

# Martin Stoffel

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Researcher/engineer working in-between tech, bio, and society. Open-source software with 2,000+ citations; 24 publications (incl. Nature Communications, PNAS) with code pipelines; 8 yrs leading research & data-science teams.

## LINKS

[GitHub](#)  
[Google Scholar](#)  
[LinkedIn](#)

## SOFTWARE

Developed five open-source libraries with 150k+ downloads; 2,000+ citations:

- [AutoEmulate](#) – physics ML
- [rptR](#) & [partR2](#) – stats
- [inbreedR](#) & [GCalignR](#) – bio

## SKILLS

- **Languages:** Python, R, Bash
- **ML:** PyTorch, scikit-learn, Bayesian modelling
- **DevOps:** Git, Docker, AWS, Azure, CI/CD, HPC
- **Other:** Bioinformatics, Visualisation, AI agents

## STUDIES

[MSc](#) From Neural Mechanisms to Evolution; [BSc](#) Psychology

## GRANTS

- Open Philanthropy - \$40k Career Development Grant (AI safety / biosecurity)
- [PIBBSS](#) AI Alignment Fellowship - \$10k
- German Research Foundation Fellowship - €69k (Evolutionary Genomics)
- LJMU PhD Scholarship - €60k (Molecular Ecology)

## EXPERIENCE

### INDEPENDENT RESEARCHER / AI ENGINEER

Since Mar 2025

- Researching technical biosecurity solutions and safety of biological foundation models.
- Building AI agents (AWS/SQL/Python/FastAPI + Claude) for a German SME.

### RESEARCH DATA SCIENTIST / SOFTWARE ENGINEER

Jan 2023 - Feb 2025 | The Alan Turing Institute, Research Engineering Group

- Created [AutoEmulate](#), a machine learning pipeline to emulate physics simulations and cut runtime and compute by orders of magnitude; grew team 1→10 in a year; mentored PhD students; [presented](#) at AI UK; selected as part of Turing's 2025 strategic roadmap.
- Other projects: built DL models to [detect artisanal rare-earth mines](#) in Myanmar for Global Witness; co-created a [citizen science platform](#); and worked on a digital twin for an [underground farm](#).

### FELLOW | AI ALIGNMENT

June - September 2022 | Principles of Intelligent Behaviour in Biological and Social Systems fellowship

Explored AI alignment and parallels to cultural & biological evolution.

### CONSULTANT | DATA SCIENCE

Jun - Oct 2021 • PlusVital & University College Dublin

Delivered in under 5 months a novel genome-wide study of 6,000+ Thoroughbred horses; pinpointing genetic loci for inbreeding harms in health/performance – work published in [Proceedings of the Royal Society](#) and now protected by [patent](#).

### RESEARCH FELLOW | EVOLUTIONARY GENOMICS

Apr 2019 - January 2023 | University of Edinburgh

Led research projects in Genomics, Ecology and Evolution; produced six peer-reviewed papers (incl. [Nature Communications](#) and [PNAS](#) with >250 citations), and released open-source code pipelines on [GitHub](#).

### PHD | MOLECULAR ECOLOGY (SUMMA CUM LAUDE)

Jan 2015 - Dec 2018 | Bielefeld University & Liverpool John Moores University

Joint PhD in high-throughput genomics, biostatistics and software engineering; published eight papers (> 2,500 citations); led a 10-country [collaboration](#) to study overhunting in global pinniped populations and built three open-source software packages; won the University's **best thesis award** in Biology.

## SELECTED PUBLICATIONS

24 papers incl. PNAS, Nature Communications, Nature Ecology & Evolution; 12 as lead-author, >3,000 citation. Full list → [Google Scholar](#)

**Stoffel**, Li, et al. 'AutoEmulate: A Python package for semi-automated emulation', [Journal of Open Source Software](#)

**Stoffel**, Johnston, et al. 'Genetic architecture and lifetime dynamics of inbreeding depression in a wild mammal.' [Nature Communications](#)

**Stoffel**, Nakagawa, et al. 'rptR: Repeatability estimation and variance decomposition by generalized linear mixed-effects models.' [Methods in Ecology and Evolution](#).