



# Gawain T. Antell, PhD

## Education

**DPhil**, *University of Oxford*, UK. **2017–2021**

Departments of Earth Sciences and Zoology. Defended Jan 2022 with no corrections.

**B.S.**, *Yale University*, USA, *magna cum laude*. **2012–2016**

Ecology & Evolutionary Biology (with distinction) and Geology & Geophysics

## PhD thesis

**Title:** *Macroecological consequences of biotic and abiotic factors in marine communities through time*

**Supervisors:** Erin Saupe (Earth Sciences) & Tim Coulson (Zoology)

**Research interests:**

- Biodiversity across spatial, temporal, and taxonomic scales
- Macroecology, marine biology, and invertebrate paleontology
- Inferential statistics on time series and spatial data

## Employment

**Assistant Professor of Physical Geography**, *Geography*, UCLA. **from 2024**

**UC President's Postdoctoral Fellowship Program (PPFP)**, **2022–Present**

*Earth & Planetary Sciences*, University of California, Riverside.

Independent research fellowship; mentorship as part of the diversifying faculty initiative.

**Postdoctoral Research Assistant**, *Earth Sciences*, Oxford. **2022**

Grant-funded by UK Natural Environment Research Council to develop analysis software.

**Geoscientists-in-the-Parks Intern**, *US National Park Service*, **2016–2017**

*Geologic Resources Division*, Florissant National Monument, CO.

**Collections Assistant**, *Yale Peabody Museum of Natural History*, **2013–2016**

*Invertebrate Paleontology Division*, New Haven, CT.

## Publications

- [1] **G Antell**, R Benson, and E Saupe. "Spatial standardization of taxon occurrence data—a call to action". In: *Paleobiology* (in review).
- [2] G Mathes, C Reddin, W Kiessling, **G Antell**, E Saupe, and M Steinbauer. "Spatially heterogenous responses of planktonic foraminifera assemblages over 700,000 years of climate change". In: *Global Ecology & Biogeography* (in review).
- [3] V Makarkin, **G Antell**, and B Archibald. "A revision of Chrysopidae (Neuroptera) from the late Eocene Florissant Formation, Colorado, with description of new species". In: *Zootaxa* (2022). DOI: 10.11646/ZOOTAXA.5133.3.1.
- [4] **G Antell** and E Saupe. "Bottom-up controls, ecological revolutions and diversification in the oceans through time". In: *Current Biology* (2021). DOI: 10.1016/j.cub.2021.08.069.
- [5] **G Antell**, I Fenton, P Valdes, and E Saupe. "Thermal niches of planktonic foraminifera are static throughout glacial-interglacial climate change". In: *Proceedings of the National Academy of Sciences* (2021). DOI: 10.1073/pnas.2017105118.

- [6] S Darroch, M Casey, **G Antell**, A Sweeney, and E Saupe. "High preservation potential of paleogeographic range size distributions in deep time". In: *American Naturalist* (2020). DOI: 10.1086/710176.
- [7] **G Antell**, W Kiessling, M Aberhan, and E Saupe. "Marine biodiversity and geographic distributions are independent on large scales". In: *Current Biology* (2020). DOI: 10.1016/j.cub.2019.10.065.
- [8] **G Antell**. "Digitization reveals and remediates challenges to research on dispersed museum collections from Florissant fossil beds, Colorado". In: *Geological Society of America Special Volume* (2018). DOI: 10.1130/2018.2535(20).
- [9] **G Antell** and J Kathirithamby. "The first twisted-wing parasitoids (Insecta: Strepsiptera) from the early Eocene Green River formation of Colorado". In: *Bulletin of the Peabody Museum of Natural History* (2016). DOI: 10.3374/014.057.0204.

## Other writing

(Not peer-reviewed.)

**G Antell**. "Why I changed my name, according to Latin taxonomy." Transpositions blog, *International Society of Nonbinary Scientists* (2023). [isnbs.org/2023/08](https://isnbs.org/2023/08).

S Greene, **G Antell**, et al. "Safety and belonging in the field: a checklist for educators." *EarthArXiv* (2021). DOI: 10.31223/X53P6H.

**G Antell**. "All colours of pride." Rainbow Research blog series, journal of *Methods in Ecology & Evolution* (2021). URL: [methodsblog.com/2021/06/28](https://methodsblog.com/2021/06/28).

B Fernando and **G Antell**. "Recommendations for improving racial equality, diversity, and inclusion in the Department of Earth Sciences, University of Oxford." Public report (2021). Available at: <https://www.earth.ox.ac.uk/2020/06>.

