

# Tom E. Hardwicke

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## Academic appointments

Aug 2019 **Marie Skłodowska-Curie Fellow.**

- present Department of Psychology,  
University of Amsterdam, The Netherlands.  
Advisor: Prof. Eric-Jan Wagenmakers.

Mar 2019 **Visiting Fellow.**

- present Berlin Institute of Health QUEST Center,  
Charité – Universitätsmedizin Berlin, Germany.

Jan 2019 - **Postdoctoral Scholar.**

Feb 2020 Meta-Research Innovation Center Berlin (METRIC-B),  
Berlin Institute of Health QUEST Center,  
Charité – Universitätsmedizin Berlin, Germany.  
Advisor: Prof. John Ioannidis.

Jan 2017 - **Postdoctoral Fellow.**

Dec 2018 Meta-Research Innovation Center at Stanford (METRICS),  
Stanford University, United States of America.  
Advisors: Prof. John Ioannidis, Prof. Steven Goodman, & Prof. Michael Frank.

## Education

2016 **PhD Experimental Psychology.**

University College London, United Kingdom.  
Advisor: Prof. David Shanks.

2012 **MRes Brain Imaging and Cognitive Neuroscience.**

The University of Birmingham, United Kingdom.

2011 **BSc Psychology (First Class Honours).**

Cardiff University, United Kingdom.

## Awards

2013 **Best Poster Prize.**

Economic and Social Research Council Annual Meeting.

2011 **The George Westby Prize (highest degree grade).**

Cardiff University.

2011 **The Stuart Diamond Memorial Prize (best final year project).**

Cardiff University.

2011 **The British Psychological Society Undergraduate Award.**

Cardiff University.

2010 **Best Presentation Award.**

British Psychological Society Student Conference.

## Publications

Hardwicke, T. E., Bohn, M., MacDonald, K., Hembacher, E., Nuijten, M. B., Peloquin, B. N., deMayo, B., Long, B., Yoon, E. J., & Frank, M. C. (preprint). Analytic reproducibility in articles receiving open data badges at Psychological Science: An observational study.

*MetaArXiv*. <http://doi.org/d3mz>

Hardwicke, T. E., & Goodman, S. N. (preprint). How often do leading biomedical journals use statistical experts to evaluate statistical methods? The results of a survey.

*MetaArXiv*. <http://doi.org/dv4q>

Hardwicke, T. E., Thibault, R. T., Kosie, J. E., Wallach, J. D., Kidwell, M. C., & Ioannidis, J. P. A. (preprint). Estimating the prevalence of transparency and reproducibility-related research practices in psychology (2014-2017).

*MetaArXiv*. <http://doi.org/dv4p>

Hardwicke, T. E., Serghiou, S., Janiaud, P., Danchev, V., Crüwell, S., Goodman, S. N., & Ioannidis, J. P. A. (2020). Calibrating the scientific ecosystem through meta-research.

*Annual Review of Statistics and its Application*. <http://doi.org/dv4n>

Ferrero, M., Hardwicke, T. E., Konstantinidis, E., & Vadillo, M. A. (2020). The effectiveness of refutation texts to correct misconceptions among educators.

*Journal of Experimental Psychology: Applied*. <http://doi.org/dv4m>

Hardwicke, T. E., Wallach, J. D., Kidwell, M. C., Bendixen, T., Crüwell, S., & Ioannidis, J. P. A. (2020). An empirical assessment of transparency and reproducibility-related research practices in the social sciences (2014-2017).

*Royal Society Open Science*. <http://doi.org/ggm5vg>

Hardwicke, T. E., & Ioannidis, J. P. A. (2019). Petitions in scientific argumentation: dissecting the request to retire statistical significance.

*European Journal of Clinical Investigation*. <http://doi.org/gf8j4t>

Nosek, B. A., Beck, E. D., Campbell, L., Flake, J. K., Hardwicke, T. E., Mellor, D. T., van 't Veer, A. E., & Vazire, S. (2019). Preregistration is hard, and worthwhile.

*Trends in Cognitive Sciences*. <http://doi.org/dv4k>

Hardwicke, T. E., Frank, M. C., Vazire, S., & Goodman, S. N. (2019). Should psychology journals adopt specialized statistical review?

