

Curriculum Vitae

Samuel Charles Berens

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Personal Statement

An enthusiastic, ambitious and industrious young researcher with a keen interest in cognitive neuroscience particularly regarding perception and memory. Greatly skilled in designing, running and analysing complex behavioural and fMRI experiments.

Academic positions

2015 – 2016: Postdoctoral Research Fellow, School of Psychology,
University of Sussex, UK.
Supervisor: Dr. Chris Bird.

Academic publications

Bird, C. M., **Berens, S. C.**, Horner, A. J., & Franklin, A. (2014). Categorical encoding of color in the brain. *Proceedings of the National Academy of Sciences of the United States of America*, 111(12), 4590-4595.

De Visscher, A., **Berens, S. C.**, Keidel, J. L., Noël, M. P., & Bird, C. M. (2015). The interference effect in arithmetic fact solving: An fMRI study. *NeuroImage*, 116, 92-101.

Berens, S. C., & Bird, C. M. (under review). The role of the hippocampus in generalization in humans.

Berens, S. C., Horst, J. S., & Bird, C. M. (in prep). The brain mechanisms supporting cross-situational learning.

Berens, S. C., Bird, C. M., Doeller, C. F., & Harrison, N. A. (in prep). The effect of minocycline on hippocampal and non-hippocampal memory systems.

Education

2012 – 2015:

PhD in Psychology, University of Sussex, UK.

1st Supervisor: Dr. Chris Bird, 2nd Supervisor: Prof. Jennifer Rusted.

Thesis title: "The roles of hippocampal and neocortical learning mechanisms in the human brain".

2011 – 2012:

MSc in Cognitive Neuroscience (Distinction), University of Sussex, UK.

Supervisor: Dr. Chris Bird, Advisor: Prof. Jamie Ward.

Dissertation title: "Neural colour representations: An fMRI adaptation study of categorical and metric effects" (Mark: 82%).

2008 – 2011:

BSc (Dual Hons) in Psychology and Music Technology (First Class),

University of Keele, UK. Supervisor: Prof. Nicola Edelstyn.

Dissertation title: "Recognition memory in the context of a unilateral mediodorsal thalamic lesion" (Mark: 80%).

2006 – 2008:

A-Levels, North Cestrian Grammar School, Altrincham, UK.

Physics:..... B

Biology:..... A

Chemistry:..... A

Music Technology:.. B

IT and Methods Experience

Highly experienced MATLAB programmer capable of quickly and efficiently generating high quality scripts designed for:

- stimulus presentation and behavioural response recording using the COGENT toolboxes.
- the analysis/visualisation of various types of behavioural data including (but not limited to): general linear modelling, mixed-effects modelling, multinomial process tree modelling, state-space modelling (via EM and MCMC algorithms) and the analysis of receiver operating characteristics (ROCs).
- the manipulation and analysis of neuroimaging data using SPM, the CoSMo MVPA toolbox, the Princeton-MVPA-toolbox, and custom build applications.

Also experienced in other forms of programming/software usage applicable to the behavioural and cognitive sciences:

- programming in C++ and Java.
- the generation of virtual reality environments in Unreal Development Kit.
- low-level audio, video and image manipulation using MAX/MSP/Jitter, CDP Soundshaper, Adobe Photoshop & Adobe Audition.
- voice analysis and re-synthesis using PRAAT.
- statistical analysis via SPSS and MS Excel.

Oral presentations

- Berens, S. C.**, Horst, J. S., & Bird, C. M. (2014). The brain mechanisms underpinning cross-situational learning. *Cognitive Brown Bag Seminar*, University of Sussex, Brighton, 30th October 2014.
- Berens, S. C.**, & Bird, C. M. (2014). Configural memory representations: Testing the structural hypothesis. *Internal research presentation at the School of Psychology*, University of Sussex, Brighton, 25th June 2014.
- Berens, S. C.** (2014). fMRI: How it works, what it can tell us and when it turns nasty!. *Doctoral Research and Development Talk*, School of Psychology, University of Sussex, Brighton, 31st January 2014.
- Berens, S. C.**, Franklin, A., & Bird, C. M. (2013). Middle frontal gyrus represents colour categories but not metric differences in colour: Evidence from fMRI adaptation. *Oral presentation at the Annual Scientific Meeting of the British Association of Cognitive Neuroscience*, Nottingham, 19th April 2013.
- Berens, S. C.** (2013). Using Fieldmaps to unwarp EPI data: The good, the bad and the ugly. *Seminar presentation at the Clinical Imaging Sciences Centre*, University of Sussex, Brighton, 31st May 2013.

