Manuel Anglada-Tort

Goldsmiths, University of London

Lecturer in Psychology

November 2023

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Research, teaching, and education

2023 - **Lecturer in Psychology**

Department of Psychology, Goldsmiths, University of London

- Researching psychological and cultural foundations of complex social behaviour, such as music and art.
- Developing new methods to increase the efficiency, scalability, and diversity of psychological research, including computational methods and massive online experiments.
- Teaching courses on cognitive science, statistics, and research methods.
- Delivering supervisions for undergraduate and postgraduate students.

2023 - 2024 **Departmental Lecturer**

Faculty of Music, University of Oxford

- Leading the Music, Culture, and Cognition Group, conducting research in the intersection between human cognition, music, and cultural evolution.
- Teaching and developing new content for courses on psychology, music cognition, and empirical aesthetics.

2020 - 2022 **Postdoctoral researcher**

Computational Auditory Perception Group, Max Planck Institute (Germany), supervised by Dr Nori Jacoby.

- Researching fundamental components of auditory perception, including melody, rhythm, consonance, aesthetic preferences, and enculturation.
- Developing new psychological methods and testing software for large-scale online behavioural experiments (*REPP*, *sing4me*, *PsyNet*).

2019 **Lecturer**

Humboldt University of Berlin (Germany)

- Teaching research methods and statistics using R, both at undergraduate and postgraduate levels.
- Writing and marking weekly assignments and final exams.

2017-20 **PhD in Psychology, *Summa Cum Laude***
Technical University of Berlin (Germany), supervised by Prof Dr Stefan Weinzierl and Prof Dr Daniel Müllensiefen.
- Studying perception and decision making in complex subjective human behaviour, such as music and aesthetics.

2014-15 **MSc in Music, Mind & Brain, *Distinction***
Psychology Department, Goldsmiths, University of London, (UK), supervised by Prof Dr Daniel Müllensiefen.
- Studying biological and cultural foundations of music behaviour, combining methods from computer science, psychology, and neuroscience.

2009-13 **BA in Psychology**
Universtiat Rovira i Virgili (Spain)
- Studying cognitive science, research methods, and psycholinguistics.

Supervising

2023 - **Supervisor of MSt and Mphil students**
University of Oxford
- Chloe Green (MSt and Mphil, 2023).
- Ryszard Tan (MSt, 2023).
- Violetta Utiuzhnikova (MSt, 2023).

2023 - **Research Tutor**
Stanford University
- Julia Zielke (BA in Psychology, 2023).
- Research project submitted in *Frontiers in Psychology*

2023 - **PhD Viva Assessor**
University of Oxford
- Nilo Merino Recalde (PhD in Biology, 03/2023).
- Peter Varga (PhD in Psychology, 01/2023).

2015 - **Co-supervisor of MSc students**
MSc in Audio Communication and Technology, Technical University of Berlin
- Melanie Schulz (2020-2021)
- Miguel Reyes (2020-2021)
- Till Noé (2019-2020)

MSc in, Mind & Brain, Goldsmiths, University of London
- Austin Coates (2020-2021)
- Pattera Sutanthavibul (2018-2019)
- Kerry Schofield (2017-2018)

- Heather Thueringer (2017-2018)
- Emily Beth Hill (2017-2018)
- Thomas Baker (2016-2017)
- Björn Thorleifsson (2015-2016)

Other professional experience

2023 - **Co-director of the Oxford Seminar in the Psychology of Music**
University of Oxford
- Co-leading the Oxford Seminar Series in the Psychology of Music.
- The seminar features leading international researchers presenting a wide variety of topics in the intersection between music and cognitive science.

2018 - **Research consultant**
SoundOUT – Sonic Testing (UK); DLMDD – Sonic Branding Agency (UK)
- Amazon (2020-2021): testing the effectiveness of sonic logos for Amazon using massive online experiments.
- Aldi (2019): performing large-scale behavioural experiments to identify a new audio logo identity for Aldi UK (link to media piece).

SoundOUT – Sonic Testing (UK)
- SONOS - Home Sound Systems (2019): Assessing the impact of audio systems on music listening experiences (link to media piece).

iV Audio branding (US)
- Cadbury Chocolate (2018-2019): Examined crossmodally congruent relationships between sound, flavour, and mood (link to media piece).

