/year (2014-)
Past	Undergraduate Exams Officer (2020-2024) Director of Communications Team (2017-2020) Member of Equality and Diversity Team (2017-2020) EEG Labs Coordinator (2020-2023) Member of Education Committee (2020-2024) Year 3 Convenor for Methodology courses (2016-18) Course-coordinator: Year-3 Methodology B (2017-18) Member of Ethics Committee (2014-19); Deputy Chair (2016-17) School of Psychology Seminar Organiser (2015-2018)

professional affiliations

Society for Neuroscience, Vision Sciences Society, European Conference on Visual Perception, Scottish Vision Group, Applied Vision Association

academic service

Editorial Board Member	Journal of Vision (2023 – present)
Reviewer	Attention, Perception and Psychophysics; Cerebral Cortex; Cognition; Cognitive Processing; Consciousness and Cognition; Frontiers in Consciousness Research; Frontiers in Psychology; iScience; Journal of Cognitive Neuroscience; Journal of Experimental Psychology: Human Perception and Performance; Journal of Vision; Neuroimage; Perception; PLoS One; Proceedings of the Royal Society B; Psychological Science; Scientific Reports; Vision Research
Grant reviews	ESRC; MRC; Israel Science Foundation
Panels	BBSRC EASTBIO Doctoral Training Programme Selection panel
PhD examiner	
<i>Internal</i>	Hannah Krueger, Alexander van der Jagt, Lip Jin Tee, Andrei Pintea, Ana Rozman
<i>External</i>	Alexandra Kalpadakis-Smith, Alban Bornet, Miao Li

teaching

Year 1	Introductory Psychology: Evolutionary Psychology module (2012-2021) Introduction to Biological Sciences: Consciousness module (2014-2019)
Year 2	Advanced Psychology A: Methods and Applications: Methods in vision and attention (2012-2018) Advanced Psychology A: Theory and Concepts: Perception (2014-present)
Year 3	Perception or Biological Psychology: Small group tutorials (2012-present)
Years 3 and 4	Sixth Century Course on Consciousness (2014-present) Cognitive Neuroscience (2018-present) Critical review tutorials (2012-2018)
Masters	Professional research skills I: Web design in academia (2012-17) Introduction to Bayesian Statistics (2017-present) Statistics tutorials MSc Psychological studies (2018-2020)
2004-06	Fall: Teaching Fellow, The Evolution of Human Nature. Taught by Professors Richard Wrangham and Marc Hauser, Harvard University Spring: Teaching Fellow, The Human Mind. Taught by Professor Steven Pinker, Harvard University

publications

1. Silver, C.A., Tatler, B.W., **Chakravarthi, R.** and Timmermans, B. (Accepted). The time course of Temporal Binding in social and nonsocial interactions, *Psychonomic Bulletin & Review*.
2. Almeida, J., Fracasso, A., Kristensen, S., Valério, D., Bergstrom, F., **Chakravarthi, R.**, Tal, Z., & Walbrin, J. (2023). Neural and behavioral signatures of the multidimensionality of manipulable object processing, *Communications Biology*, 6: 940.
3. **Chakravarthi, R.**, Nordqvist, A., Poncet, M., and Adamian, A. (2023). Fundamental units of numerosity estimation, *Cognition*, 239: 105565.
4. **Chakravarthi, R.**, Papadaki, D., Krajnik, J. (2022). Visual field asymmetries in numerosity processing, *Attention, Perception, and Psychophysics*, 84 (8): 2607 – 2622.
5. Reuther, J., **Chakravarthi, R.**, Martinovic, J. (2022). Masking, crowding and grouping: Connecting low and mid-level vision, *Journal of Vision*, 22 (2): 7.
6. **Chakravarthi, R.**, Rubruck, J., Kipling, N., Clarke, A. D. F. (2021) Characterizing the in-out asymmetry in visual crowding, *Journal of Vision*, 21 (11): 10.
7. Lee, R. J., Reuther, J., **Chakravarthi, R.**, Martinovic, J. (2021). Emergence of crowding: the role of contrast and orientation salience, *Journal of Vision*, vol. 21 (11): 20.
8. Silver, C. A., Tatler, B. W., **Chakravarthi, R.**, & Timmermans, B. (2021). Social Agency as a continuum. *Psychonomic Bulletin & Review*, 28: 434 – 453.

