

# Manuel Anglada-Tort

University of Oxford

*Departmental Lecturer*

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## Research, teaching, and education

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### 2023 - Departmental Lecturer

*Faculty of Music, University of Oxford*

- Producing a 2023 article in [Current Biology](#).
- Leading the [Music, Culture, and Cognition](#) Research Group, bridging domains between psychology, social science, and cultural evolution.
- Teaching and developing new content for courses on psychology, statistics, research methods, music cognition, and empirical aesthetics.
- Delivering supervisions for undergraduate and postgraduate students.
- Writing and marking exams.

### 2020 - 2022 Postdoctoral researcher

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

- Producing high-impact articles in [Nature Human Behaviour](#), [Behavior Research Methods](#), and [NeurIPS 2020](#).
- 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.
  - Publishing articles in reference journals in Psychology, including *Royal Society Open Science*, *Quarterly Journal of Experimental Psychology*, *Memory*, *Psychology of Aesthetics*, *Creativity*, and *the Arts*.
  - Publishing articles in reference journals in Advertising, including *Journal of Advertising Research* and *International Journal of Advertising*.
- 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.
  - Researching psychological mechanisms underlying music appreciation (paper published in [Music Perception](#)).
- 2009-13      BA in Psychology**  
*Universtiat Rovira i Virgili (Spain)*
- Studying cognitive science, research methods, and psycholinguistics.
  - Researching the processing of emotional words in highly proficient bilinguals (paper published in [Second Language Research](#)).

## Supervising

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- 2023 -      Supervisor of MSt and Mphil students**  
*University of Oxford*
- Chloe Green (MSt and Mphil, 2023 – present).
  - Ryszard Tan (MSt, 2023 – present).
  - Violetta Utiuzhnikova (MSt, 2023 – present).
- 2023 -      Research Tutor**  
*Stanford University*
- Julia Zielke (BA in Psychology, 2023 – present).
  - 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**

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### **2022 - 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

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### 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

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

In this 2023 article published in *Current Biology*, I 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, I 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 structures that are consistent with widespread features observed in human speech and song cross-culturally. In a series of follow-up experimental manipulations, I then show that the emergence of these structures 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*, I developed a method to measure high-precision beat synchronization (e.g., tapping 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*, I 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). I 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

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**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. Manuscript accepted in *Royal Society Open Science*.

Steffens, J., & **Anglada-Tort, M.** (2023). The role of visual recognition in listener choices when searching for music in playlists. Manuscript accepted in *Psychology of Aesthetics, Creativity, and the Arts*.

**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*, 0(0). <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., Marjeh, R., Adolphi, 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. <https://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

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- 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

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

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

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| <b>PsyNet</b>  | Open-source platform to build, run, and automate online psychological experiments (Python, JS, HTML): <a href="https://psynetdev.gitlab.io/PsyNet/">https://psynetdev.gitlab.io/PsyNet/</a>                |
| <b>REPP</b>    | Open-source package for measuring sensorimotor synchronisation in online experiments (Python): <a href="https://gitlab.com/computational-audition/repp">https://gitlab.com/computational-audition/repp</a> |
| <b>Sing4me</b> | 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

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I have reviewed articles for the *Journal of Experimental Psychology: General*, *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*. I have also reviewed for the 2017 and 2018 conferences of the *International Society for Music Information Retrieval* (ISMIR), and the 2023 *International Conference of Music Perception and Cognition* (ICMPC).