## Invited talks

<b>Stanford</b> : Dept. of Geological Sciences	Apr 2023
<b>UC Riverside</b> : Environmental Dynamics and GeoEcology Institute	Mar 2023
<b>U. of Southern California</b> : Paleo/Environmental seminar series	Jan 2023
<b>UC Riverside</b> : Dept. of Earth & Planetary Sciences	Jan 2023
<b>UC Los Angeles</b> : Dept. of Earth, Planetary & Space Science	Sep 2022
<b>Sheffield University</b> : Ecology & Conservation series	Oct 2021
<b>Yale</b> : Earth and Planetary Sciences	May 2021
<b>Harvard</b> : MCZ and Dept. Organismic & Evo. Bio. paleobiology labs	Nov 2020
<b>EDI talk</b> : "Decolonizing ecology and conservation science," Zoological Society of London (Feb 2021) and Oxford Zoology Dept. (July 2020).	
<b>Oxford Museum of Natural History</b> : Public research lecture	Jan 2020
<b>Oxford Geology Group</b> : Student speaker at annual symposium	Mar 2019

## Awards

## Scholarships

President's Postdoctoral Fellowship, U. of California	2022–
Clarendon Fund Scholarship	2017–2021
St John's College Alumni Scholarship	2017–2021
NSF Graduate Research Fellowship Program (declined)	2017
Jerry (1953) and Jackie Inskeep Scholarship Fund	2013–2016
Summer Environmental Fellowship, Yale	2014
US National Merit Scholarship	2012

## Grants

Burdett-Coutts Grant, Earth Sciences, of Oxford (£1,650)	2019
Postgraduate Special Grant, St John's College (£1,250)	2018
Travel Grant, Palaeontological Association (£300)	2018
Ernst Mayr travel grant for animal systematics, Museum of Comparative Zoology, Harvard University (\$1,100)	2016
Yale Science Center Int'l Fellowship (\$3,870; \$4,300)	2014, 2015
Yale Freshmen Summer STEM Research Fellowship (\$4,300)	2013

## Awards

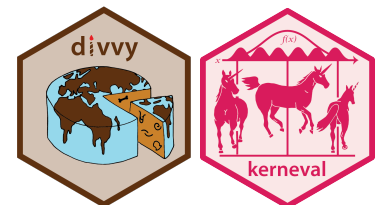
Winifred Goldring Award for outstanding paleontology PhD student; conferred by Association for Women Geoscientists and Paleontological Society	2021
1st-place student talk in Geobiology & Geomicrobiology, GSA meeting	2020
Oxford Earth Sciences award for equality, diversity, & inclusion	2020
1st-place student talk, North American Paleontological Convention	2019
D. E. Chantler Award for "the Yale Senior who has best exemplified qualities of courage, strength of character, and high moral purpose"	2016
W. R. Belknap Prize for excellence in a biology thesis, Yale	2016
1st-place student speed talk, Connecticut Entomological Society	2015

## Software

**divvy**: Developed an R package to spatially subsample biodiversity data, for fair comparisons through time and across environments (Antell *et al.* 2020, 2023).

**kerneval**: Developed an R package for kernel density estimation that corrects density curves for biased observation/sampling (Antell *et al.* 2021).

**Install at**: [github.com/GawainAntell/divvy](https://github.com/GawainAntell/divvy); [github.com/GawainAntell/kerneval](https://github.com/GawainAntell/kerneval)



