**David Coggan**

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**Employment**

*03/2019 - Postdoctoral Research Fellow, Vanderbilt University, Nashville, TN, USA*

Working under Professor Frank Tong, I am currently investigating the role of cortical feedback to the lateral geniculate nucleus. I am also investigating how objects are represented in visual cortex using ultra high-field fMRI (7T) and psychophysical techniques, complemented with computational deep-learning approaches.

07/2017 - 07/2018 *Research Assistant, York Neuroimaging Centre, University of York, UK*

Responsibilities included providing analysis support, operating GE and Siemens MRI scanners, training new MRI operators, maintenance of MEG system and assistance with clinical scans.

**Education**

*10/2014 - 01/2019 PhD in Cognitive Neuroscience and Neuroimaging*

*Department of Psychology, University of York, UK*

Working under Professor Tim Andrews, the aim of my PhD was to explore how natural images such as faces and objects are represented in the brain. I have used a range of neuroimaging techniques (fMRI, EEG) as well as analysis techniques (GLM, MVPA, visual field mapping) to explore whether the responses in the high-level visual cortex could be explained by simpler, image-based principles.

*10/2013 - 09/2014**MSc in Cognitive Neuroscience (Distinction)*

*Department of Psychology, University of York, UK*

During my MSc I studied the theoretical underpinnings of fMRI, MEG, EEG and TMS. For my dissertation I conducted an fMRI experiment in which I investigated the underpinnings of object category-selectivity in high-level visual cortex.

*09/2010 - 07/2013 BSc Hons in Psychology (1st Class)*

*University of the West of England, UK*

Selected third year specialisations include Cognitive Neuropsychology and Methods in Neuroscience. For my dissertation I designed and conducted a study in which I examined the effect of depth-rotation on the recognition of novel objects.

**Publications**

1. Coggan DD, Baker DH, Andrews, TJ (in preparation) The effect of low-level manipulations of orientation and spatial frequency on the neural response to faces and houses: A dissociation between multi-voxel pattern analysis and fMR-adaptation.
2. Coggan DD, Watson DM, Hartley T, Baker DH, Andrews TJ (under review) A data-driven approach to stimulus selection reveals the emergence of an image-based representation of objects in high-level visual areas. Cerebral Cortex.
3. Coggan DD, Baker DH, Andrews TJ (2018) Selectivity for mid-level properties of faces and places in the fusiform face area and parahippocampal place area. European Journal of Neuroscience 1–10.
4. Coggan DD, Allen LA, Farrar ORH, Gouws AD, Morland AB, Baker DH, Andrews TJ (2017) The emergence of object-selectivity in early visual areas. Scientific Reports 7: 2444.
5. Coggan DD, Baker DH, Andrews TJ (2016) The Role of Visual and Semantic Properties in the Emergence of Category-Specific Patterns of Neural Response in the Human Brain. eNeuro 3:ENEURO.0158-16.2016.
6. Coggan DD, Liu W, Baker DH, Andrews TJ (2016) Category-selective patterns of neural response in the ventral visual pathway in the absence of categorical information. NeuroImage 135:107–114.
7. Baker DH, Karapanagiotidis T, Coggan DD, Wailes-Newson K, Smallwood J (2015) Brain networks underlying bistable perception. NeuroImage 119:229–234.

**Conference Talks**

1. Coggan DD, Watson DM, Brownbridge R, Ellis C, Jones K, Kilroy C, Wang A, Andrews TJ (2018) The importance of low-level image properties in the neural representation of objects. Experimental Psychological Society (London, UK).
2. Coggan DD, Watson DM, Hartley T, Baker DH, Andrews TJ (2017) A data-driven approach to stimulus selection reveals the importance of visual properties in the neural representation of objects. Journal of Vision 17(9).
3. Coggan DD, Watson DM, Baker DH, Hartley T, Andrews TJ (2017) The importance of visual properties in the emergence of higher-level representations in the ventral visual pathway. Experimental Psychological Society (London, UK).
4. Coggan DD, Baker DH, Andrews TJ (2016) Investigating the temporal properties of visual object processing using a multivariate analysis of EEG data. Journal of Vision, 16(12), 1311.

**Conference Posters**

1. Coggan DD, Watson DM, Hartley T, Baker DH, Andrews TJ (2018) A data-driven approach to stimulus selection reveals an image-based representation of objects in high-level visual areas. Applied Vision Association (Bradford, UK).
2. Coggan DD, Liu W, Baker DH, Andrews TJ (2015) Category-selective patterns of neural response to scrambled images in the ventral visual pathway. Journal of Vision 15(12), 622.

**Prizes**

Applied Vision Association (2018): Best poster presentation.

**Teaching**

* Tutorial leader: Brain and Behaviour (BSc), Perception and Cognition (BSc)
* Practical demonstrator: Research Design and Analysis in Neuroimaging (MSc)
* Essay and practical marking (BSc, MSc)
* Project supervision (MSc)

**Skills**

* Trained MRI operator (Siemens and GE systems).
* Trained EEG operator (ANT Neuroscan system).
* High level - Python, Matlab, R, Bash.
* Machine Learning course completed (Stanford University).

**Referees**

Professor Tim Andrews Dr. Daniel Baker

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University of York University of York

York York

North Yorkshire North Yorkshire

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