Matthew Apps, PhD.

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Education and Employment History

2015-2018: **BBSRC Anniversary Future Leader Fellow (Principal Investigator)**
Topic: *A Biological Framework for Understanding and Modulating Apathy in Healthy People*
Institution: Experimental Psychology, Uni. of Oxford.

2014-2016: **Somerville College Fulford Junior Research Fellow**

2013-2015: **Postdoctoral Research Associate**
Topic: *Apathy, motivation and effort-based decision-making*
Supervisor: Prof. Masud Husain
Institution: Nuffield Department of Clinical Neuroscience, Uni. of Oxford.

2011-2013: **Postdoctoral Research Fellow**
Topic: *Computational models of self-other distinction*
Supervisor: Prof. Manos Tsakiris
Institution: Royal Holloway, University of London.

2008-2011: **PhD. Student (ESRC scholarship)**
Thesis : *Anterior cingulate cortex: contributions to social cognition*
Supervisor: Prof. Narender Ramnani
Examiners: Dr. Mark Walton (University of Oxford), Dr. James Kilner (UCL) and Prof. Johannes Zanker (Royal Holloway)
Institution: Royal Holloway, University of London.

2007-2008: **MSc. Research Methods in Psychology (ESRC scholarship)**
Grade: Distinction
Institution: University of Reading.

2004-2007: **BSc. Psychology**
Grade: First Class Honours
Institution: Royal Holloway, University of London.

Grants

Research Grants

- BBSRC AFLF Fellowship (Principal Investigator) ~£300,000
- ESRC 1+3 open competition MSc. and PhD Studentship (2007-2011) ~£70,000

Travel Grants

- Guarantors of Brain travel grant (2009, 2011, 2013) - £2400
- Organization for Human Brain Mapping trainee abstract award (2009, 2015) - $2700
- BPS postdoctoral travel award (2014) - £350
- EPS Grindlay grant (2013) - £500
- Oxford University Autumn School in Cognitive Neuroscience bursary (2008) - £250

Awards

- Guardian Research of the Week (2015): http://www.theguardian.com/teacher-network/2015/feb/20/scientists-teachers-brains-work-weekly-news-review
- Awarded Fulford Junior Research Fellowship at Somerville College, Oxford (2014-2016)
- *Nature Communications* paper nominated for British Psychology Society Cognitive Section Award (2014)
- Elected postgraduate representative (2009-2010)
- OHBM trainee abstract award (2009, 2015)
- Jack Westaway prize for best undergraduate project (2007)
- Experimental Psychology Society undergraduate prize nomination (2007)

Invited Oral Presentations

- Neuroscience department, ETH Zurich (2015)
- Neuroimaging group, IOPPN, King's College London (2015)
- Decision-Making and Motivation Workshop, University of Oxford (2015)
- Experimental Psychology, Ghent University (2015)
- Developmental Risk and Resilience Unit, UCL (2015)
- Psychology Department, Roehampton University (2014)
- Department of Physiology, Development and Neuroscience, University of Cambridge (2013)
- Rushworth lab, Department of Experimental Psychology, University of Oxford (2013)
- Experimental Psychology Society meeting, London (2013)
- Institute of Neuroscience, Trinity College, Dublin (2012)
- Symposia, Annual meeting of the Organization for Human Brain Mapping (2009)

Publications

Apps, M.A.J., Lesage, E., & Ramnani, N. (2015) Vicarious Reinforcement Learning Signals When Instructing Others. *Journal of Neuroscience*

Lockwood, P.L., **Apps M.A.J.**, Roiser, J., & Viding, E. (2015) Encoding of vicarious reward prediction in anterior cingulate cortex and relationship with trait empathy. *Journal of Neuroscience*

Manohar, S., Chong, T., **Apps M.A.J**., Batla A., Stamelou M., Jarman PR., Bhatia KP., & Husain, M. (2015). Reward Pays the Cost of Noise Reduction in Motor and Cognitive Control. *Current Biology*

Apps, M.A.J., Grima, L., Manohar, S., & Husain, M. (2015). The role of cognitive effort in subjective reward devaluation and risky decision-making. *Scientific Reports*

Ang, Y-S., Manohar, S. & **Apps, M.A.J.** (2015). Commentary: Noradrenaline and Dopamine Neurons in the Reward/Effort Trade-off: A Direct Electrophysiological Comparison in Behaving Monkeys. *Frontiers in Behavioural Neuroscience*

Apps M.A.J., & Ramnani, N. (2014). The anterior cingulate gyrus signals the net-value of others' rewards. *Journal of Neuroscience.*

Apps, M.A.J. & Tsakiris, M (2014). The free-energy self: A predictive coding account of self-recognition. *Neuroscience and Biobehavioural Reviews.*

Apps, M.A.J.& Tsakiris, M. (2013). Predictive codes of familiarity and context during the perceptual learning of facial identities. *Nature Communications, 4.*

Apps, M. A. J. *, Tajadura-Jiménez, A. *, Sereno, M., Blanke, O., & Tsakiris, M. (2013). Plasticity in unimodal and multimodal brain areas reflects multisensory changes in self-face identification. *Cerebral Cortex* ***** equal contributors***

Apps M.A.J., Lockwood, P.L. & Balsters, J.H. (2013). The role of the midcingulate cortex in monitoring others' decisions. *Frontiers in Neurosci*ence