## Conference talks

- [1] G Antell, R Benson, and E Saupe. "A new R package to spatially subsample taxon occurrences for fair comparisons of biodiversity across time, clades, and environments". In: *6th International Palaeontological Congress*. Khon Kaen, Thailand, 2022.
- [2] G Antell, R Benson, and E Saupe. "Spatial standardization tools for fair comparisons of biodiversity across time, clades, and environments". In: *Geological Society of America*. Denver, CO, 2022.
- [3] G Antell and E Saupe. "Rate and mode of thermal niche evolution across and within lineages of Cenozoic planktonic foraminifera". In: *Geological Society of America*. Portland, OR, 2021.
- [4] G Antell, I Fenton, P Valdes, and E Saupe. "Planktonic foraminifera conserved environmental niches across 700,000 years of glacial-interglacial climate change". In: *Crossing the Palaeontology-Ecology Gap*. Berlin (virtual), 2021.
- [5] G Antell, I Fenton, P Valdes, and E Saupe. "Thermal niches of planktonic foraminifera are static throughout glacial-interglacial climate change". In: *Geological Society of America*, **1st-place student talk**. Online, 2020.
- [6] G Antell, W Kiessling, M Aberhan, and E Saupe. "No patterns of ecological release in brachiopod and bivalve distributions over the Phanerozoic". In: *North American Paleontological Convention*, **1st-place student talk**. Riverside, CA, 2019.
- [7] G Antell, W Kiessling, M Aberhan, and E Saupe. "Geographic distributions of benthic invertebrate species are diversity-dependent across the Phanerozoic". In: *Crossing the Palaeontology-Ecology Gap*, **commended student talk**. Leeds, UK, 2018.
- [8] G Antell, Kiessling, Aberhan, and Saupe. "Geographic distributions of benthic invertebrate species are diversity-dependent across the Phanerozoic". In: *Int'l Palaeontological Congress*. Paris, 2018.
- [9] G Antell and H Meyer. "Fossils from the frontier: Decades of museum influence on the paleontology of the Florissant fossil beds, Colorado". In: *Geological Society of America*. Denver, CO, 2016.
- [10] G Antell and K Mertes. "Niche partitioning in East African Hornbills along behavioral, dietary, movement, and habitat axes". In: *Ecological Society of America*. Ft. Lauderdale, FL, 2016.
- [11] Gwen S Antell. "Exoskeletons in the closet: new fossil insect species from the drawers of the Yale Peabody Museum". In: *Yale Peabody Museum Anniversary Symposium*, **invited alumna**. 2016.
- [12] G Antell. "An old twist on a new problem: Inferring the paleodistribution of the parasite *Caenocholax* (Strepsiptera) from a new fossil discovery". In: *Geological Society of America*. Baltimore, MD, 2015.
- [13] G Antell. "Stone flies and rock crawlers: Fossil insects from the Eocene". In: *Connecticut Entomological Society*, **1st-place student speed talk**. New Haven, CT, 2015.

## Certifications & training

**Faculty Success Program:** National Center for Faculty Diversity & Development 12-week "bootcamp" program for minoritized faculty. Remote, 2023.

**Graduate Student Mentorship Program:** UC Riverside, daylong training, 2023.

**Teaching certification:** SEDA Supporting Learning award in higher education (Descriptor 1 of UK Professional Standards Framework), 2020.

**Science communication and science policy:** "Reclaiming STEM" 4-part workshop series, run by and for minorities in STEM. Held remotely, 2020.

**Wilderness First Responder:** 80-hour emergency medicine certification with wilderness upgrade, maintained valid 2017–Present.

**Science communication for children; STEM Ambassador training; University teaching:** Individual workshops, University of Oxford, Jan–Feb 2019.

**Stratigraphic paleobiology:** Paleo. Society 2-wk grad field course. MT, 2017.

## Teaching

**Undergraduate lecture course:** guest lecturer for unit on climate change, 300 students, University of California, Riverside 2023

**1st-yr Invertebrate Paleontology:** laboratory teaching assistant 2017–2020

**2nd-yr Invertebrate Paleontology:** laboratory teaching assistant 2019, 2021

**2nd-yr Past Environments:** laboratory teaching assistant 2018, 2020

**3rd-yr Quantitative Paleontology:** developed data analysis exercise 2019

**Tutorials (small-class discussions):** developed and led 4-part paleontology unit for 1st-yr students, St Peter's College. Assigned and assessed work. 2019

**Field instructor:** Earth Sciences undergraduate field course. Isle of Arran, UK. 1 week, 2019 (2020 cancelled due to COVID-19). Graded student maps.

**Field instructor:** Earth Sciences undergraduate course. Dorset, UK. 1 week, 2018, 2019, 2020 (virtual). Intro to sedimentary field skills; graded field notebooks.

**Field instructor:** Day course to local outcrops in South East England. 2019, 2022

## Service

**Peer reviewer:** *Science Advances*, *Global Ecology & Biogeography*, *Paleobiology*, *Palaeontology*, *Am. Naturalist*, *Am. J. Botany*, *Royal Society and Nature families*

**Session chair:** Ocean Sciences Meeting, 2024, co-convenor; Geological Society of America, 2022; Palaeontological Association, 2020.

**Membership:** Paleontological Society, Geological Society of America, International Association for Diversity in Geoscience, International Society of Nonbinary Scientists

**Awards judge:** Paleontological Society adjudicator of student posters at the 2022 Geological Society of America meeting. Reformed the scoring rubric for equity.

**Divisional EDI Fellow:** Inaugural fellow for Earth Sciences. Co-wrote strategic plan for EDI in Oxford division of Maths, Physical, & Life Sciences, 2020–2021.

**Working group:** Co-chair for racial diversity and inclusion in Earth Sciences, Oxford, 2019–2020. Co-authored report of 42 action item recommendations.

**Graduate student representative:** Divisional committee for Graduates, 2018–2020. Dept. committees for Equality, Graduate Students, and Teaching, 2017–2021. Graduate President serving 9 committees of St John's College, 2017–2018.