

# Aidan M. Starr

PhD Researcher in Paleoceanography

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<https://aidanstarr.github.io>

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## RESEARCH INTERESTS

I am interested in the use of paleoclimate proxy records to investigate oceanographic changes, marine biogeochemical cycles, and ocean-cryosphere dynamics in Earth's past. I employ a variety of proxies, utilising quantitative information archived in deep-sea sediment cores spanning the Neogene and Quaternary periods. I am particularly enthusiastic towards exploring these data through numerical and statistical approaches.

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## EDUCATION

- **Cardiff University** Cardiff, UK  
*PhD* *October 2017 – Ongoing*  
**Thesis Topic:** Changes in ice volume and ocean stratification across the Mid Pleistocene Transition: A multiproxy paleoceanographic study on the Agulhas Plateau  
**Primary Supervisor:** Prof. Ian Hall (Cardiff University)  
**Co-supervisors:** Prof. Stephen Barker (Cardiff University), Prof. Sidney Hemming (Columbia University)
- **University of Southampton** Southampton, UK  
*MSci Oceanography* *Aug. 2013 – June. 2017*
  - **Dissertation:**  
Vertical habitat changes in planktic foraminifer *Globoconella puncticulata*  
**Supervisor:** Prof. Paul Wilson (University of Southampton)
  - **Research Project:**  
Investigation of high latitude water masses of the Weddell Sea, Antarctica  
**Supervisor:** Prof. Alberto Naveira Garabato

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## SKILLS AND EXPERIENCE

- **Laboratory**  
*Techniques in oceanography, geochemistry, and sedimentology*
  - **Micropaleontology:** Identification of Pliocene to Modern foraminifera in marine sediment samples.
  - **Geochemistry:** Stable isotope analysis of carbonate  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  using a Thermo Kiel device and MAT 253
  - **Seawater:** Chemical analyses of seawater to determine macronutrient and oxygen concentrations
  - **Grain-Size:** Measurement of sediment grain size distribution by Coulter Counter (for 'Sortable Silt' analysis) and Laser Particle-sizer.
  - **Ice-Rafted Debris:** Identification of ice-rafted mineral grains and lithic fragments in marine sediment.
- **Field**  
*Skills as an ocean-going scientist*
  - **STCW95:** Sea Survival Certificate and Elementary First Aid
  - **Summer 2018:** River sediment sampling for provenance study in Zambia, Botswana (Assisting)
  - **Winter 2018:** Physical Properties specialist on CROCCA-2S research cruise in the SW Indian and Southern Oceans. (PI: Prof. Elizabeth Sikes; objective to recover Late Quaternary sediment for Paleoceanographic work)  
*My role was to assist in deploying and recovering Piston, Gravity, and Multi- cores; curate, log and describe the cores; operate the Multi-Sensor Core Logger*
- **Computational**  
*Numerical and computational approaches*
  - **Matlab:** Confident use for statistical analyses (univariate; bivariate; time series; bootstrapping and 'Monte Carlo' methods), data manipulation, and data visualisation.
  - **Microsoft Office:** Confident use, including Excel for database handling.
  - **Tex:** Confident use of  $\text{\LaTeX}$  for document typesetting.
  - **NetCDF:** Confident working with the NetCDF file type.
  - **Ocean Data View:** Regular use for plotting oceanographic data.

## CONFERENCES AND PUBLICATIONS

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- **Starr, A, et al. (2018):** *Pleistocene Ice-Rafted Debris Variability on the Subantarctic Agulhas Plateau*  
Quaternary Research Association PG Symposium, Glasgow, UK. 22 Aug. 2018 - 24 Aug. 2018 - TALK
- **Hall, I.R., Starr, A, et al. (2018):** *Deep water variability on the Southern Agulhas Plateau over the past 1.5 Ma*  
AGU Fall Meeting, Washington, D.C., U.S.A. 10 December 2018 - 14 December 2018 - POSTER
- **Starr, A, Hall, I.R., et al. (2018):** *1.5 Million Years of Ice-Rafted Debris variability on the Agulhas Plateau*  
AGU Fall Meeting, Washington, D.C., U.S.A. 10 Dec. 2018 - 14 Dec. 2018 - POSTER
- **Starr, A, et al. 2019:** *Melting Ice and Sinking Seas: What Ice-Rafted Debris tells us about glacial ocean circulation*  
NERC Wessex Congress, Oxford, UK. 19 Mar. - 20 Mar. 2019 - TALK
- **Starr, A, Hall, I.R., et al. 2019:** *Oceanic Front Variability inferred from Ice-Rafted Debris at the Agulhas Plateau and links to Deep Ocean geometry over the past 1.65 Ma*  
International Conference on Paleoceanography, Sydney, AUS. 2 Sept. 2019 - 6 Sept. 2019 - POSTER

## AWARDS AND GRANTS

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- **Studentship:** *NERC GW4+ Doctoral Training Partnership*  
-Cardiff University; 2018
- **Summer Student (Supervisor):** *Cardiff Undergraduate Research Opportunities Programme (CUROP):* -Cardiff University; 2018 and 2019
- **Grant:** *Antarctic Science Limited International Bursary: Pliocene-Pleistocene Antarctic iceberg dynamics- a geochronology provenance study of Sub-Antarctic ice rafted debris*  
-Columbia University; 2018
- **Award:** *Best Oral Presentation: Quaternary Research Association PG Symposium*  
-University of Glasgow; 2018

## SELECTED TRAINING AND WORKSHOPS

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- **Advanced Training Course:** *Techniques and protocols in sediment core description, analysis, data visualisation and interpretation.*  
-BOSCORG; 2018
- **IODP Exp. 361 Post-Cruise Meeting:** *The second post-cruise meeting for Exp 361: South African Climates*  
-Zambia; 2018
- **Genie Workshop:** *Earth System Modelling workshop for the c-Genie model. Run by Andy Ridgwell*  
-Bristol; 2018
- **Advanced Training Course:** *XRF core scanning: data collection, analysis, presentation, and interpretation*  
-BOSCORG; 2019

## POSITIONS AND AFFILIATIONS

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- **PRESIDENT:** University of Southampton Marine Conservation Society 2015
- **CONTRIBUTING MEMBER:** University of Southampton 'Fossil Free' campaign 2015 to 2016
- **CONTRIBUTING MEMBER FOR ORGANIC WASTE SOLUTIONS:**  
Cardiff University 'Green Earth' sustainability group 2017 to present
- **MEMBER:** The UK Paleoclimate Society 2017 to present
- **MEMBER:** Institute of Marine Engineering, Science and Technology 2015 to present
- **MEMBER:** PAGES Early Career Network 2018 to present
- **MEMBER:** Quaternary Research Association 2018 to Present
- **MEMBER:** American Geophysical Union 2018 to Present
- **MEMBER:** The Oceanography Society (TOS) 2019 to Present