

Olivia Guest

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DEGREES	Ph.D. <i>Towards a Unified Computational Account of Semantic Impairments</i>	2014
	Birkbeck, UK Supervisors: <i>Richard P. Cooper, Eddy J. Davelaar</i>	
	M.Sc. Cognitive and Decision Sciences (Distinction)	2010
	University College London (UCL), UK	
	B.Sc. Computer Science	2009
	The University of York, UK	
EMPLOYMENT HISTORY	Donders Centre for Cognition, Radboud University	
	Netherlands, Assistant Professor	2021–
	Donders Centre for Cognitive Neuroimaging, Radboud University	
	Netherlands, Postdoctoral Researcher	2020–2021
	Research Centre on Interactive Media, Smart Systems & Emerging Technologies (CYENS)	
	Cyprus, Independent Researcher	2019–2020
	Department of Experimental Psychology, University College London	
	UK, Postdoctoral Researcher	2016–2019
	Department of Experimental Psychology, University of Oxford	
	UK, Postdoctoral Researcher	2014–2016
	Department of Psychological Sciences, Birkbeck	
	UK, Graduate Teaching Assistant / Ph.D. student	2010–2014
AWARDS, FELLOWSHIPS, & GRANTS	Western-Radboud Collaboration Fund (co-applicant)	2022–
	• Partner in collaboration on governance of artificial intelligence (AI) systems.	
	DCC Student Assistantship Funding	2022
	• Designed and obtained funding for mentoring a student assistant for a project on multiple realisability; to aid in creation of a computer simulation environment.	
	Shuttleworth Foundation Flash Grant: \$5,000	2021
	• Funding is in recognition of my work as a “social change agent”, based on nominations from Shuttleworth Flash Fellows.	
	Nomination for Faculty of Social Sciences Junior Education Prize	2021
	• Nominated by the student representatives of the BSc Degree Programme Committee.	
	Software Sustainability Institute Fellowship: £3,000	2017

EDITORIAL ROLES	Cogent Psychology — <i>Editorial Board</i>	2021–
	ReScience C Journal — <i>Editor-in-Chief</i>	2020–
	The Journal of Open Source Software — <i>Topic Editor</i>	2019–
	ReScience C Journal — <i>Associate Editor</i>	2015–2020
	Special issue on NeurIPS 2019 Reproducibility Challenge Co-edited special issue of ReScience C.	2019
REVIEWING	Conferences (ad hoc reviewing) International Conference on Learning Representations (ICLR), International Conference on Cognitive Modelling (ICCM), International Conference on Machine Learning (ICML), Scientific Computing with Python Conference (SciPy), EnviroInfo.	
	Journals (ad hoc reviewing) Cognitive Neuropsychology, Cognitive Psychology, Cognitive Science Journal, Journal of Cognitive Neuroscience, Journal of Open Source Education, Memory & Cognition, PeerJ, PLoS Computational Biology, Royal Society Open Science, Topics in Cognitive Science.	
TEACHING	School of Artificial Intelligence, Radboud, NL	
	Assistant Professor	2021–
	Postdoctoral Research Assistant	2021
	<i>AI as a Science</i>	
	<ul style="list-style-type: none"> Module: 3EC <i>Third Year, B.Sc.</i> Designed course from the ground up. Redesigned course (since in its 2nd year it has 10 times the students; from 5 to 50). 	
	<i>Theoretical Foundations for Cognitive Agents</i>	
	<ul style="list-style-type: none"> Module: 6EC <i>M.Sc.</i> Redesigned course from the ground up. 	
	Department of Experimental Psychology, University of Oxford, UK	
	Postdoctoral Research Assistant	2014–2016
	<i>Block Practical: Connectionist Models and Cognitive Processes</i>	
	<ul style="list-style-type: none"> Module: <i>Third Year, B.Sc.</i> Designed course structure and materials (slides and exercises). Students replicated from scratch Tyler et al. (2000) in Python. Created course website: oliviaguest.com/connectionism. 	
	<i>Tutorial: Language and Cognition</i>	
	<ul style="list-style-type: none"> Module: <i>Second Year, B.Sc.</i> Set essays and marked exams. 	
	Department of Psychological Sciences, Birkbeck, University of London, UK	
	Graduate Teaching Assistant	2010–2014
	<ul style="list-style-type: none"> Modules Taught: <i>General Foundations of Psychology, Psychobiology, Advanced Research Methods, Advanced Quantitative Methods, Memory and Cognition, Matlab Programming for Psychological Science,</i> 	

