

# Olivia Guest

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## CONTACT

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## PROFESSIONAL EXPERIENCE

### **RISE, Cyprus**

Research Centre on Interactive Media, Smart Systems and Emerging Technologies

*Researcher*

2019–

**Department of Experimental Psychology, University College London, UK**

### **Prof. Bradley C. Love's Lab**

*Affiliated Researcher*

2019–

School of Mathematics, Computer Science and Engineering, City, University of London, UK

### **CitAI, Artificial Intelligence Research Centre**

*Affiliated Researcher*

2019–

**Department of Experimental Psychology, University College London, UK**

*Postdoctoral Researcher*

2016–2019

- Created computational models: for categorisation, for model-based fMRI, used deep neural networks, etc.
- Mentored Ph.D. and M.Sc. students (CSML and DSML M.Sc.s)
- Organised training courses for: git, continuous integration, module testing.
- Sat on hiring committees for postdoctoral fellows.
- Marked essays for Cognitive and Decision Sciences M.Sc.

### **Software Sustainability Institute, UK**

*Fellow 2016*

2016–2017

- £3,000 grant funding for travel and organising workshops.
- Organised training courses for: version control (git), Python.
- Selected new fellows for 2017 and 2018.

**Department of Experimental Psychology, University of Oxford, UK**

*Postdoctoral Researcher*

2014–2016

- Created models for category learning in infancy.
- Tutored on the Language and Cognition module.
- Ran and developed the Block Practical: [Connectionist Models and Cognitive Processes](#).

**Department of Psychological Sciences, Birkbeck, UK**

Graduate Teaching Assistant

2010–2014

- Taught on a range of courses within psychological sciences.
- Was trained to evaluate, mark, invigilate, and support part-time, mature, and full-time students.
- Managed the SONA system.
- Organised and led the **Centre for Cognition, Computation and Modelling's** seminar.

EDUCATION

**Birkbeck, UK**

2010–2014

Ph.D., Psychological Sciences, Sep 2014

- Thesis: *Towards a Unified Computational Account of Semantic Impairments*
- 1st Supervisor: *Richard P. Cooper*
- 2nd Supervisor: *Eddy J. Davelaar*

**University College London, UK**

2009–2010

M.Sc., **Cognitive and Decision Sciences** (Distinction), Sep 2010

- Thesis: *Modelling Semantic Memory & Its Impairments Following Neural Damage*
- Supervisor: *Richard P. Cooper*

**The University of York, UK**

2006–2009

B.Sc., **Computer Science**, Jun 2009

REVIEWING &  
SERVICE

**ReScience Journal** – *Editor-in-Chief*

2020–

**The Journal of Open Source Software** – *Topic Editor*

2019–

**ReScience Journal** – *Associate Editor*

2015–2020

**Ad hoc**

International Conference on Cognitive Modelling (ICCM), International Conference on Machine Learning (ICML), Scientific Computing with Python Conference (SciPy), Cognitive Science Journal, Cognitive Psychology, Memory & Cognition, PLOS Computational Biology.

PUBLICATIONS

**Guest, O.**, Kanayet, F. J., & Love, B. C. (2019). **Gerrymandering and Computational Redistricting**. *Journal of Computational Social Science*.

Rougier, N. P. et al. (2017). **Sustainable computational science: the ReScience initiative**. *PeerJ Computer Science*.

Love, B. C., **Guest, O.**, Slomka, P., Navarro, V., Wasserman, E. (2017). **Deep Networks as Models of Human and Animal Categorization**. *In Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. (pp. 1457–1458).

**Guest, O.** & Love, B. C. (2017). **What the Success of Brain Imaging Implies about the Neural Code**. *eLife*, 6:e21397.

**Guest, O.** & Rougier, N. P. (2016). **What is computational reproducibility?** *IEEE CIS Newsletter on Cognitive and Developmental Systems*, 13 (1).

**Guest, O.** (2016). **Crisis in What Exactly?**. *The Winner*.

Love, B. C., Kopeć, Ł. & **Guest, O.** (2015). *Optimism Bias in Fans and Sports Reporters*. *PLoS ONE*, 10 (9).

Cooper, R. P. & **Guest, O.** (2014). *Implementations are not specifications: specification, replication and experimentation in computational cognitive modeling*. *Cognitive Systems Research*, 27, 42–49.

**Guest, O.**, Cooper, R. P. & Davelaar, E. J. (2014). [High-Level Cognition]. *The Influence of Implementation on “Hub” Models of Semantic Cognition*. In J. Mayor, P. Gomez (Eds.), *Computational Models of Cognitive Processes* (pp. 155–169). World Scientific.