*Advances in Methods and Practices in Psychological Science*. <http://doi.org/gf4mm5>

Hardwicke, T. E. & Ioannidis, J. P. A. (2018). Mapping the universe of Registered Reports.

*Nature Human Behaviour*. <http://doi.org/ggf5xf>

Hardwicke, T. E., Mathur, M. B., MacDonald, K. E., Nilsonne, G., Banks, G. C., Kidwell, M. C.,

- Hofelich Mohr, A., Clayton, E., Yoon, E. J., Henry Tessler, M., Lenne, R. L., Altman, S., Long, B., & Frank, M. C. (2018). Data availability, reusability, and analytic reproducibility: Evaluating the impact of a mandatory open data policy at the journal *Cognition*. *Royal Society Open Science*. <http://doi.org/gdz63s>
- Hardwicke, T. E. & Ioannidis, J. P. A. (2018). Populating the Data Ark: An Attempt to retrieve, preserve, and liberate data from the most highly-cited psychology and psychiatry articles. *PLOS ONE*. <http://doi.org/cs4z>
- Hardwicke, T. E., Tessler, M. H., Peloquin, B. N., Frank, M. C. (2018). A Bayesian decision-making framework for replication. *Behavioral and Brain Sciences*. <http://doi.org/dv4j>
- Klein, O., Hardwicke, T. E., Aust, F., Breuer, J., Danielsson, H., Hofelich Mohr, A., IJzerman, H., Nilsson, G., Vanpaemel, W., & Frank, M. C. (2018). A practical guide for transparency in psychological science. *Collabra: Psychology*. <http://doi.org/gdqd2p>
- Cristea, I. A., Naudet, F., Shanks, D. R., & Hardwicke, T. E. (2017). Post-retrieval Tetris should not be likened to a 'cognitive vaccine'. *Molecular Psychiatry*. <https://perma.cc/X6CV-B644>
- Hardwicke, T. E. (2016). Persistence and plasticity in the human memory system: An empirical investigation of the overwriting hypothesis. *PhD Thesis*. <http://doi.org/dv4h>
- Hardwicke, T. E. & Shanks, D. R. (2016). Reply to Walker and Stickgold: Proposed boundary conditions on memory reconsolidation will require empirical verification. *Proceedings of the National Academy of Sciences*. <https://perma.cc/7JTY-K94U>
- Kidwell, M. C., Lazarević, L. B., Baranski, E., Hardwicke, T. E., Piechowski, S., Falkenberg, L-S., Kennett, C., Slowik, A., Sonnleitner, C., Hess-Holden, C., Errington, T. M., Fiedler, S., & Nosek, B. A. (2016). Badges to acknowledge open practices: A simple, low cost, effective method for increasing transparency. *PLOS Biology*. <http://doi.org/f8pkck>
- Hardwicke, T. E., Mahdi, T., & Shanks, D. R. (2016). Post-retrieval new learning does not reliably induce human memory updating via reconsolidation. *Proceedings of the National Academy of Sciences*. <https://perma.cc/6YZF-9UTE>
- Vadillo, M. A., Hardwicke, T. E., Shanks, D. R. (2016). Publication bias, vote counting, and money priming effects: A comment on Rohrer, Pashler, and Harris (2015) and Vohs (2015). *Journal of Experimental Psychology: General*. <http://doi.org/f8k7cs>
- Baker, R., Dexter, M., Hardwicke, T. E., Goldstone, A., Kourtzi, Z. (2014). Learning to predict: Exposure to temporal sequences facilitates prediction of future events. *Vision Research*. <http://doi.org/f55xxd>
- Ludwig, C. J. H., Farrell, S., Ellis, L. A., Hardwicke, T. E., & Gilchrist, I. D. (2012). Context-gated statistical learning and its role in visual-saccadic decisions. *Journal of Experimental Psychology: General*. <http://doi.org/dgjbhd>

## Invited presentations

- Hardwicke, T. E. (2020). What is this thing called open science? *Goethe University Frankfurt*.
- Hardwicke, T. E. (2020). What is this thing called open science? *Friedrich-Schiller University of Jena*.
- Hardwicke, T. E. (2019). Just another brick in the wall? On the diagnosticity of replications and their contribution to scientific progress. *University of Hamburg*.
- Hardwicke, T. E. (2019). Calibrating the scientific ecosystem through meta-research. *University of Trier*.
- Hardwicke, T. E. (2018). Rehabilitating the scientific ecosystem. *The Bank of England*.
- Hardwicke, T. E. (2018). What is this thing we call 'open science'? *Stanford University*.
- Hardwicke, T. E. (2018). Fostering the preservation, liberation, and re-use of data in psychological science. *University of California, Davis*.
- Hardwicke, T. E. (2017). Principles of reproducible research. *Stanford University*.