SUPERVISION & MENTORING	Research project 2020– <ul style="list-style-type: none"> • Lelia Erscoi (BSc student, Radboud University) • Rory Spanton (PhD candidate, University of Plymouth) • Perna Aneja (PhD candidate, University of East Anglia)
	Thesis supervision 2022 <ul style="list-style-type: none"> • Noa Baijens (BSc thesis, 2022) • Lelia Erscoi (BSc thesis, 2022) • Evelien van Dijk (BSc thesis, 2022) • Joost Vossers (BSc thesis, 2022)
	Computational & statistical modelling office/social hours (with Samuel H. Forbes) 2021 <ul style="list-style-type: none"> • Every Tuesday afternoon, 6pm C(S)ET onwards. • Students (especially in neuroscience and psychology) pop in for advice and mentoring.
	Other supervision/mentoring 2010– <ul style="list-style-type: none"> • Contributed to various projects through supervision and mentoring of students and junior researchers at Birkbeck College, University of Oxford, University College London, & Radboud University.
MANUSCRIPTS (under review, revision or in prep)	<p>Erscoi, L. A., Kleinherenbrink, A., & Guest, O. (in prep) My Fair AI; from Pygmalion to the Present (2022).</p> <p>Guest, O., van Rooij, I., & Martin, A. E. (in prep; invited to special issue) What are our models really, and are models real? How metatheoretical calculi can obtain in cognitive computational neuroscience (2022). <i>Synthese</i>.</p> <p>Guest, O. & Martin, A. E. (revise & resubmit) On logical inference over brains, behaviour, and artificial neural networks. <i>Computational Brain & Behavior</i>. doi.org/10.31234/osf.io/tbmcg</p> <p>Forbes, S. H., Aneja, P., & Guest, O. (under review in special issue). The Myth of Normative Development. <i>Infant and Child Development</i>. doi.org/10.31234/osf.io/ajynp</p>
PUBLICATIONS	<p>Levitis, E. et al. (2021). Centering inclusivity in the design of online conferences—An OHBM–Open Science perspective. <i>Gigascience</i>. doi.org/10.1093/gigascience/giab051</p> <p>Guest, O. & Birhane, A. (2021). Towards decolonising computational sciences. <i>Women, Gender & Research</i>. doi.org/10.7146/kkf.v29i2.124899</p> <p>Guest, O. & Martin, A. E. (2021). How computational modeling can force theory building in psychological science. <i>Perspectives on Psychological Science</i>. doi.org/10.1177/1745691620970585</p> <p>Barlas, P., Kyriakou, K., Guest, O., Kleanthous, S., & Otterbacher, J. (2021). To “See” is to Stereotype: Image Tagging Algorithms, Gender Recognition, and the Accuracy-Fairness Trade-off. <i>The 23rd ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2020)</i>. doi.org/10.1145/3432931</p> <p>Bobadilla Suárez, S., Guest, O., & Love, B. C. (2020). Subjective value and decision entropy are jointly encoded by aligned gradients across the human brain. <i>Communications Biology</i>. doi.org/10.1038/s42003-020-01315-3</p>

Botvinik-Nezer, R. et al. (2020). Variability in the analysis of a single neuroimaging dataset by many teams. *Nature*.

doi.org/10.1038/s41586-020-2314-9

Guest, O., Caso A. & Cooper, R. P. (2020). On Simulating Neural Damage in Connectionist Networks. *Computational Brain & Behavior*

doi.org/10.1007/s42113-020-00081-z

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

doi.org/10.1007/s42001-019-00053-9

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

doi.org/10.7554/eLife.21397

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

doi.org/10.7717/peerj-cs.142

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

doi.org/10.1371/journal.pone.0137685

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

doi.org/10.1016/j.cogsys.2013.05.001

CONFERENCE PROCEEDINGS

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*.

