

Tom E. Hardwicke

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University of Amsterdam

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ACADEMIC APPOINTMENTS

Marie Skłodowska-Curie Fellow. Department of Psychology, University of Amsterdam, The Netherlands. Advisor: Prof. Eric-Jan Wagenmakers.	2020 – present [2 years]
Visiting Fellow. Berlin Institute of Health QUEST Center, Charité – Universitätsmedizin Berlin, Germany.	2020 – 2021 [1 year]
Postdoctoral Scholar. Meta-Research Innovation Center Berlin (METRIC-B), Berlin Institute of Health QUEST Center, Charité – Universitätsmedizin Berlin, Germany. Advisor: Prof. John Ioannidis.	2019 – 2020 [1 year]
Postdoctoral Fellow. Meta-Research Innovation Center at Stanford (METRICS), Stanford University, USA. Advisors: Prof. John Ioannidis, Prof. Steven Goodman, & Prof. Michael Frank.	2017 – 2018 [2 years]

EDUCATION

PhD Experimental Psychology. University College London, UK. Advisor: Prof. David Shanks.	2012 – 2016 [4 years]
MRes Brain Imaging and Cognitive Neuroscience. The University of Birmingham, UK.	2011 – 2012 [1 year]
BSc Psychology (First Class Honours). Cardiff University, UK.	2007 – 2011 [4 years]

PUBLICATIONS

- Hardwicke, T. E., Salholz-Hillel, M., Malički, M., Szűcs, D., Bendixen, T., Ioannidis, J. P. A. (preprint). Statistical guidance to authors at top-ranked journals across scientific disciplines. *MetaArXiv*. <https://doi.org/hmq6>
- Fernández, L. M., Hardwicke, T. E., & Vadillo, M. A. (preprint). Retracted papers clinging on to life: An observational study of post-retraction citations in psychology. *PsyArXiv*. <https://doi.org/hcht>
- Hardwicke, T. E., & Wagenmakers, E.-J. (preprint). Reducing bias, increasing transparency, and calibrating confidence with preregistration. *MetaArXiv*. <https://doi.org/f76t>
- Hardwicke, T. E., Thibault, R. T., Kosie, J. E., Tzavella, L., Bendixen, T., Handcock, S. A. Köneke, V. E., Ioannidis, J. P. A. (in press). Post-publication critique at top-ranked journals across scientific disciplines: A cross-sectional assessment of policies and practice. *Royal Society Open Science*. <https://doi.org/hc7d>
- TARG Meta-Research Group & Collaborators, Thibault, R. T., Hardwicke, T. E., Clark, R. W. A., Pennington, C. R., Nilsonne, G., O'Mahony, A., Drax, K., Thompson, J., Munafò, M. R. (in press). Discrepancy review: A feasibility study of a novel peer review intervention to reduce undisclosed discrepancies between registrations and publications. *Royal Society Open Science*. <https://doi.org/hdgv>
- Nosek, B. A., Hardwicke, T. E., Moshontz, H., Allard, A., Corker, K. S., Dreber, A., Fidler, F., Hilgard, J., Kline Struhl, M., Nuijten, M., Rohrer, J., Romero, F., Scheel, A., Scherer, L., Schönbrodt, F., & Vazire, S. (2022). Replicability, robustness, and reproducibility in psychological science. *Annual Review of Psychology*, 73, 719-748. <https://doi.org/g3qf>
- Hardwicke, T. E., Thibault, R. T., Kosie, J. E., Wallach, J. D., Kidwell, M. C., & Ioannidis, J. P. A. (2022). Estimating the prevalence of transparency and reproducibility-related research practices in psychology (2014-2017). *Perspectives on Psychological Science*, 17(1), 239-251. <https://doi.org/fzwj>
- Hardwicke, T. E., Szűcs, D., Thibault, R. T., Crüwell, S., van den Akker, O. R., Nuijten, M. B., & Ioannidis, J. P. A. (2021). Citation patterns following a strongly contradictory replication result: Four case studies from psychology. *Advances in Methods and Practices in Psychological Science*, 4(3), 1-14. <https://doi.org/gwt8>
- 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. (2021). Analytic

