

## ABOUT ME

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I studied Anthropology at Durham University, England, where I took part in projects using evolutionary theory to understand human cultural diversity. Before this I worked as a cinematographer for five years, specialising in the use of time-lapse and slow-motion techniques. I am now completing a PhD research project on bird song learning at the University of Oxford. I have a wide range of interests that include animal communication and cultural diversity, the evolution of language, open software and data, data visualisation, Bayesian inference, research methodology and the philosophy of science.

## EDUCATION

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**Doctor of Philosophy in Zoology** 2019-2023 (expected)  
University of Oxford | Oxford, England

- I study how social, demographic and spatial factors influence how birds learn their songs, and how complex patterns of cultural stability and novelty emerge. I also develop new computational methods for bioacoustic analysis.

**BSc (Hons) in Anthropology** 2016-2019  
Durham University | Durham, England  
(First-Class Honours)

## SKILLS

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- Programming Languages**
- Python (NumPy, SciPy, pandas, Ray, Numba, PyTorch, ++)  
– Advanced
  - R,  $\LaTeX$ , bash – Advanced
  - HTML, CSS, JavaScript – Intermediate
- Extensive experience curating, wrangling and documenting large datasets, including longitudinal data from long-term population monitoring projects, a  $\sim$ 10TB soundscape dataset, and data from citizen science projects.
  - High Performance Computing: parallel, multi-node programming for CPUs and GPUs, just-in-time Python/NumPy compiling with Numba.
  - Deep Learning model coding+training with PyTorch and Lightning.
  - Proficient user of git and GitHub for version control and collaborative project development, and a strong interest in open, reproducible data science.
  - Experience developing python libraries and command-line applications [\[SAMPLE WORK\]](#).
  - Experience in data visualisation, scientific illustration and graphic design [\[SAMPLE GALLERY\]](#).

**Languages** Spanish (native), English (full professional proficiency)

## EXPERIENCE

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**Tutor, Teaching Assistant & Student Supervision** 2020-2023  
University of Oxford | Oxford, England

- Supervised and marked Python programming projects by first-year PhD students for the Oxford Doctoral Training Centre (UKRI).
- Prepared and delivered courses on bioacoustics and programming [\[EXAMPLE\]](#).
- Demonstrated for courses on statistics, programming and evolutionary biology
- Supervised undergraduate and master's research projects; taught version control, high performance computing, and reproducibility skills.

**Second Unit Director & Cinematographer** 2012-2017  
Dubai Films LLC – *Awaken (Lowe 2018)* [\[TRAILER\]](#) | Filming locations: Ukraine, Belarus, Romania, Mongolia, United Kingdom, Spain, Sweden, Norway, United Arab Emirates

- Coordinated and directed a small international film unit (4-10 people).

Camera and Jib Operator; Assistant Camera

2011-2012

Voyage of Time: IMAX (Malick 2016) [TRAILER] | US unit (California, Wyoming, Montana)

## AWARDS

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- Edward Gray Institute graduate scholarship (£26k) 2022
- Conference grant: St Hilda's College - University of Oxford (£500) 2022
- Best Poster - Oxford Biology Graduate Symposium. [SEE POSTER] 2022
- Clarendon & Mary Frances Wagley scholarship (£180k) 2019
- Durham undergraduate research scholarship (£2k) 2018
- Travel grant: University of Paris-Saclay/Pascal Institute (£750) 2018
- Travel grant: University of Vienna | school in neuroaesthetics (£1k) 2018

## PUBLICATIONS & TALKS

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- Articles**
- N. M. Recalde** (2023). *pykanto: a python library to accelerate research on wild bird song*. Version v0.1.2. doi: 10.5281/zenodo.7603247.
  - N. M. Recalde** and B. Sheldon (2023). "Demographic processes interact with learning to shape the landscape of diversity in bird song". In: In prep.
- Talks**
- N. M. Recalde** (Aug. 2022). "Cultural evolution in the wild: tracking the landscape of diversity in bird song". In: *Congress of the European Society for Evolutionary Biology*. Prague, Czech Republic.
  - N. M. Recalde** (Sept. 2022). "Demography and cultural evolution in the songs of a wild bird population". In: *9th Hole-Nesting Birds Conference*. Oxford, UK.
  - N. M. Recalde** (Sept. 2022). "Demography and cultural evolution in the wild: the landscape of diversity in bird song". In: *The Cultural Evolution Society Conference*. Aarhus, Denmark.
  - N. M. Recalde**, B.C. Sheldon, and E.F. Cole (Dec. 2022). "Demography and cultural evolution in the wild: the landscape of diversity in bird song". In: *British Ecological Society Annual Meeting*. Edinburgh, UK.
  - N. M. Recalde** (Jan. 2021). "The Sounds of the Woods: large-scale acoustic monitoring in Wytham Woods". In: *Wytham research talks series*. Oxford, UK.
- Posters**
- N. M. Recalde** (2022). "Cultural evolution in the wild". Oxford Graduate Symposium. Best poster prize. [SEE POSTER]. Oxford, UK.
  - N. M. Recalde** (2021). "Cultural evolution in the wild". British Ecological Society Annual Meeting. Liverpool, UK.

## REFERENCES

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**Professor Ben Sheldon FRS** Luc Hoffmann Professor of Ornithology  
Director of Edward Grey Institute  
Department of Biology  
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