**Guest, O.**, Cooper, R. P. & Davelaar, E. J. (2012). *Semantic Cognition: A Re-examination of the Recurrent Network “Hub” Model*. In *Proceedings of the Ninth International Conference on Cognitive Modelling*. Berlin, Germany. April. (pp. 259–264). Berlin, Germany. April. Universitätsverlag der TU Berlin.

PREPRINTS &  
UNPUBLISHED

**Guest, O.** & Martin, A. E. (in prep; invited to special issue). How computational modeling can force theory building in psychological science. *Perspectives on Psychological Science*.

**Guest, O.** et al. (in prep; for special issue). Can “open science” make science open?. *Psychology of Women Quarterly*.

Bobadilla Suarez, S., **Guest, O.** & Love, B. C. (in prep; available on request). The neural link between subjective value and decision entropy.

**Guest, O.**, Caso A. & Cooper, R. P. (under review; available on request). On Simulating Neural Damage in Connectionist Networks. *Computational Brain & Behaviour*

Botvinik-Nezer, R. et al. (revise & resubmit). *Variability in the analysis of a single neuroimaging dataset by many teams*. *Nature*.

Whitaker, K. J. & **Guest, O.** (in press). #bropenscience is broken science. *The Psychologist*.

Botvinik-Nezer, R. et al. (2019). *Variability in the analysis of a single neuroimaging dataset by many teams*. *bioRxiv*.

**Guest, O.** & Love, B. C. (2019). *Levels of Representation in a Deep Learning Model of Categorization*. *bioRxiv*.

INVITED  
TALKS

**MathPsych/ICCM 2020**

Toronto, Canada

25–28 Jul 2020

- Symposium: *Perspectives on ‘What makes a good theory?’*
- Organisers: Iris van Rooij, Chris Donkin

**Research Centre on Interactive Media, Smart Systems and Emerging Technologies**

Nicosia, Cyprus

16 Jul 2019

- *What do deep neural networks know?*

**Thirty-fifth International Conference on Machine Learning (ICML 2018)**

Workshop: *Enabling Reproducibility in Machine Learning MLTrain@RML*

Stockholm, Sweden

14 Jul 2018

- *Varieties of Reproducibility in Empirical and Computational Domains*.

### Open Data Day 2018

Goldsmiths, University of London, UK

3 Mar 2018

- *Gerrymandering and Computational Redistricting.*

### Cognitive Neuroscience Friday Seminar (FriSem)

Stanford University, California, USA

16 Feb 2018

- *How deep networks contribute to our understanding of human and animal representation in categorization.*

### Research Programming Technical Social

University College London, UK

15 Nov 2017

- *Gerrymandering and Computational Redistricting.*

### Centre for Language Studies

Radboud University, The Netherlands

8 Mar 2017

- *What the Success of Brain Imaging Implies about the Neural Code.*

### London Judgement and Decision Making Seminars

University College London, UK

8 Feb 2017

- *What the Success of Brain Imaging Implies about the Neural Code.*

### Summerfield Lab

University of Oxford, UK

23 Nov 2016

- *What the Success of Brain Imaging Implies about the Neural Code.*

## CONFERENCE PRESENTATIONS

### Society for Neuroscience (SfN 2019)

Chicago, USA

19–23 Oct 2019

- Poster: *The neural link between subjective value and decision entropy.*
- Presented by: S. Bobadilla Suarez

### 9th Annual Scientific Conference of Center for Applied Neuroscience

Nicosia, Cyprus

4 Oct 2019

- Talk and poster: *Levels of Representation in a Deep Learning Model of Categorization.*

### 18th Annual Summer Interdisciplinary Conference (ASIC 2019)

Seefeld, Austria

17–22 Jun 2019

- Talk: *Levels of Representation in a Deep Learning Model of Categorization.*

### 39th Annual Meeting of the Cognitive Science Society (CogSci 2017)

London, UK

26–29 Jul 2017

- Talk: *Deep Networks as Models of Human and Animal Categorization.*

### 16th Annual Summer Interdisciplinary Conference (ASIC 2017)

Interlaken, Switzerland

15–20 Jul 2017

- Talk: *Deep Networks as Models of Human and Animal Categorization.*

### 1st Lancaster Conference on Infant and Early Child Development (LCICD 2016)

Lancaster, UK

25–27 Aug 2016

- Talk: *Representational Re-description in hSOMs*.