## Conference presentations

- Hardwicke, T. E., Wallach, J. D., Crüwell, S., & Ioannidis, J. P. A. (2019). Transdisciplinary estimates for the prevalence of transparency and reproducibility related research practices. *Association for Interdisciplinary Meta Research and Open Science Conference*.
- Hardwicke, T. E., Mathur, M. B., Nilsonne, G., McCarthy, R., Hofelich Mohr, A., & Lindsay, D. S. (2018). Analysis Exchange: Developing an online platform to request verification of analytic reproducibility and statistical expertise. *Society for Improving Psychological Science Conference*.
- Hardwicke, T. E. (2018). SMART pre-registrations: Developing a citation system to facilitate comparison of protocols and papers. *Society for Improving Psychological Science Conference*.
- Hardwicke, T. E. (2017). Open data are not enough: An evaluation of data availability and computational reproducibility at the journal Cognition. *Department of Psychology, Stanford University*.
- Hardwicke, T. E. (2017). Open data are not enough: An evaluation of data availability and computational reproducibility at the journal Cognition. *Society for Improving Psychological Science Conference*.
- Hardwicke, T. E., & Shanks, D. R. (2016). Revisiting the misinformation effect: Does reconsolidation overwrite existing memories? *6<sup>th</sup> International Conference on Memory*. [poster]
- Hardwicke, T. E., Mahdi, T., & Shanks, D. R. (2016). Post-retrieval new learning does not reliably induce human memory updating via reconsolidation. *6<sup>th</sup> International Conference on Memory*.
- Hardwicke, T. E., & Shanks, D. R. (2015). Does reconsolidation enable human memory updating? *Experimental Psychology Society London Meeting*.

- Hardwicke, T. E., & Shanks, D. R. (2014). Does reconsolidation enable human memory updating? *UCL Faculty of Brain Sciences Symposium*. [poster]
- Hardwicke, T. E. (2013). The stability and plasticity of human knowledge. *ESRC UCL DTC Annual Meeting*. [poster]
- Hardwicke, T. E., Ludwig, C. J. H., Farrell, S., Ellis, L. A., & Gilchrist, I. D. (2010). Learning the environmental statistics facilitates effective gaze allocation. *BPS Welsh Branch Annual Student Conference*.
- Hardwicke, T. E., Ludwig, C. J. H., Farrell, S., Ellis, L. A., & Gilchrist, I. D. (2010). Statistical learning facilitates effective gaze allocation. *BVI Young Researchers' Colloquium*. [poster]

## Grants and funding

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|-------------|---|
| 2020 - 2022 | <b>Marie Skłodowska-Curie Individual Fellowship.</b><br>University of Amsterdam, The Netherlands.           |
| 2016        | <b>Grindley Grant (travel), International Conference on Memory.</b><br>Experimental Psychology Society, UK. |
| 2016        | <b>Travel Grant, International Conference on Memory.</b><br>University College London, UK.                  |
| 2015        | <b>ESRC Collaborative Placement Funding.</b><br>Economic and Social Research Council, UK.                   |
| 2014        | <b>Travel Grant, Human Factors in Science Symposium.</b><br>University College London, UK.                  |
| 2012        | <b>ESRC PhD Studentship.</b><br>Economic and Social Research Council, UK.                                   |
| 2009        | <b>Undergraduate Research Opportunities Program.</b><br>Cardiff University, UK.                             |

