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Gwen S. Antell

Education

DPhil, *University of Oxford*, UK. **2017–Present**
Departments of Earth Sciences and Zoology

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:
- Invertebrate paleontology and paleoecology
- Inferential statistics on time series and multivariate data
- Biodiversity across spatial, temporal, and taxonomic scales

Employment

Graduate teaching assistant, *Earth Sciences*, Oxford. **2017–Present**
Labs, tutorials, and field courses about evolution and past environments.

Geoscientists-in-the-Parks Intern, *US National Park Service, Geologic Resources Division*, Florissant National Monument, CO. **2016–2017**
Research, exhibit design, and geoheritage resource surveys.

Collections Assistant, *Yale Peabody Museum of Natural History, Invertebrate Paleontology Division*, New Haven, CT. **2013–2016**
Described new fossil species, cataloged specimens, and hosted public tours.

Leadership

Divisional Equality, Diversity, & Inclusion Fellow: serving the STEM division EDI Steering Group and contributing to Oxford's 3-year strategic plan, 2020–2021.

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

Representative for graduate students: Equality Committee, Earth Sciences Dept., Oxford, 2017–Present. Changed policies and liaised with students.

Representative for Earth Sciences: Divisional Joint Consultative Committee, representing graduate student interests, 2018–2020.

President: St John's College, Middle Common Room Committee (graduate student body), 2018–2019; **Disabled students' officer** 2017–2018.

Women's Leadership Forum facilitator: St John's College grad. students, 2018.

President: Yale Ecology and Evo. Bio. Group, 2015–2016; member 2013–2016.

Secretary: Connecticut Entomological Society, 2015–2016; member 2013–2016

Publications

[1] **G Antell** and E Saupe. "Bottom-up controls, ecological revolutions and diversification in the oceans through time". In: *Current Biology* 31.19 (2021). DOI: 10.1016/j.cub.2021.08.069.

[2] **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* 118.18 (2021). DOI: 10.1073/pnas.2017105118.

[3] 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* 196.4 (2020), pp. 454–471. DOI: 10.1086/710176.

[4] **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.

[5] **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* 535 (2018), pp. 301–309. DOI: 10.1130/2018.2535(20).

[6] **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* 57.2 (2016), pp. 165–174. DOI: 10.3374/014.057.0204.

Conference talks

[1] 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.

[2] 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.

[3] 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, **Future Leaders in Paleontology** awarded session, **1st place student talk in Geobiology***. Online, 2020.

[4] 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.

[5] 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.

[6] G Antell, Kiessling, Aberhan, and Saupe. "Geographic distributions of benthic invertebrate species are diversity-dependent across the Phanerozoic". In: *International Palaeontological Congress*. Paris, 2018.

[7] 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.

[8] 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.

[9] 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.

Awards

Scholarships

Clarendon Fund Scholarship *2017–Present*

St John's College Alumni Scholarship *2017–Present*

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 female paleontology 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*

Invited talks

Research seminar: Sheffield University ecology & conservation series, Oct 2021.

Research seminar: Yale Earth and Planetary Sciences seminar series, May 2021.

Research seminar: Harvard paleobiology joint lab groups (Museum of Comparative Zoology and Dept. Organismic & Evolutionary Biology), Nov 2020.

EDI talk: "Decolonizing ecology and conservation science," Zoological Society of London (Feb 2021) and Oxford Zoology Dept. (July 2020).

Public lecture: "Science Short" research talk on climate change and ocean life, Oxford University Museum of Natural History, 4 Jan 2020.

Student speaker: Oxford Geology Group annual symposium, 2019.

Alumni speaker: Yale Peabody Museum 150th Anniversary Symposium. One of two recent student graduate speakers, Verrill Medal symposium, 2016.

Software

Developer of *kerneval* R package for kernel density estimation [link]

Other writing

(Not peer-reviewed.)

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: 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*.

Professional training

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.

Service

Palaeontological Association: Peer review for *Palaeontology*. Session chair for annual meeting, 2020.

Student representative: Departmental committees for Equality, Graduate Students, and Teaching; divisional committee for Graduates; 2017–Present. Graduate President on all St John's College committees, 2017–2018.

Outreach & advocacy

Biology LGBTQ+ Network: Co-organiser for 2020 LGBT STEM Day symposium at Oxford (cancelled due to COVID-19). £1,000 in grant funding acquired.

Activity leader: Super Science Saturday, Oxford University Museum of Natural History, 9 March 2019. Ran activity booth with estimated 3,600 attendees.

Instructor: UNIQ summer school, Oxford broadening access program; 2018, 2019. Designed classroom activities and assistant taught a local geology fieldtrip.

Edinburgh Marathon: £750 raised for the Juvenile Diabetes Research Foundation, as an athlete with juvenile (type 1) diabetes. Sub 4-hour finishing time. May 2019.

March For Science: Activity leader for the CU Boulder Museum of Natural History, Denver 2017. Support of the American Geophysical Union, London 2018.

Tough Mudder: $1,200 raised for American Diabetes Assoc. Sacramento 2017.

Field work

Graduate instructor: Earth Sciences undergraduate field course. Isle of Arran, UK. 1 week, 2019 (2020 cancelled due to COVID-19). Mapping and interpretation.

Graduate instructor: Earth Sciences undergraduate course. Dorset, UK. 1 week, 2018, 2019, 2020 (virtual). Introduction to field skills and sedimentology.

Stratigraphic paleobiology: Paleontological Society graduate field course. Bitterroot Mountains, MT. 2 weeks, 2017. Sequence strat. and logging sections.

Wildlife research: Independent research on bird behavior, Jetz Lab. Kenya: Lale'enok Resource Centre, 2 mo., 2015; Mpala Research Centre, 3 mo., 2014.