Kemi Ashing-Giwa

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Education

Stanford University - Palo Alto, CA

- Ph.D. Candidate in Earth & Planetary Sciences - 2022-
- Advisors: Professor Jonathan Payne, Professor Erik Sperling

Harvard University - Cambridge, MA

- A.B. Degree in Integrative Biology, Secondary in Astrophysics; Highest Honors in concentration (English Honors), *cum laude* in field (Latin Honors) - May, 2022
    - Thesis: An Analysis of Sedimentary Archaea to Characterize Chemoorganoautotrophic Metabolism at Cold Methane Seeps.
        - Advisors: Professor Ann Pearson, Professor Peter Girguis

Previous research experience

Harvard University - Cambridge, MA

Undergraduate Researcher, Pearson and Girguis Labs - 1/2021-5/2022

- Conducted an analysis of sedimentary archaea to characterize chemoorganoautotrophic metabolism at cold methane seeps.

Undergraduate Researcher, Sasselov Lab - 9/2020-12/2020

- Worked on a photochemistry-based origin of life project that probes the question of whether chemical “sunscreens” could have protected protocells’ contents from UV light such that life could develop on the early Earth and assorted exoplanets.

Undergraduate Research Assistant, Hoekstra Lab - 12/2018-12/2020

- Conducted an analysis of museum collections to characterize the repeated evolution of forest-adapted deer mice; imaged and took internal and external measurements of 300 specimens.

California Institute of Technology - Pasadena, MA

Undergraduate Researcher, Fischer Lab - 5/2020-12/2020

- Worked on a geobiology-based origin of life project that examines the question of how the earliest cells harnessed energy in an effort to understand the early steps of bioenergetic evolution.

Research skills

Analytical methods: euxinia survival study, closed-cell/syringe/“tupperware” respirometry, lipid extraction via microwave digestion, transesterification (acid hydrolysis), SiO_2 gel column chromatography, flow injection analysis, microbial culturing, normal- and reverse-phase high-performance liquid chromatography, spooling-wire micro-combustion device and isotope ratio mass spectrometry, X-ray imaging, telescope observation (10-inch refractor and millimeter-wavelength), DNA extraction
Software: R; Microsoft Office
Languages: Mandarin Chinese (beginner-intermediate proficiency)
Miscellaneous: popular science writing, hand and digital illustration, graphic design

Teaching, mentorship, and outreach

Teaching Affiliate - Stanford University, CA

- Out of this World: The Science of Science Fiction [undergraduate/graduate course] - 2026
    - Designed and taught a 1-credit course exploring science as a narrative and educational tool in speculative fiction, with prominent author visits every other week and a creative final project.

Teaching Assistant - Stanford University, CA

- Macroevolution [undergraduate/graduate course] - 2026
    - Gave a lecture, assisted in-class discussions, held office hours, graded assignments and exams.
- The Sixth Extinction (and the Other Five) [undergraduate/graduate course] - 2024
    - Assisted in-class discussions, held office hours, graded assignments and papers.
- Introduction to Geology [undergraduate course] - 2023, 2024
    - Taught labs, held office hours, graded assignments and exams.
- Fundamentals of Geobiology [graduate course] - 2023
    - Helped organize guest lecturers, graded essays and exams.

Black Oceans Stanford Scholars - Stanford University, CA (2024-)

- Founding member. Assisting in outreach to promote and enhance the participation of the Black community within marine fields of study and foster a sense of belonging among Black students at Stanford. Raised funding, and helped organize events including the Black Faces in Ocean Spaces conference.

Stanford Black Bioscience Organization - Stanford University, CA (2024-)

- Assisting in outreach to build community among Black bioscientists in conjunction with the greater Black community at Stanford and beyond, through events such as the Black Excellence in Bioscience Conference and the Annual Black Grad Wellness Retreat.

Graduate Student Action Committee mentorship program - Stanford University, CA (2025-)

- Mentoring new graduate students in the Earth & Planetary Sciences Department.

Sustainability Undergraduate Research in Geoscience and Engineering Program - Stanford University, CA (2025)

- Mentored Dax Serrato (UC San Diego) and Creek Arthur (Hanover College) over the summer on a brachiopod ecophysiology project.

Biology Preview Program, graduate student mentor - Stanford University, CA (2024, 2026)

- Worked with a graduate mentee over Zoom to workshop their PhD program application materials (including their CV and personal statements) and run practice interviews.

