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–

Computer Science and Engineering, City, 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)
- Ran training courses for: git, continuous integration, module testing.
- Sat on hiring committees for postdoctoral fellows.

Software Sustainability Institute, UK — *Fellow 2016*   2016–2017

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

PREPRINTS &
UNPUBLISHED

Guest, O. Love, B. C. (in prep; invited for special issue). Model comparison as an alternative to theory falsification. *Perspectives on Psychological Science*

Guest, O., Caso A. & Cooper, R. P. (2019; available on request). On Simulating Neural Damage in Connectionist Networks. *Psychological Review*

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

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 Winnower*.

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.

INVITED
TALKS

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

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.

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, UCL
- Media Coverage: CS Monitor, Medical Daily, MinnPost, Newsweek, Pacific Standard, Phys.org.

REVIEWING & SERVICE

The Journal of Open Source Software — *Topic Editor*   2019–

ReScience Journal — *Associate Editor*   2015–

Ad hoc

International Conference on Cognitive Modelling (ICCM), Scientific Computing with Python Conference (SciPy), Cognitive Science Journal, Cognitive Psychology, Memory & Cognition.

TECHNICAL SKILLS

General

- Web design (e.g., bradlove.org, neuroplausible.com, oliviaguest.com, redistrict.science, 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.

LANGUAGES

Native: Modern Greek, Cypriot Greek, English

Basic: French, Italian