9. Poncet, M. and **Chakravarthi, R.** (2021). Subitizing object parts reveals a second stage of individuation, *Psychonomic Bulletin and Review*, 28: 476 – 486.
10. Poncet, M., Fabre-Thorpe, M., and **Chakravarthi, R.** (2020). A simple rule to describe interactions between visual categories, *European Journal of Neuroscience*, 52 (12): 4639 – 4666.
11. Antonov, P. A., **Chakravarthi, R.**, and Andersen, S. K. (2020). Too little, too late, and in the wrong place: Alpha band activity does not reflect an active mechanism of selective attention, *Neuroimage*, 219: 117006.
12. Lonnqvist, B., Clarke, A., and **Chakravarthi, R.** (2020). Crowding in humans is unlike that in convolutional neural networks, *Neural Networks*, 126: 262 – 274.
13. **Chakravarthi, R.** and Bertamini M. (2020). Clustering leads to underestimation of numerosity, but crowding is not the cause, *Cognition*, 104195.
14. Reuther, J. and **Chakravarthi, R.** (2020). Response selection modulates crowding: a cautionary tale for invoking top-down explanations, *Attention, Perception and Psychophysics*, 82: 1763-1778.
15. Reuther, J., **Chakravarthi, R.**, and Hunt, A. R. (2020). The eye that binds: Feature integration is not disrupted by saccadic eye movements, *Attention, Perception and Psychophysics*. 82: 533 – 549.
16. **Chakravarthi, R.**, and Herbert, A. (2019). Two's company, three's a crowd: Individuation is necessary for object recognition, *Cognition*, 184: 69-82.
17. Soo, L., **Chakravarthi, R.**, and Andersen, S. K. (2018). Critical resolution: a superior measure of crowding, *Vision Research*, 153: 13-23.
18. Reuther, J. and **Chakravarthi, R.** (2017). Does self-prioritization affect perceptual processes? *Visual Cognition*, 5 (1-3): 381-398.
19. Jennings, B. J., Tsattalios, K., **Chakravarthi, R.**, and Martinovic, J. (2016). Combining S-cone and luminance signals adversely affects discrimination of objects within backgrounds, *Scientific Reports*, 6:20504.
20. Costa, S. L., Gonçalves, O. F., DeLuca, J. Chiaravalloti, N., **Chakravarthi, R.**, and Almeida, J. (2015). The temporal dynamics of visual processing in Multiple Sclerosis, *Applied Neuropsychology: Adult*, 23 (2): 133-140.
21. Rosen, S., **Chakravarthi, R.** and Pelli, D. G. (2014). The Bouma law of crowding, revised: Critical spacing is equal across parts, not objects, *Journal of Vision*, 14 (6): 10, 1-15.
22. Reuther, J. and **Chakravarthi, R.** (2014). Categorical membership modulates crowding: evidence from characters, *Journal of Vision*, 14 (6): 5, 1-13.
23. **Chakravarthi, R.** Carlson, T. A., Chaffin, J., Turret, J., and VanRullen, R. (2014). The temporal evolution of coarse location coding of objects: Evidence for feedback. *Journal of Cognitive Neuroscience*, 26 (10): 2370-2384.