2015-17 **Special Needs Teacher**
The Garden School (UK)
- Teaching autistic students with complex learning disabilities.
- Working collaboratively with parents and professionals.
- Designing and performing music and drama interventions.

Funding

2023-24 **John Fell Fund Grant (9,700 €)**
Funded by Oxford University Press
- Research fund intended to foster creativity and a proactive approach to research: https://researchsupport.admin.ox.ac.uk/funding/internal/jff

2022-23 **Oxford-Berlin Research Partnership Grant (10,000 €)**
Funded by the Oxford-Berlin Research Partnership

- Strategic research partnership granted to high-quality joint research initiatives: https://www.ox.ac.uk/about/international-oxford/oxford-berlin-research-partnership
- Awarded in collaboration with Dr Mats Küssner at Humboldt University of Berlin (Germany).

2017-20 **PhD Scholarship (52,200 €)**

Funded by the Studienstiftung des Deutschen Volkes (Germany)

- 3-year doctoral scholarship granted to highly qualified and socially committed researchers.
- The *Studienstiftung* (German National Academic Foundation) is one of the largest and most prestigious organizations for the promotion of gifted students in Germany: https://www.studienstiftung.de/

Selected Publications

Studying cultural evolution and collective cognition through large-scale online experiments

In this 2023 article published in *Current Biology*, we developed an automatic online pipeline that streamlines large-scale cultural transmission experiments in vocal production modalities (e.g., singing, speech). This approach allowed us to study oral transmission mechanisms in an unprecedented detail. In 12 experiments, we quantified the evolution of ~ 30,000 human vocalizations as they were orally transmitted across ~2,000 participants. The results produced a high-resolution characterisation of how oral transmission shapes human communication systems, revealing the emergence of musical structures that are consistent with widespread features observed in human speech and song cross-culturally. We then ran a series of follow-up experiments to study the causal role of human transmission mechanism. The results showed that collective music evolution depends on a compromise between individual participant biases – biological, cognitive, cultural factors – and social dynamics that occur during cultural transmission. Overall, these results provide a new understanding into how cross-cultural similarities and differences in human song structures emerge via cultural transmission.

Anglada-Tort, M., Harrison, P. M., Lee, H., & Jacoby, N. (2023). Large-scale singing experiments reveal oral transmission mechanism underlying music evolution. *Current Biology*, *33*, 1-15. https://doi.org/10.1016/j.cub.2023.02.070

Understanding the genetics of musical ability in the first large-scale Genome-wide association study (GWAS) on beat synchronization

In this 2022 article published in *Nature Human Behaviour*, we developed a method to measure high-precision beat synchronization (e.g., taping to the beat in a piece of music) over the internet. This method was crucial to validate the phenotype of the first large-scale GWAS on beat synchronization, where 606,825 participants answered the question “Can you clap in time with a musical beat?”. The GWAS revealed that the genetic architecture of beat synchronization is highly polygenetic, with an estimated heritability of 13-16%. These results are significant in pinpointing genetic alleles that cumulatively form a robust association with inter-individual variability in the beat synchronization trait.

Niarchou, M., Gustavson, D. J., Sathirapongsasuti, F., **Anglada-Tort**, M., …, Jacoby, N., & Gordon R. L. (2022). Genome-wide association study of musical beat synchronization demonstrates high polygenicity. *Nature Human Behaviour 6*, 1292–1309. https://doi.org/10.1038/s41562-022-01359-x

Running massive online experiments in complex production modalities

In this 2022 article published in *Behavioural Research Methods*, we introduced a new technology to run high-precision sensorimotor synchronization (SMS) studies through the web browser (e.g., tapping to the beat along an external audio stimulus). We then ran several behavioural experiments to validate this technology empirically. The results show that this technology achieves high temporal accuracy (latency within 2 msec on average), high test-retest reliability both in the laboratory (r = .87) and online (r = .80), and high concurrent validity (r = .94). I also show how this technology is fully automated and customizable, enabling researchers to monitor experiments in real time and implement a wide variety of SMS paradigms. By making such experiments viable online, this technology (available as a free Python package) has enabled the study of individual differences in SMS in the general population, influencing important follow-up work (e.g., Vishne et al., 2021 in *Nature Communications*; Jacoby et al., 2021 in *Nature Human Behaviour*).