## Teaching experience

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| 2018 | <b>Ad-Hoc Lecturer</b> ("Principles of research reproducibility and transparency").<br><i>Essentials of Clinical Research (graduate level)</i> , Stanford Medicine, Stanford University. |
| 2018 | <b>Ad-Hoc Lecturer</b> ("Creating reproducible research reports using R Markdown").<br><i>SPSP Webinar</i> . [with Michael Frank]  |
| 2018 | <b>Ad-Hoc Lecturer</b> ("How to write a reproducible scientific paper"). <i>Experimental Methods (graduate-level)</i> , Department of Psychology, Stanford University.                   |
| 2018 | <b>Ad-Hoc Lecturer</b> ("Data visualization in R"). <i>Introduction to R (undergraduate-level)</i> , Department of Psychology, Stanford University.                                      |
| 2018 | <b>Ad-Hoc Lecturer</b> ("Repeatability, reproducibility, and validation"). <i>Scientific Method</i>  |

*and Bias (undergraduate-level)*, Stanford University.

- 2018 **Ad-Hoc Lecturer** ("Principles of reproducible research"). *Essentials of Clinical Research (graduate level)*, Stanford Medicine, Stanford University.
- 2017 **Ad-Hoc Lecturer** ("On the nature of replication"). *CSLI Summer School (undergraduate-level)*, Center for the Study of Language and Information, Stanford University.
- 2017 **Ad-Hoc Lecturer** ("Building a reproducible research workflow"). *Essentials of Clinical Research (graduate-level)*, Stanford Medicine, Stanford University.
- 2014 - 2016 **Postgraduate Teaching Assistant**. *Research and Quantitative Methods in Psychology (undergraduate-level)*, Department of Experimental Psychology, University College London.
- 2016 **Ad-hoc lecturer** ("Introduction to open science"). *Social Cognition (graduate-level)*, Department of Experimental Psychology, University College London.
- 2015 **Ad-hoc lecturer** ("Introduction to memory & learning"). *Cognitive and Decision Sciences (graduate-level)*, Department of Experimental Psychology, University College London.

## Student supervision and mentorship

- 2019 - present Maia Salholz-Hillel (PhD). [co-supervised with Prof. Daniel Strech]
- 2019 - present Sophia Crüwell (PhD). [co-supervised with Prof. John Ioannidis]
- 2018 Athena Braun (undergraduate).
- 2017 Emily Huxtable (undergraduate).
- 2016 Bethany Manning (undergraduate).
- 2015 Gudmundur Haraldsson (masters).
- 2014 Mahdi Taqi (masters).

## Additional roles and professional service

- Ad-hoc **Peer-reviewer**. Royal Society Open Science | Nature Human Behaviour | Research Integrity and Peer Review | Research Synthesis Methods | Advances in Methods and Practices in Psychological Science | Collabra: Psychology | Journal of Experimental Psychology: Learning Memory & Cognition | Research Synthesis | Behavior Research Methods | General Psychiatry | PLOS ONE | Behavioural Brain Research | Nature Communications | PeerJ | Sports Medicine | JMIR Dermatology | Cognition | Communications of the ACM | Perspectives on Psychological Science.
- 2017 - **Open Science Catalyst**. Berkeley Initiative for Transparency in the Social Sciences

- present (BITSS).
- 2015 - **Open Science Ambassador.** Center for Open Science.
- present
- 2020 **Outgoing Chair (Conference Program Committee).** Society for Improving Psychological Science 2020 Annual Conference [online].
- 2018 - 2019 **Executive Committee Member.** Society for Improving Psychological Science (SIPS).
- 2019 **Chair (Conference Program Committee).** Society for Improving Psychological Science 2019 Annual Conference, Rotterdam, Netherlands.
- 2015 **Scholar in Residence.** Center for Open Science.
- 2015 **Convener.** Is Science Broken? [Public debate]. University College London.
- 2012 – 2015 **Co-founder of CRITUCL.** Postgraduate discussion group.
- 2012 – 2015 **Opticon1826 Faculty Editor (Brain Sciences).** University College London.
- 2012 – 2014 **ESRC Student Representative.** University College London.
- 2009 - 2010 **Research collaborator.** School of Psychology | University of Bristol.

## Transparent research practices

The following resources can be found via my Open Science Framework page (<https://osf.io/i8w73>):

- Pre-prints
- Open data
- Open materials
- Open analysis scripts
- Pre-registered study protocols

## Programming languages

R, JavaScript, HTML

## References

Available on request.