24. Van Vugt, M. K., **Chakravarthi, R.** and Lachaux, J. P. (2014). For whom the bell tolls: periodic reactivation of sensory cortex in the gamma band as a substrate of visual working memory maintenance, *Frontiers in Human Neuroscience*, 8: 696.
25. **Chakravarthi, R.** and VanRullen, R. (2012). Conscious updating is a rhythmic process, *Proceedings of the National Academy of Sciences, USA*, 109 (26): 10599-10604.
26. Freeman, J., **Chakravarthi, R.**, and Pelli, D. G. (2012). Compulsory pooling of crowded objects, *Attention, Perception and Psychophysics*, 72 (4): 379-396.
27. **Chakravarthi, R.** and Pelli, D. G. (2011). The same binding in contour integration and crowding, *Journal of Vision*, 11 (8): 10, 1-12.
28. **Chakravarthi, R.** and VanRullen, R. (2011). Bullet trains and steam engines: Exogenous attention zips but endogenous attention chugs along, *Journal of Vision*, 11 (4): 12, 1-12.
29. **Chakravarthi, R.** and Cavanagh, P. (2009). Recovery of a crowded object by masking the distracters: Determining the locus of feature integration, *Journal of Vision*, 9 (10): 4, 1-9.
30. **Chakravarthi, R.** and Cavanagh, P. (2009). Bilateral field advantage in visual crowding, *Vision Research*, 49 (13): 1638-1646.
31. Vickery, T. J., Shim, W. M., **Chakravarthi, R.**, Jiang, Y. V., and Luedeman, R. (2009). Supercrowding: Weakly masking a target expands the range of crowding, *Journal of Vision*, 9 (2): 12, 1-15.
32. **Chakravarthi, R.** and Cavanagh, P. (2007). Temporal properties of the polarity advantage effect in crowding, *Journal of Vision*, 7 (11): 1-12.
33. **Ramakrishna, C.** (2002). Real latencies and facilitation, *Consciousness and Cognition*, 11(2): 300 – 303.

invited talks

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| 2023 | Invited to present a Complementary Talk to Prof Soren Andersen's Induction lecture at the University of Southern Denmark; Unable to attend due to personal circumstances. |
| 2022 | The contribution of visual processes to numerosity perception. Presented at Birkbeck University |
| 2022 | The problem of object recognition. Presented at Prabha Eye Clinic, Bangalore, India |
| 2019 | Crowding in Deep Convolutional Neural Networks. Presented at the Workshop on crowding, EPFL, Lausanne, Switzerland |
| 2016 | The role of higher order effects in visual crowding. Presented at UCL, London |
| 2015 | Gestalt principles and feedforward processing. Presented at the University of Liverpool |

2014	The role of neural oscillations in visual processing. Presented at the University of Bangor, Wales
2013	When one's company, two's a crowd in object recognition. Presented at Workshop on crowding, EPFL, Lausanne, Switzerland
2012	One rule to bind them all. Presented at the British Science Festival, Aberdeen UK
2011	Object recognition. Presented at the School of Psychology, University of Aberdeen, Scotland
2011	When one's company, two's a crowd in object recognition. Presented at CerCo day Symposium, Camaran, France
2010	Object recognition and visual attention. Presented at the Center for Brain and Cognitive Sciences, University of Allahabad, India
2007	The role of attention in crowding. Presented at the Visual Attention lab, Harvard Medical School and Brigham & Women's Hospital, Boston
2007	Mechanisms in Visual Crowding. Presented at the Cognition, Brain and Behavior Research Seminar, Harvard University
2006	The Resolution of Visual Consciousness. Presented at Mind, Brain, and Behavior Graduate Seminar Series, Harvard University

lectures, symposia, and seminars organised

2023-24	Organising committee for the European Conference on Visual Perception, to be held in Aberdeen, August 25-29, 2024
2022	Adjunct seminar to the Gifford Lecture, University of Aberdeen (delivered by Prof Robert McCauley)
2019	Sixth annual Anderson Lecture, School of Psychology (delivered by Prof David Dunning)
2015-18	School of Psychology (University of Aberdeen) Seminar series
2011	Mechanisms in crowding and blink: what can they tell us about consciousness? Symposium organized and chaired at the 14 th annual meeting of Association for the Scientific Study of Consciousness, Toronto, Canada.
2005-06	Harvard Vision Lab Seminar Series. Organized bi-weekly talks by invited speakers.