Anglada-Tort, M., Harrison, P. M. C., & Jacoby, N. (2022). REPP: A robust cross-platform solution for online sensorimotor synchronization experiments. *Behavioral Research Methods 4*, 2271–2285. https://doi.org/10.3758/s13428-021-01722-2

Primary Publications

2023 **Anglada-Tort, M.**, Harrison, P. M., Lee, H., & Jacoby, N. (2023). Large-scale singing experiments reveal oral transmission mechanism underlying music evolution. *Current Biology, 33*, 1-15. https://doi.org/10.1016/j.cub.2023.02.070

Anglada-Tort, M., Lee, H., Krause, A. E., & North, A. C. (2023). Here comes the sun: music features of popular songs reflect prevailing weather conditions. *Royal Society Open Science, 10*, 221443. https://doi.org/10.1098/rsos.221443

Steffens, J., & **Anglada-Tort, M.** (2023). The effect of visual recognition on listener choices when searching for music in playlists. *Psychology of Aesthetics, Creativity, and the Arts*. Advance online publication. https://doi.org/10.1037/aca0000562

2022 **Anglada-Tort, M.**, Harrison, P. M. C., & Jacoby, N. (2022): REPP: A robust cross-platform solution for online sensorimotor synchronization experiments. *Behavioral Research Methods 4*, 2271–2285. https://doi.org/10.3758/s13428-021-01722-2

Niarchou, M., Gustavson, D. J., Sathirapongsasuti, F., **Anglada-Tort**, M., …, Jacoby, N., & Gordon R. L. (2022. Genome-wide association study of musical beat synchronization demonstrates high polygenicity. *Nature Human Behaviour 6*, 1292–1309. https://doi.org/10.1038/s41562-022-01359-x

Anglada-Tort, M., Harrison, P. M. C., & Jacoby, N. (2022). Studying the effect of oral transmission on melodic structure using online singing experiments. *Proceedings of the Annual Meeting of the Cognitive Science Society*, *44*(44). https://escholarship.org/uc/item/3567q2vf

Anglada-Tort, M., Masters, N., Steffens, J., North, A., & Müllensiefen, D. (2022). The Behavioural Economics of Music: Systematic review and future directions. *Quarterly Journal of Experimental Psychology*, *76*(5), 1177-1194. https://doi.org/10.1177/17470218221113761

Anglada-Tort, M., Schofield, K., Trahan, T., & Müllensiefen, D. (2022). I've heard that brand before: The role of music recognition on consumer choice. *International Journal of Advertising*, 1-20. https://doi.org/10.1080/02650487.2022.2060568

2021 Jacoby, N., Polak, R., Grahn, J., Cameron, D. J., Lee, K. M., Godoy, R., **… Anglada-Tort, M.,** Harrison, P. M. C., McPherson, M. J., Dolan, S., Durange, A., & Mcdermott, J. (2021). Universality and cross-cultural variation in mental representations of music revealed by global comparison of rhythm priors. Manuscript accepted in *Nature Human Behavior.* Preprint doi: https://doi.org/10.31234/osf.io/b879v

Savage, P. E., Jacoby, N., Margulis, E. H., Daikoku, H., **Anglada- Tort, M.,** Castelo-Branco, S. E.-S., …, Patel, A., & Schippers, H. (2021). Building sustainable global collaborative networks: Recommendations from music studies and the social sciences. In E. H. Margulis, D. Loughridge, & P. Loui (Eds.), *The science-music borderlands: Reckoning with the past, imagining the future*. MIT Press. Preprint doi: http://doi.org/10.31234/osf.io/cb4ys

Anglada-Tort, M., Krause, A. E., & North, A. C. (2021). Popular music lyrics and musicians' gender over time: A computational approach. *Psychology of Music, 49*(3), 426-444. https://doi.org/10.1177/0305735619871602

Anglada-Tort, M., Keller, S., Steffens, J., & Müllensiefen, D. (2021): The impact of source effects on the evaluation of music for advertising: Are there differences in how advertising professionals and consumers judge music? *Journal of Advertising Research.* https://doi.org/10.2501/JAR-2020-016

2020 **Anglada-Tort, M.,** & Skov, M. (2020): What counts as Aesthetics in Science? A bibliometric Analysis and Visualization of the Scientific Literature from 1970 to 2018. *Psychology of Aesthetics, Creativity, and the Arts, 16* (3), 553-568. https://doi.org/10.1037/aca0000350