Publications

Scientific writing

1. Boria RA, Wooldridge B, Kautt AF, **Ashing-Giwa K,** McFadden SP, Kirby C, Edwards SV, Hoekstra HE. Pleistocene climatic oscillations impact the diversification of deer mice (*Peromyscus maniculatus*) and the independent evolution of ecotypes. *In review at Evolution.*
2. **Ashing-Giwa K,** Payne J, Bergmann K, Monarrez PM, Gaskell D, Stockey R, Sperling E. The evolution of the marine aerobic habitat for animals over the last billion years of Earth history. *Current Biology, 36(20),* R1130–R1144. https://doi.org/10.1016/j.cub.2026.09.017.
3. Marquez JA, Penn JL, Stockey RG, Boag TH, Duncan MI, McClure KN, Matsumoto K, **Ashing-Giwa K,** Noll CP, Deutsch C, Payne JL, Sperling EA. Differences in physiological tolerance to global warming caused the Permian–Triassic transition between the Paleozoic and Modern faunas. *Proceedings of the National Academy of Sciences* 2026; https://doi.org/10.1073/pnas.2533086123.
4. **Ashing-Giwa K,** Payne, JL, Sperling, EA; Investigating the response of *Glycymeris septentrionalis* (Bivalvia) and *Terebratalia transversa* (Brachiopoda) to euxinia: Implications for mass extinctions. *Geology* 2025; doi: https://doi.org/10.1130/G53911.1.
5. Keller K, Kopf S, McFarlin J, Maloney A, Rhim J, Elling F, **Ashing-Giwa K,** Baker I, Calhoun A, Pearson A. (2025). Compound-specific carbon and hydrogen isotope analysis traces archaeal lipid signatures in cold seep marine systems. *Geochimica et Cosmochimica Acta.* https://doi.org/10.1016/j.gca.2025.08.017.
6. Keller K, Baum MM, Liu XL, **Ashing-Giwa K,** Baker IR, Blewett J, Pearson, A. (2024). Constraining the sources of archaeal tetraether lipids in multiple cold seep provinces of the Cascadia Margin. Organic Geochemistry, 104882–104882. https://doi.org/10.1016/j.orggeochem.2024.104882.

7. Sedrak MS, Salgia MM, Decat Bergerot C, **Ashing-Giwa K…** Pal S., Bergerot PG. Examining Public Communication About Kidney Cancer on Twitter. (2019) *JCO Clin Cancer Inform.,* 3:1-6. doi:10.1200/CCI.18.00088.

Fiction writing

Books

1. *For a Certain Value of Good.* On submission to publishing houses.
2. *The Medan Cycle* duology (*Aggregate* and *Abomination*)*.* On submission to publishing houses.
3. *The King Must Die. Saga Press/Simon & Schuster* (2025).
    a. *Locus Magazine* Recommended Reading List. Stars awarded by *Kirkus* and *Publishers Weekly*.
4. *This World Is Not Yours. Tor Nightfire/Macmillan Publishers* (2024).
5. *The Splinter in the Sky. Saga Press/Simon & Schuster* (2023).
    a. *USA Today* bestseller. Compton Crook Award. *Locus Magazine* Recommended Reading List. New York Public Library Book of the Day. Stars awarded by *Kirkus, Publishers Weekly, Booklist,* and *BookPage*.

Short fiction

6. “Preservation.” *Being Aro: An Anthology* (2026).
    a. Stars awarded by *Publishers Weekly* and *Booklist*.
7. “High Tide.” *Index on Censorship* (2025).
8. “The Fire Burns Anyway.” *Clarkesworld Magazine* (2025).
9. “Kadrik and the Pod.” *Magic the Gathering: Edge of Eternities* (2025).
10. “Teeth.” *Kaleidotrope* (2025).
11. “You Don’t Belong Where You Don’t Belong.” *Reactor/Macmillan Publishers* (2024).
    a. Reprinted in *Some of the Best from Reactor: 2024.*
12. “Thin Ice.” *Clarkesworld Magazine* (2023).
    a. Ignyte Award Finalist for Outstanding Short Story. *Locus Magazine* Recommended Reading List. Reprinted in *Year's Best African Speculative Fiction Volume 3.* Reprinted in *Africanfuturism Short Stories.*
13. “Beneath a Dying Sun.” *The Sunday Morning Transport* (2023).
14. “Jovis.” *Luna Station Quarterly* (2023).
    a. Reprint of “Sunta” (Coffin Bell, April 2020), revised with Tali Arima.
15. “The Puppetmaster.” *Reactor/Macmillan Publishers* (2023).
    a. Reprinted in *Some of the Best from Tor.com: 15th Anniversary Edition.*
16. “The Sufficient Loss Protocol.” *Reactor/Macmillan Publishers* (2022).
    a. Reprinted in *The Year’s Top Tales of Space and Time 3.* Reprinted in *Forever Magazine* Issue 125.
17. “Fruiting Bodies.” *Reactor/Macmillan Publishers* (2022).
18. “Paper Suns.” *Anathema Magazine* (2021).

