

Edward Stevenson

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last updated: Aug 2026

EDUCATION

- 2024 – now **PhD in Astronomy, University of Cambridge** (Institute of Astronomy)
CDT in Data Intensive Science: graduate courses in statistics, machine learning, and research computing, plus a six-month industry placement.
- 2019 – 2023 **MSci + BA in Astrophysics (Natural Sciences), University of Cambridge**
First class with distinction (90/100), ranked 1st in the year.

RESEARCH

- 2024 – now **PhD research: machine-learning emulation of exoplanet climates**
Fast probabilistic emulation of 3D general circulation models (GCMs) for potentially habitable rocky exoplanets: new Gaussian-process methods for low-data, high-dimensional problems, and the ThousandWorlds climate-emulation benchmark.
- Dec 2025 – now **Polymathic AI collaboration (Flatiron Institute / NYU)**
Dataset-mixing strategies for scientific foundation models: measuring cross-domain transfer between diverse physics datasets to determine which pretraining sources drive downstream performance.
- Sep – Nov 2023 **Research Internship, Leverhulme Centre for Life in the Universe, University of Cambridge**
Extended Master's research on planet-driven dust spirals in protoplanetary discs into a first-author MNRAS paper (see Publications).
- 2022 – 2023 **Master's Research Project, Institute of Astronomy, University of Cambridge**
Supervisors: Prof. Cathie Clarke, Dr. Álvaro Ribas.
Title: Which planets can hide in apparently smooth protoplanetary discs?

PUBLICATIONS

- 2026 **Stevenson E. T.**, Cranmer M., Mak M. T., Wolf E., Sergeev D. E., Hammond T., Mayne N. J., Shorttle O., Madhusudhan N., *The Uncertain Climates of Potentially Habitable Exoplanets*. In preparation, for submission to Nature Astronomy.

- 2026 **Stevenson E. T.**, Mak M. T., Wolf E., Sergeev D. E., Hammond T., Mayne N. J., Cranmer M., *ThousandWorlds: A benchmark for climate emulation of potentially habitable exoplanets*. Submitted to NeurIPS 2026.
- 2026 **Stevenson E. T.**, Wolf E. T., Mak M. T., Mayne N. J., Cranmer M., *Gaussian Process Latent Factor Regression for Low-Data, High-Dimensional Output Problems*. Accepted at ProbML 2026 (poster).
- 2024 **Stevenson E. T.**, Ribas Á., Speedie J., Booth R. A., Clarke C. J., *Searching for planet-driven dust spirals in ALMA visibilities*. MNRAS, 530, 4802.

TALKS & PRESENTATIONS

- Nov 2026 **Invited seminar, Astrophysics Seminar Series, University of Bristol**
GCM Emulation and the Uncertain Climates of Exoplanets.
- Nov 2026 **Invited seminar, AI/HPC Seminar Series, University of Bristol**
Gaussian Process Latent Factor Regression for Low-Data, High-Dimensional Scientific Problems.
- Sep 2026 **Invited talk, BUFFET-6 workshop** (CUISINES exoplanet model-intercomparison series)
The Uncertain Climates of Potentially Habitable Rocky Planets.
- Jul 2026 **Poster, ProbML 2026** (Symposium on Probabilistic Machine Learning), Seoul
Gaussian Process Latent Factor Regression for Low-Data, High-Dimensional Output Problems.
- May 2026 **Invited talk, AbSciCon 2026**, Madison, WI
A Fast Probabilistic Emulator for Potentially Habitable Rocky Exoplanets (published in conference proceedings).
- Apr 2026 **Invited seminar, CHAMPs seminar series** (Consortium on Habitability and Atmospheres of M-dwarf Planets; Johns Hopkins University Applied Physics Laboratory)
Emulating the Climates of Potentially Habitable Exoplanets with Machine Learning.
- Mar 2026 **Departmental seminar, Institute of Astronomy, University of Cambridge**
Emulating the Climates of Potentially Habitable Exoplanets with Machine Learning.
- Mar 2026 **Poster, UK Exoplanet Meeting (UKExoM) 2026**, University of Bristol
Fast Prediction of 3D Rocky Exoplanet Climates Using a GCM Emulator.
- Sep 2025 **Poster, BUFFET-5 workshop** (CUISINES exoplanet model-intercomparison series), University of Bordeaux
Fast Prediction of 3D Exoplanet Climates Using a Neural GCM Emulator.

Jul 2025 **Invited talk, Physics-Informed Machine Learning for Atmospheres workshop,**
University of Exeter
GCM Emulation for Exoplanets.

TEACHING

Lent 2026 **Supervisor, Deep Learning module (M2), MPhil in Data Intensive Science,**
University of Cambridge

Sep 2025 **Course demonstrator, Infosys industry training programme, DAMTP, Univer-**
sity of Cambridge

2023 – 2024 **Supervisor, 3rd-year Astrophysics, Institute of Astronomy, University of Cam-**
bridge
‘Stellar Dynamics and Structure of Galaxies’ and ‘Topics in Astrophysics’ courses.

AWARDS & PRIZES

Mar 2026 **Winner, ExoHack London 2026** (ESA Ariel Data Challenge hackathon), King’s
College London

2023 **Institute of Astronomy Part III prize** for the top-ranked student in the year

2023 **Edwyn Charles Hart Memorial Prize** for the top performer in Churchill College
across all subjects

2020 – 2023 **Churchill College prize scholarships** for first-class exam results (awarded each
eligible year)

OTHER EXPERIENCE

Jul – Sep **Internship, Jane Street Capital** – London, UK
2023 Quantitative trading strategies, corporate strategy, and programming in Python
and PostgreSQL.

OTHER INTERESTS

Boxing (Cambridge University Blues squad) · **chess** (Churchill College board
1) · **football** (Churchill College first team) · **skiing** (CSIA level 1 instructor)
· **conservation volunteering** (turtle conservation, Cabo Verde; anti-poaching,
South Africa) · **community volunteering** (food banks and community centres,
London).