Guest, O., Cooper, R. P. & Davelaar, E. J. (2014). The Influence of Implementation on "Hub" Models of Semantic Cognition. In J. Mayor, P. Gomez (Eds.), *Computational Models of Cognitive Processes*.

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*.

MAGAZINES & NEWSLETTERS

Whitaker, K., & **Guest, O.** (2020). #bropenscience is broken science. *The Psychologist*.

doi.org/10.5281/zenodo.4099011

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

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

doi.org/10.15200/winn.146590.01538

PREPRINTS

Spanton, R. W. & **Guest, O.** (2022) Measuring Trustworthiness or Automating Physiognomy? A Comment on Safra, Chevallier, Grèzes, and Baumard (2020). *arXiv*.

doi.org/10.48550/arXiv.2202.08674

Guest, O. (2021) & Martin, A. E. On logical inference over brains, behaviour, and artificial neural networks. *PsyArXiv*.

doi.org/10.31234/osf.io/tbmcg

Levitis, E. et al. (2021). Centering inclusivity in the design of online conferences. *PsyArXiv*.

doi.org/10.31234/osf.io/vj5tu

SELECTED
INVITED
TALKS, PANELS &
WORKSHOPS

What makes a good theory? Interdisciplinary Perspectives

Leiden, NL

20–24 Jun 2022

- Keynote speaker
- Organisers: Iris van Rooij, Todd Wareham, Berna Devezer, Sashank Varma, and Joshua Skewes

ACM/IEEE HRI 2022 Workshop on Modeling Human Behavior in Human-Robot Interactions

Virtual

1 Mar 2022

- Keynote: *How Computational Modeling Can Force Theory Building*
- Organisers: Serge Thill, Arkady Zgonnikov

Edinburgh ReproducibiliTea

Edinburgh, UK (Virtual)

18 Feb 2022

- Panel: *EDI in Open Research*
- Co-panellists: Soliman, Nadia, Catherine Talbot, Kirstie Whitaker
- Organiser: Emily Sena

Mind & Machine Seminar Series 2021 at Bristol University

Bristol, UK (Virtual)

16 Dec 2021

- Talk: *On logical inference over brains, behaviour, and artificial neural networks*
- Organisers: Guillermo Puebla, Valerio Biscione, and Jeff Bowers

Radboud University Centre for Analytical Modelling in the Social Sciences and Humanities (RUCAM-SSH)

Nijmegen, NL

1 Nov 2021

- Talk: *On logical inference over brains, behaviour, and artificial neural networks*
- Organiser: Rein van Alebeek

Research colloquium at the Faculty of Psychology at the University of Basel

Basel, Switzerland (Virtual)

21 Oct 2021

- Talk: *On logical inference over brains, behaviour, and artificial neural networks*
- Organiser: Jana Jarecki

Society for Personality and Social Psychology's Annual Convention (SPSP) 2021

Austin, Texas (Virtual)

11 Feb 2021

- Workshop: *Computational Modeling and Theory-Building*
- Organiser: John K. Sakaluk

ReproducibiliTea UCL

UCL, UK (Virtual)

14 Sep 2020

- Talk: *How computational modeling can force theory building in psychological science*
- Organisers: Emma Norris, Tabea Schoeler, & Jessie Baldwin

MathPsych/ICCM 2020

Toronto, Canada (Virtual)

25–28 Jul 2020

- Symposium: *Perspectives on “What makes a good theory?”*
- Talk: *How computational modelling can force theory building in psychological science*
- Organisers: Iris van Rooij & Chris Donkin
- [Click to watch video on YouTube](#)

RIOT Science Club

King's College London, London, UK (Virtual)

2 Jul 2020

- Talk: *How computational modeling can force theory building in psychological science*
- Organiser: Miguel Xochicale
- NB: I have given this talk many times (not listed)
- [Click to watch video on YouTube](#)