### 15th Annual Summer Interdisciplinary Conference (ASIC 2016)

Selva, Val Gardena, Italy

3–8 Jul 2016

- Talk: *What the Success of Brain Imaging Implies about the Neural Code*.

### 14th Annual Summer Interdisciplinary Conference (ASIC 2015)

Mammoth Lakes, California, USA

10–15 Jul 2015

- Talk: *Optimism Bias in Novice and Expert Sport Forecasting*.

### 13th Neural Computation and Psychology Workshop (NCPW 13)

BCBL, San Sebastian, Spain

12–14 Jul 2012

- Talk: *Exploring the influence of architecture and learning algorithm on the breakdown of the “hub” model of semantic cognition*.

### 11th International Conference on Cognitive Modeling (ICCM 2012)

Technische Universität Berlin, Berlin, Germany

12–15 Apr 2012

- Poster: *Semantic Cognition: A Re-examination of the Recurrent Network “Hub” Model*.
- Won Best Student Poster Prize.

## ORGANISING

### 18th Scientific Computing with Python Conference (SciPy 2019)

Austin, Texas, USA

8–14 Jul 2019

- Chaired cognitive science and neuroscience mini-symposium with Nicolas P. Rougier.
- Reviewed conference submissions.

### Women in Cognitive Science (WiCS) Panel at 40th Annual Meeting of the Cognitive Science Society (CogSci 2018)

Madison, Wisconsin, USA

25 Jul 2018

- Topic: Women and Gender Minorities in Computational Cognitive Science: Sharing Experiences.
- Co-organised with Nora S. Newcombe.
- Panel members: Eliana Colunga, Rebecca Frost, Amy Perfors, and myself.

### 16th Scientific Computing with Python Conference (SciPy 2017)

Austin, Texas, USA

10–16 Jul 2017

- Chaired neuroscience mini-symposium with Ariel Rokem.
- Reviewed conference submissions.

### Research Data Visualisation Workshop (RDVW)

Software Sustainability Institute, University of Manchester

28 Jul 2016

- Organised 1-day workshop with Raniere Silva (main organiser) and Vince Knight.
- Member of steering committee.
- Obtained funding from RStudio.

### Introduction to Computational Cognitive Modelling Workshop

CCCM, Birkbeck

23–25 Apr 2014

- Organised 3-day workshop with Chris Brand (co-organiser).
- Prepared slides, exercises, created website.

## TEACHING

### Department of Experimental Psychology, University of Oxford, UK

Postdoctoral Research Assistant

2014–

#### *Block Practical: Connectionist Models and Cognitive Processes*

- Module: *Third Year, B.Sc.*
- Designed course structure and materials (slides and exercises).
- Set final report wherein students replicated from scratch Tyler et al. (2000) in Python.
- Created course website: [oliviaguest.com/connectionism](http://oliviaguest.com/connectionism).

#### *Tutorial: Language and Cognition*

- Module: *Second Year, B.Sc.*
- Set essays and marked exams.

### Department of Psychological Sciences, Birkbeck, University of London, UK

Graduate Teaching Assistant

2010–2014

- Modules Taught: *General Foundations of Psychology, Psychobiology, Advanced Research Methods, Advanced Quantitative Methods, Memory and Cognition, Matlab Programming for Psychological Science,*

## MEDIA

### BBC Radio 4: Today Show

22 Feb 2016

- Interview: *What can we learn in 4 months?*

### Optimism Bias in Fans and Sports Reporters

9 Sep 2015

- Press Releases: [University of Oxford](http://University of Oxford), [UCL](http://UCL)
- Media Coverage: [CS Monitor](http://CS Monitor), [Medical Daily](http://Medical Daily), [MinnPost](http://MinnPost), [Newsweek](http://Newsweek), [Pacific Standard](http://Pacific Standard), [Phys.org](http://Phys.org).

## TECHNICAL SKILLS

### General

- Web design (e.g., [bradlove.org](http://bradlove.org), [neuroplausible.com](http://neuroplausible.com), [oliviaguest.com](http://oliviaguest.com), [redistrict.science](http://redistrict.science), [compcog.science](http://compcog.science)).
- Graphic design and image editing (i.e., Adobe Suite, GIMP, Inkscape).
- GUI design (i.e., PyGTK, GTK+).
- Artificial neural networks (e.g., TensorFlow).
- Unix (e.g., CLI, server administration).

### Programming

Ada, C, C++, C#, Java, JavaScript,  $\LaTeX$ , MATLAB, OpenGL, Pascal, PHP, Prolog, Python, R, Scheme, SQL, Visual Basic.