- reproducibility in articles receiving open data badges at Psychological Science: An observational study. *Royal Society Open Science*, 8, 201494. <https://doi.org/fp2m>
- Hardwicke, T. E., & Goodman, S. N. (2020). How often do leading biomedical journals use statistical experts to evaluate statistical methods? The results of a survey. *PLOS ONE*, 15(10), e0239598. <https://doi.org/fbz5>
- 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*, 7, 11-37. <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*, 26(3), 411-421. <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*, 7, 190806. <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*, 49(10), e13162. <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*, 23(10), 815-818. <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*, 2(3), 240-249. <http://doi.org/gf4mm5>
- Hardwicke, T. E. & Ioannidis, J. P. A. (2018). Mapping the universe of Registered Reports. *Nature Human Behaviour*, 2, 793–796. <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*, 5, 180448. <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*, 13(8): e0201856. <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*, 41, e132. <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*, 4(1), 20. <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*, 23, 1972-1973. <https://perma.cc/X6CV-B644>
- 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*, 113(28), E3993-E3994. <https://doi.org/gzdvd>
- 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*, 14(5): e1002456. <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*, 113(19), 5206-5211. <https://doi.org/f8kq2d>
- 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*, 145(5), 655-663. <http://doi.org/f8k7cs>
- 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>
- 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*, 99, 124-133. <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*, 141(1), 150-169. <http://doi.org/dgjbhd>

PRESENTATIONS

- Hardwicke, T. E. (2022). Independent post-publication editors: A proposal to facilitate transparency, accountability, and critical discourse at academic journals. *Society for Improving Psychological Science Conference*.
- Hardwicke, T. E. (2022). Making transparency the default in scientific research: How are we doing and where are we going? *CIDER Workshop, Leibniz Institute for Research and Information in Education, Germany*. [invited keynote]
- Hardwicke, T. E. (2022). How should journals handle scientific criticism? *METRICS International Forum, Stanford University, USA*. [invited]
- Hardwicke, T. E. (2022). Citation patterns following a strongly contradictory replication result: Four case studies from psychology. *Berkeley Initiative for Transparency in the Social Sciences Annual Meeting. University of California, Berkeley, USA*.
- Hardwicke, T. E. (2021). Computational reproducibility in psychology: Essential, neglected, & achievable. *Association for Interdisciplinary Meta Research and Open Science Conference*. [invited]
- Hardwicke, T. E. (2021). Share if you can, declare if you can't: Making transparency the default in psychological science. *University of Lancaster, UK*. [invited]
- Hardwicke, T. E. (2021). Preregistration: A pragmatic tool to reduce bias and calibrate confidence in scientific research. *Ludwig Maximilian University of Munich, Germany*. [invited]
- Hardwicke, T. E. (2020). Calibrating the scientific ecosystem through meta-research. *University of Osnabrück, Germany*. [invited]
- Hardwicke, T. E. (2020). Calibrating the scientific ecosystem through meta-research. *University of Bristol, UK*. [invited]
- Hardwicke, T. E. (2020). What is this thing called open science? *Goethe University Frankfurt, Germany*. [invited]
- Hardwicke, T. E. (2020). What is this thing called open science? *Friedrich-Schiller University of Jena, Germany*. [invited]
- Hardwicke, T. E. (2019). Just another brick in the wall? On the diagnosticity of replications and their contribution to scientific progress. *University of Hamburg, Germany*. [invited]
- 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*. [poster]
- Hardwicke, T. E. (2019). Calibrating the scientific ecosystem through meta-research. *University of Trier, Germany*. [invited keynote]
- Hardwicke, T. E. (2018). Rehabilitating the scientific ecosystem. *The Bank of England, UK*. [invited]
- Hardwicke, T. E. (2018). What is this thing we call 'open science'? *Stanford University, USA*. [invited]
- Hardwicke, T. E. (2018). Fostering the preservation, liberation, and re-use of data in psychological science. *University of California, Davis, USA*. [invited]
- 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). Principles of reproducible research. *Stanford University, USA*. [invited]
- 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? *6th 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. *6th 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]

AWARDS

- | | |
|---|------|
| Best Poster Prize. | 2013 |
| Economic and Social Research Council Annual Meeting. | |
| The George Westby Prize (highest degree grade). | 2011 |
| Cardiff University. | |
| The Stuart Diamond Memorial Prize (best final year project). | 2011 |
| Cardiff University. | |
| The British Psychological Society Undergraduate Award. | 2011 |
| Cardiff University. | |
| Best Presentation Award. | 2010 |
| British Psychological Society Student Conference. | |

GRANTS & FUNDING

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|---|------|
| Marie Skłodowska-Curie Individual Fellowship. | 2020 |
| European Commission, Europe. | |
| Grindley Grant (travel), International Conference on Memory. | 2016 |
| Experimental Psychology Society, UK. | |
| Travel Grant, International Conference on Memory. | 2016 |
| University College London, UK. | |
| ESRC Collaborative Placement Funding. | 2015 |
| Economic and Social Research Council, UK. | |
| Travel Grant, Human Factors in Science Symposium. | 2014 |
| University College London, UK. | |

ESRC PhD Studentship. Economic and Social Research Council, UK.	2012
Undergraduate Research Opportunities Program. Cardiff University, UK.	2009