ReproducibiliTea Glasgow

Univeristy of Glasgow, UK (Virtual)

20 Apr 2020

- Speakers: Olivia Guest & Andrea E. Martin
- Talk: *How computational modeling can force theory building in psychological science*
- Organisers: Anna Henschel & Stephanie Allan
- [Click to watch video on YouTube](#)

Research Centre on Interactive Media, Smart Systems and Emerging Technologies

Nicosia, Cyprus

16 Jul 2019

- Talk: *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

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

Open Data Day 2018

Goldsmiths, University of London, UK

3 Mar 2018

- Talk: *Gerrymandering and Computational Redistricting.*

Cognitive Neuroscience Friday Seminar (FriSem)

Stanford University, California, USA

16 Feb 2018

- Talk: *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

- Talk: *Gerrymandering and Computational Redistricting.*

Centre for Language Studies

Radboud University, The Netherlands

8 Mar 2017

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

London Judgement and Decision Making Seminars

University College London, UK

8 Feb 2017

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

Summerfield Lab

University of Oxford, UK

23 Nov 2016

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

MathPsych/ICCM 2020

Virtual

20 Jul 2020

- Talk (invited, see above section for more details): *How computational modelling can force theory building in psychological science.*
- [Click to watch video on YouTube.](#)

Open Science Room at Organisation for Human Brain Mapping (OHBM)

Virtual

30 Jun 2020

- Panel discussion (invited): *Past, Present and Future of Open Science (Emergent session): Pre-registration, Registered reports.*
- [Click to watch video on YouTube](#)

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 (invited) 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	Queer in AI @ ICML 2020 Workshop	14 Jul 2020
	<i>Virtual</i>	
	<ul style="list-style-type: none"> Organised and ran COVID-19 Issues and LGBTQ Folks in ML/AI with Stephen Moll-drem, Mustafa I. Hussain, and Luke Stark. 	
	18th Scientific Computing with Python Conference (SciPy 2019)	8–14 Jul 2019
	<i>Austin, Texas, USA</i>	
	<ul style="list-style-type: none"> 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)	25 Jul 2018
	<i>Madison, Wisconsin, USA</i>	
	<ul style="list-style-type: none"> Topic: Women and Gender Minorities in Computational Cognitive Science: Sharing Experiences. Co-organised with Nora S. Newcombe. 	
	16th Scientific Computing with Python Conference (SciPy 2017)	10–16 Jul 2017
	<i>Austin, Texas, USA</i>	
	<ul style="list-style-type: none"> Chaired neuroscience mini-symposium with Ariel Rokem. Reviewed conference submissions. 	
	Research Data Visualisation Workshop (RDVW)	28 Jul 2016
	<i>Software Sustainability Institute, University of Manchester</i>	
	<ul style="list-style-type: none"> 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	23–25 Apr 2014
	<i>CCCM, Birkbeck</i>	
	<ul style="list-style-type: none"> Organised 3-day workshop with Chris Brand (co-organiser). Prepared slides, exercises, created website. 	
MAINSTREAM MEDIA & OUTREACH	Selected popular blog posts from: neuroplausible.com	2017–
	<ul style="list-style-type: none"> Why Women in Psychology Can't Program I Hate Matlab: How an IDE, a Language, and a Mentality Harm 	
	Measuring Trustworthiness or Automating Physiognomy?	2022
	Media Coverage: No, Machine Learning Can't Predict Trustworthiness Based on Faces , The Debrief	
	Gerrymandering and computational redistricting	2017
	Media Coverage: An Unbiased Algorithm Could Help Put an End to Partisan Gerrymandering , Seeker	
	BBC Radio 4: Today Show	2016
	Interview: What can we learn in 4 months?	
	Optimism bias in fans and sports reporters	2015
	Press Releases: University of Oxford , UCL	
	Media Coverage: CS Monitor , Medical Daily , MinnPost , Newsweek , Pacific Standard , Phys.org .	

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+).
- Unix (e.g., CLI, server administration).

Programming language experience

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