Harrison, P. M. C., Marjieh, R., Adolfi, F., van Rijn, P., **Anglada-Tort, M.**, Tchernichovski, O., Larrouy-Maestri, P., & Jacoby, N. (2020). Gibbs Sampling with People. 34th Conference on Neural Information Processing Systems (NeurIPS 2020). https://arxiv.org/abs/2008.02595

2019 **Anglada-Tort, M.,** Steffens, J., & Müllensiefen, D. (2019): Names and titles matter: The impact of linguistic fluency and the affect heuristic on aesthetics and value judgements of music. *Psychology of Aesthetics, Creativity, and the Arts, 13* (3), 277-292. https://dx.doi.org/10.1037/aca0000172

Anglada-Tort, M. (2019): Measuring stereotypes in music: A commentary on Susino and Schubert (2019). *Empirical Musicology Review, 14*(1-2), 16-21. http://dx.doi.org/10.18061/emr.v13i1-2.6387

Anglada-Tort, M., Thueringer, H., & Omigie, D. (2019): The busking experiment: A field study measuring behavioural responses to street music performances. *Psychomusicology: Music, Mind, and Brain, 29*(1), 46-55. http://dx.doi.org/10.1037/pmu0000236

Anglada-Tort, M., & Sanfilippo, K.R.M. (2019): Visualizing music psychology: A bibliometric analysis of Psychology of Music, Music Perception, and Musicae Scientiae from 1973 to 2017", *Music & Science, 2*, 2059204318811786. https://doi.org/10.1177/2059204318811786

2018 **Anglada-Tort, M.,** Baker, T., & Müllensiefen, D. (2018): False memories in music listening: Exploring the misinformation effect and individual difference factors in auditory memory. *Memory,* 1-16. https://doi.org/10.1080/09658211.2018.1545858

2017 **Anglada-Tort, M.,** & Müllensiefen, D. (2017): The repeated recording illusion: The effects of extrinsic and individual difference factors on musical judgments. *Music Perception, 35*(1), 94-117. https://doi.org/10.1525/mp.2017.35.1.94

Ferré., P., **Anglada-Tort, M.,** Guasch, M. (2017): Processing of emotional words in bilinguals: Testing the effects of Word concreteness, task type and language status. *Second Language Research, 34*(3), 371-394. https://doi.org/10.1177/0267658317744008

Invited speaker

2023 **Goldsmiths, University of London (UK)**
'Studying the effect of oral transmission on music evolution using online singing experiments'

2023 **University of Oxford (UK)**
'Studying the effect of oral transmission on music evolution using online singing experiments'

2022 **Keio University (Japan)**
'Studying the effect of oral transmission on music evolution using large-scale iterated singing experiments'

2022 **Humboldt University of Berlin (Germany)**

‘Studying the effect of oral transmission on melodic structure using large-scale iterated singing experiments’

2020 **Max Planck Institute for Empirical Aesthetics (Germany)**
‘What counts as aesthetics in science?’

2019 **Max Planck Institute for Empirical Aesthetics (Germany)**
‘Measuring responses to music: methods, challenges, and alternative approaches’

2019 **Queen Mary, University of London (UK)**
‘Measuring responses to music: methods, challenges, and alternative approaches’

2019 **Hanover University (Germany)**
‘Visualizing Music Psychology: Who, What, When, and Where’

2018 **Queen Mary, University of London, London (UK)**
‘The Behavioural Economics of Music: a framework for investigating music decision making’

Software development

R, Python, JavaScript, HTML/CSS, and MATLAB.

I am a co-developer of the following software packages:

PsyNet Open-source platform to build, run, and automate online psychological experiments (Python, JS, HTML): https://psynetdev.gitlab.io/PsyNet/

REPP Open-source package for measuring sensorimotor synchronisation in online experiments (Python): https://gitlab.com/computational-audition/repp

Sing4me A package in development for conducting speech and singing experiments online, including methods to extract fundamental frequencies from voice and manipulate sequences of sounds (Python).

Peer review

I have reviewed articles for the *Journal of Experimental Psychology: General*, *Royal Society Open Access*, *Psychology of Aesthetics, Creativity, and the Arts*, *Psychology & Marketing*, *Music Perception*, *Brain Sciences*, *Psychology of Music*, *Music & Science*, *POETICS*, *Music Education Research*, *Empirical Musicology Review*, and *Journal of Media Business Studies*.