Apps, M.A.J., Green, R., & Ramnani, N. (2013). Reinforcement learning signals in the anterior cingulate cortex code for others' false beliefs. *Neuroimage.*

Apps, M.A.J.*, Tajadura-Jimenez, A.*, Turley, G,. & Tsakiris, M. (2012). The different faces of one's self: an fMRI study into the recognition of current and past self-facial appearances. *Neuroimage.*

Apps, M.A.J., Balsters, J. H., & Ramnani, N. (2012). The Anterior Cingulate Cortex: Monitoring the outcomes of others' decisions. *Social Neuroscience.*

Lesage E., **Apps, M. A. J**., Hayter, A. L., Beckmann, C. F., Barnes, D., Langdon, D. W., & Ramnani, N. (2010). Cerebellar Information Processing In Relapsing-Remitting Multiple Sclerosis (RRMS). *Behavioural Neurology*.

Forthcoming

Balsters, J.H. Mantini, D., **Apps, M.A.J**., Eickhoff, S., & Wenderoth, N. (under review) Connectivity-based parcellation of the cingulate cortex in Autism Spectrum Disorder.

Farmer, H., **Apps, M.A.J.,** & Tsakiris, M. (under review). Reputation in an Economic Game Modulates Premotor Cortex Activity during Action Observation.

Apps, M.A.J., Murray, E.A., & Chang, S., (in prep). Contributions of the cingulate cortex to social cognition: A unifying, computational framework.

Apps, M.A.J., & Ramnani, N. (in prep). Medial prefrontal contributions to subjective and normative economic decision-making.

Chong, T-J. T.**, **Apps, M.A.J**.**, Blake, A., Giehl, K., Grima, L., & Husain, M. (in prep). The neural basis of subjective reward devaluation by cognitive and physical effort. ***** equal contributors***

Lockwood, P.L., **Apps M.A.J.**, Valton, V., Roiser, J., & Viding, E. (in prep). Prosocial reinforcement learning.

Ainley, V., **Apps, M.A.J.,** & Tsakiris, M. (in prep). 'Bodily Precision': A Predictive Coding Account of Individual Differences in the Interoceptive Accuracy.

Collaborators

- Prof. Masud Husain (Oxford)
- Prof. Matthew Rushworth (Oxford)
- Dr. Patricia Lockwood (Oxford)
- Dr Trevor Chong (Macqaurie University)
- Dr. Sanjay Manohar (Oxford)
- Prof. Nicole Wenderoth (ETH Zurich)
- Dr. Joshua Balsters (ETH Zurich)
- Prof. Essi Viding (UCL)
- Prof. Jon Roiser (UCL)
- Prof. Narender Ramnani (Royal Holloway)
- Prof. Manos Tsakiris (Royal Holloway)
- Dr. Steve Chang (Yale)
- Prof. Betsy Murray (NIH)

Public Engagement

Public engagement

- Demonstrator at British Neuroscience Society Festival of Neuroscience
- Professional twitter account (>1000 followers incl. scientists and general public)
- Royal Holloway open day demonstrator
- Royal Holloway UCAS day presenter

Media

- Invited blog on the conversation website: https://theconversation.com/what-goes-on-in-teachers-brains-as-they-help-students-to-learn-37672
- Guardian Research of the Week: http://www.theguardian.com/teacher-network/2015/feb/20/scientists-teachers-brains-work-weekly-news-review
- Study reported on BBC news: http://www.bbc.co.uk/news/education-31503265
- Study reported in the Times newspaper and the Times online: http://www.thetimes.co.uk/tto/science/article3921675.ece
- Report in Men's Health US: http://www.menshealth.com/best-life/remember-faces
- Comment in Nature news section: doi:10.1038/nature.2012.1211
- Studies also reported in: La Scienza, O Globo, Le Figaro, Psypost, ScienceDaily, HealthCanal

Teaching

Supervision:

- Psychology, Biomedical sciences and Medical student projects
- MSc student solo and co-supervision:
    - Robin Green (Now a University of Birmingham PhD student)
    - Dr. Vivien Ainley (PhD awarded from Royal Holloway)
    - Dr. Erman Misirlisoy, (PhD awarded from UCL)
    - Laura Grima (Now a DPhil student at University of Oxford)
    - Mathilde Hamonet (former MSc student at University of Oxford)
    - Dariusz Pilucik (Current MSc student at University of Oxford)

***Postgraduate*:**

- 'The Primate Brain: Structural Anatomy', Lecture, Human Neuroscience MSc. (2010)
- 'The Social Brain', Lecture, Human Neuroscience MSc. (2010)
- 'Social Neuroscience Techniques', Lecture, Applied Social Psychology MSc. (2010)
- MSc./BSc. Neuroanatomy practical (post-mortem tissue demonstration; 2009-2012)

***Undergraduate*:**

- 'Learning in the Brain: Dopamine, Reward and Reinforcement', 2nd year Brain and Behaviour Lecture, Psychology BSc. (2011-2014)
- 'How to use Linux and MATLAB' tutorial (2010)
- 'Preprocessing and General Linear Model Analysis in SPM' tutorial (2010)
- 'Dynamic Causal Modelling for fMRI: Theory and Practice' tutorial (2010)
- Statistics Tuition, 2nd Year Undergraduate statistical theory and SPSS training (2007-2008)