

DR AIDAN STARR

MSci. PhD

PERSONAL INFORMATION

Born in Huntingdon, Cambridgeshire, 18 July 1995

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website <https://aidanstarr.github.io/>

SKILLS SUMMARY

🐍 – Python

🔄 – Git

📊 – Statistics and time series analysis

📈 – Data Visualization

🌐 – Climate dynamics and climate change science

PROFILE

I am an **interdisciplinary climate scientist** who uses data science and analytical approaches to better understand the trajectory of the Earth system under different forcing conditions. Currently, I work in the academic sector as a Postdoctoral Research Associate in the field of paleoclimatology. In the past 2 years, I have authored or coauthored 6 peer-reviewed articles in world-leading journals (Nature, Science, etc.) and my research has been cited over 50 times.

WORK EXPERIENCE

*Rutgers
University, NJ*

03/2022 – Present Postdoctoral Research Associate (PDRA)

PDRA working with **Professor Elisabeth L. Sikes** in the fields of paleoclimatology, paleoceanography, and carbon cycling. Daily tasks include **analysing climate model output**, undertaking laboratory work, performing statistical analysis on climate time series data, visualising and presenting results, and writing reports for publication in peer-reviewed journals.

*Cardiff University,
UK*

10/2021 – 03/2022 Postdoctoral Research Associate

PDRA working with **Professor Ian R. Hall** to conduct research within **quantitative paleoclimate science focused on ocean dynamics in the geological past** and contribute to the overall research performance of the School and University, carrying out research leading to the publishing of high-quality research.

EDUCATION

*Doctor of
Philosophy*

2016 – 2021 Cardiff University, UK

Thesis: *Surface and Deep Hydrography across the Mid-Pleistocene Transition; Multi-proxy paleoceanographic reconstructions from the Southwest Indian Ocean*

School: School of Earth and Environmental Sciences

Funding: Natural Environmental Research Council GW4+ Studentship

Advisors: Prof. I.R. HALL & Prof. S. BARKER & Prof. S.R. HEMMING

Examiners and Award: Prof. D.A. HODELL (Cambridge) & Dr. S.S. SOSDIAN (Cardiff) · Submitted 10/2021 · Defended 01/2022

2013 – 2016 The University of Southampton, UK

*Integrated Master
of Science in
Oceanography*

Dissertation: *Vertical habitat changes preceding extinction in planktic foraminifer *Globoconella puncticulata**

School: School of Ocean and Earth Sciences

Advisors: Prof. Paul A. WILSON & Dr. Thomas EZARD

2011 – 2013 Matthew Arnold School, Oxford, UK

A-Levels

Biology (A*), Chemistry (A), Geography (A)

COMPUTER SKILLS

Basic

HTML · Adobe Illustrator · QGIS · SQL

Intermediate

R · HTML · L^AT_EX · OpenOffice · Linux · Adobe Illustrator · GIT · NETCDF

Advanced

PYTHON^a · MATLAB · Microsoft Office^b

INTELLECTUAL SKILLS

Basic

Machine Learning · Database Management · Data Mining and Web Scraping

Intermediate

ARIMA forecasting · Bayesian statistics · Signal processing · Spatial Data Analysis · Numerical Modeling · Probabilistic Programming

Advanced

Time series analysis · Univariate and bivariate statistics · Data visualisation and information design · Physical Climate Science and Earth History · IPCC Climate Projections

OTHER INFORMATION

*Funding and
Awards*

2022 · Quaternary Research Associate research funding

2018 · Antarctic Science Bursary research funding

2018 · NERC GW4+ Doctoral Training Partnership Studentship

*Training and
Workshops*

2022 · Past Global Changes Interglacial Working Group meeting (Columbia University, New York)

2020 · Uncertainties in Data Analysis Workshop (Potsdam Institute for Climate Impact Research)

*Selected Oral
Presentations*

2022 · University of Delaware (Invited Seminar)

2022 · American Museum of Natural History, New York (Invited Seminar)

2021 · The Geological Society – Climate Change in the geological record (Flash Talk)

2021 · Goldschmidt international conference on geochemistry (Solicited Talk)

2021 · GEOMAR – Kiel University, Germany (Invited Seminar)

2021 · National Oceanography Centre, Southampton (Invited Seminar)

^a (Numpy, Pandas, XArray, Matplotlib, Seaborn, Jupyter)

^b (Excel, Word, Powerpoint)

2020 · European Geophysical Union General Assembly (Invited Talk)

2019 · University of Rhode Island (Invited Seminar)

Languages

ENGLISH · Mothertongue

WELSH · Basic (simple words and phrases only)

FRENCH · Basic (simple words and phrases only)

Interests

Trail Running · Chess · Programming · Football

PUBLICATIONS

2022 Persistent influence of precession on northern ice sheet variability since the early Pleistocene

Science Barker, S., **Starr, A.**, van der Lubbe, J., Doughty, A., Knorr, G., . . . others. · <https://doi.org/10.1126/science.abm4033>

2021 Antarctic icebergs reorganize ocean circulation during Pleistocene glacials

Nature **Starr, A.**, Hall, I. R., Barker, S., Rackow, T., Zhang, X., Hemming, S. R., . . . others. · <https://doi.org/10.1038/s41586-020-03094-7>

2021 Indo-pacific Walker Circulation drove Pleistocene African Aridification

Nature van der Lubbe, H. J. L., Hall, I. R., Hemming, S. R., Barker, S., Baars, T. F., **Starr, A.**, . . . Joordens, J. C. A. · <https://doi.org/10.1038/s41586-021-03896-3>

2021 Neodymium isotope evidence for coupled Southern Ocean circulation and Antarctic climate throughout the last 118,000 years

Quaternary Science Reviews Williams, T. J., Martin, E. E., Sikes, E. L., **Starr, A.**, Umling, N., & Glaubke, R. · <https://doi.org/10.1016/j.quascirev.2021.106915>

2021 Strong glacial-interglacial variability in upper ocean hydrodynamics, biogeochemistry, and productivity in the southern Indian Ocean

Communications Earth and Environment Tanguan, D. N., Berke, M. A., Cartagena-Sierra, A., Flores, J. A., Gruetzner, J., Jimenez- Espejo, F. J., . . . **Starr, A.** · <https://doi.org/10.1038/s43247-021-00148-0>

2021 Latitudinal migrations of the subtropical front across the Mid- Pleistocene Transition at the Agulhas Plateau

Paleoceanography and Paleoclimatology Cartagena-Sierra, A., Berke, M. A., Robinson, R. S., Marcks, B., Castañeda, I. S., **Starr, A.**, . . . Hemming, S. R. · <https://doi.org/10.1029/2020PA004084>

January 28, 2023