TEACHING EXPERIENCE

Ad-Hoc Lecturer ("Calibrating the scientific ecosystem through meta-research"). <i>Good Research Practices (graduate-level)</i> , Department of Psychology, University of Amsterdam.	2021
Ad-Hoc Lecturer ("Calibrating the scientific ecosystem through meta-research"). <i>Good Research Practices (graduate-level)</i> , Department of Psychology, University of Amsterdam.	2020
Ad-Hoc Lecturer ("Reproducible reports with R Markdown"). <i>Western Psychological Association Convention</i> . [with Michael Frank]	2020
Ad-Hoc Lecturer ("Principles of research reproducibility and transparency"). <i>Essentials of Clinical Research (graduate level)</i> , Stanford Medicine, Stanford University.	2018
Ad-Hoc Lecturer ("Creating reproducible research reports using R Markdown"). <i>SPSP Webinar</i> . [with Michael Frank]	2018
Ad-Hoc Lecturer ("How to write a reproducible scientific paper"). <i>Experimental Methods (graduate-level)</i> , Department of Psychology, Stanford University.	2018
Ad-Hoc Lecturer ("Data visualization in R"). <i>Introduction to R (undergraduate-level)</i> , Department of Psychology, Stanford University.	2018
Ad-Hoc Lecturer ("Repeatability, reproducibility, and validation"). <i>Scientific Method and Bias (undergraduate-level)</i> , Stanford University.	2018
Ad-Hoc Lecturer ("Principles of reproducible research"). <i>Essentials of Clinical Research (graduate level)</i> , Stanford Medicine, Stanford University.	2018
Ad-Hoc Lecturer ("On the nature of replication"). <i>CSLI Summer School (undergraduate-level)</i> , Center for the Study of Language and Information, Stanford University.	2017

- Ad-Hoc Lecturer** (“Building a reproducible research workflow”). 2017
Essentials of Clinical Research (graduate-level), Stanford Medicine,
Stanford University.
- Postgraduate Teaching Assistant.** *Research and Quantitative Methods* 2014 -2016
in Psychology (undergraduate-level), Department of Experimental
Psychology, University College London.
- Ad-hoc lecturer** (“Introduction to open science”). *Social Cognition* 2016
(graduate-level), Department of Experimental Psychology, University
College London.
- Ad-hoc lecturer** (“Introduction to memory & learning”). *Cognitive* 2015
and Decision Sciences (graduate-level), Department of Experimental
Psychology, University College London.

STUDENT SUPERVISION & MENTORSHIP

PHD STUDENTS

Maia Salholz-Hillel (Current, co-supervisor), Sophia Crüwell (Current, co-supervisor).

UNDERGRADUATE (U) & MASTERS (M) STUDENTS

Mahdi Taqi (2014, M); Gudmundur Haraldsson (2015, M); Bethany Manning (2016, UG); Emily Huxtable (2017, UG); Athena Braun (2018, UG); Judith Herbers (2020, M).

PHD JURY MEMBERSHIP

Natalie Schroyens (2021, KU Leuven). Michael Gordon (2022, Massey University)

PROFESSIONAL SERVICE

Peer-review (journals/conferences). Royal Society Open Science [5]. Advances in Methods and Practices in Psychological Science [3]. American Psychologist [2]. Collabra: Psychology [2]. PLOS ONE [2]. International Congress on Peer Review and Scientific Publication [2]. Behavior Research Methods [2]. PLOS Computational Biology [1]. Research Integrity and Peer Review [1]. Research Synthesis Methods [1]. Journal of Experimental Psychology: Learning Memory & Cognition [1]. Neuroinformatics [1]. Research Synthesis [1]. BMC Research Notes [1]. General Psychiatry [1]. Prevention Science [1]. Behavioural Brain Research [1]. Nature Communications [1]. PeerJ [1]. Sports Medicine [1]. JMIR Dermatology [1].

Communications of the ACM [1]. Psychological Methods [1]. Cognition [1].
 Perspectives on Psychological Science [1]. Psychological Science [1]. Nature Human
 Behaviour [1]. Science [1].

Peer-review (funders). National Science Foundation (USA) [1]. National Science
 Center (Poland) [1].

Open Science Catalyst. Berkeley Initiative for Transparency in the Social Sciences (BITSS). 2017 – present

Open Science Ambassador. Center for Open Science. 2015 – present

Conference Program Committee Member. Society for Improving Psychological Science 2020 Annual Conference [online]. 2020

Executive Committee Member. Society for Improving Psychological Science. 2018 – 2019

Conference Program Committee Chair. Society for Improving Psychological Science 2019 Annual Conference, The Netherlands. 2019

Scholar in Residence. Center for Open Science. 2015

Convener. Is Science Broken? [Public debate]. University College London. 2015

Co-founder of postgraduate discussion group CRITUCL. University College London. 2012 – 2015

Opticon1826 Faculty Editor (Brain Sciences). University College London. 2012 – 2015

ESRC Student Representative. University College London. 2012 – 2014

REFERENCES

Available on request.