Poster presentations

- Berens, S. C.**, & Bird, C. M. (2016). The brain systems underpinning cross-situational learning. *Poster presentation at ICOM 6*, Budapest (Hungary), 19th July 2016. *Poster available at: <http://samberens.co.uk/lcom6Poster>*.
- Berens, S. C.**, & Bird, C. M. (2015). Configural learning engages the semantic memory system but generalisation involves the hippocampus. *Poster presentation at Neuroscience 2015: Society for Neuroscience*, Chicago (I.L.), 19th October 2015.
- Berens, S. C.**, Maud, P., Bird, C. M., Doeller, C. F., & Harrison, N. A. (2015). The effect of minocycline on hippocampal and non-hippocampal memory systems. *Poster presentation at BNA2015: Festival of Neuroscience*, Edinburgh (UK), 13th April 2015.
- Berens, S. C.**, Maud, P., Bird, C. M., Doeller, C. F., & Harrison, N. A. (2014). Minocycline selectively enhances hippocampal memory function. *Poster presentation at the European Behavioural Pharmacology Society's Immunopsychiatry Workshop*, Brighton (UK), 28th June 2014.
- Berens, S. C.**, & Bird, C. M. (2014). Configural memory representations: An event-related fMRI study of structural and non-structural learning. *Poster presentation at the 21st Annual Meeting of the Cognitive Neuroscience Society*, Boston (M.A.), 7th April 2014.
- Edelstyn, N. M. J., Mayes, A. R., **Berens, S. C.**, & Ellis, S. J. (2012). Familiarity memory for non-words is impaired in a patient with right-sided medial thalamic pathology. *Poster presentation at the Annual Scientific Meeting of the British Neuropsychological Society*, London (UK), 8th November 2012.

Awards, Grants & Studentships

- 2016:** **Research Staff Development Fund:**
Awarded by the University of Sussex to present work at the conference "ICOM 6" (Budapest, Hungary); £500.
- 2015:** **Brain Travel Grant:**
Awarded by Guarantors of Brain to present work at the conference "Neuroscience 2015" (Society for Neuroscience); £800.
- 2015:** **EPS Grindley Grant:**
Awarded by the Experimental Psychology Society to present work at the conference "Neuroscience 2015" (Society for Neuroscience); £500.
- 2014:** **Wellcome Trust Travel Award:**
Awarded by the Wellcome Trust to present work at the European Behavioural Pharmacology Society's Immunopsychiatry Workshop (2014); £300.
- 2012:** **ESRC and University of Sussex match funded PhD studentship:**
Fees and stipend.
- 2012:** **Prize for the best performance on the MSc in Cognitive Neuroscience:**
Awarded by the University of Sussex.
- 2011:** **James Hartley Prize for the best 3rd year student project:**
Awarded by the University of Keele; £50 book token.
- 2010:** **Nuffield Undergraduate Research Bursary:**
Awarded by the Nuffield Foundation to work on a Neuropsychological investigation examining source memory deficits in Parkinson's disease; £1,440.
- 2008:** **Dean's scholarship for excellent A-level performance:**
Awarded by the Keele University; £6,000.
- 2007:** **The Duke of Edinburgh's Gold Award:**
Included a 1,007 mile solo charity cycle ride from Lands End to John O'Groats completed within 8 days and 3 hours.

Teaching

- 2016:** **University of Sussex:** Guest lecturer and practical class tutor for a masters level methods module; Functional Magnetic Resonance Imaging.
- 2016:** **University of Sussex:** Part supervision of MSc student project; *Hippocampal contributions to transitive inference*.
- 2014:** **University of Sussex:** Practical class tutor for a masters level statistics module; *Linear Models*.

- 2014:** **University of Sussex:** Part supervision of BSc student project; *The computational underpinnings of cross-situational learning: Facilitated by temporal context?*
- 2013:** **University of Sussex:** Practical & Seminar class tutor for a masters level research methods/statistics module; *Discovering Statistics (M-Level)*.
- 2013:** **University of Sussex:** Part supervision of BSc student project; *Configural memory acquisition: Contrasting the relative processing demands of structural and non-structural memory codes*.
- 2013:** **University of Sussex:** Workshop/Practical class tutor for a second year BSc research methods/statistics module; *Social Research Methods in Psychology*.
- 2012:** **University of Sussex:** Workshop/Practical class tutor for a second year BSc research methods/statistics module; *Discovering Statistics*.

Public Engagement

- 2015:** **Activity coordinator at the “Brighton Science Festival”:**
Location: Hove Park School and Sixth Form Centre, Hove, UK.
- 2013 / 2014:** **Tour guide during a widening participation day, University of Sussex:**
An Introduction to research methods/equipment commonly used in the field of Cognitive Neuroscience: A laboratory tour.
- 2013:** **Speaker at Brighton, Hove and Sussex Sixth Form Collage:**
Introducing academic career paths and research at University.
- 2012:** **Practical demonstrator at “State of Mind: A Consciousness Expo”:**
Location: The Brighton Corn Exchange, UK.

Society memberships

- Society for Neuroscience.
- British Neuroscience Association.
- British Neuropsychological Society.

Other Responsibilities

- 2014 – 2015:** Organiser of the Doctoral Research And Development (DREADed) talks; School of Psychology, University of Sussex.
- 2013 – 2015:** Organiser of the *Cognitive Brown Bag Seminar Series*; School of Psychology, University of Sussex.
- 2012 – 2015:** Postgraduate (research) student representative; School of Psychology, University of Sussex.