Conferences and presentations

- **Ashing-Giwa K,** Payne J, Bergmann K, Monarrez PM, Gaskell DE, Stockey RG, Sperling E. **The evolution of marine aerobic habitat for animals over the last billion years of Earth history.**
    1. Invited presentation. Inaugural Stanford Sustainability Forum - 2026
    2. Poster. *Northern California Geobiology Symposium,* UC Davis, CA - 2025
- **Ashing-Giwa K,** Payne J, Sperling E. **Investigating the response of *Glycymeris septentrionalis* (Bivalvia) and *Terebratalia transversa* (Brachiopoda) to euxinia: implications for mass extinctions.**
    3. Talk. *Geological Society of America Annual Meeting,* Denver, CO - 2026
    4. Talk. *Western Society of Naturalists,* San Diego, CA - 2025
    5. Poster. *Northern California Geobiology Symposium,* UC Davis, CA - 2025
- Ashing-Giwa K, Marquez A, Anderson K, Payne J, Sperling E. **The Good, the Bad, and the Hypoxic: investigating the response of inarticulate brachiopods to low-oxygen conditions.**

6. Poster. *Northern California Geobiology Symposium,* Stanford University, CA - 2024
7. Poster. *Ocean Sciences Meeting*, New Orleans, LA - 2023
8. Poster. *Geological Society of America Annual Meeting 2023*, Pittsburgh, PA - 2023

- Ashing-Giwa K, Keller K, Pearson A. **An Analysis of Sedimentary Archaea to Characterize Chemoorganoautotrophic Metabolism at Cold Methane Seeps.**
    9. Poster. In *Northern California Geobiology Symposium,* Stanford University, CA - 2023
    10. Poster. In *Northeast Geobiology Symposium,* Massachusetts Institute of Technology, MA - 2022
    11. Chalk talk. Origins of Life Initiative, Harvard University, MA - 2022

Selected invited workshops, lectures, fundraisers, and other events

- Lecture: “Mass Extinctions and Speculative Biology.” Panels: “Ruthless Women: Fierce Women in SFF,” “Books Inspired by Anime and How Anime Inspires Your Creative Work,” “The Most Alien Planet: The Ancient Earth,” “Making Fictional Planets Feel Real; Getting the Science Right!,” “Queerness in Ruins: LGBTQ+ Identity in Dystopian Worlds.” Reading. Table talk. In *LAConV: World Science Fiction Convention*, in-person and virtual (2026).
- Panel: “We Come in Peace: Writing Non-human Sentience.” Balticon 60 (2026).
- 15th Annual Forbes Under 30 Summit: Sustainability Leaders (2026, declined).
- Fundraiser: “Authors on the Move” for the Sacramento Literacy Foundation (2026).
- Lecture: “Mass Extinctions and Speculative Fiction.” GP 30N: Building Science Fiction Planets, Stanford University (2026).
- Panel: “Science Fact in Science Fiction: Getting It Right in SFF.” Quasar: a Fall Online Nebula Event (2025).
- Dual panels: “Out of this World: Conversations with Local Speculative Fiction Authors” Fireside Books & More (2025). Organized, promoted, and hosted.
- Reading: “Melanin Matrices: Black Speculative Lit.” Lit Crawl (2025).
- Storytelling event. “Generation Women.” Litquake (2025).
- Convention, workshops and panels: “Building Worlds: Crafting Credible Science-Fiction Settings” (2023, 2024). “Ace and Aro Representation in Fiction” (2024). “The Added Depth of Speculative World Building” and “Speculative Biology” (2025). In *Flights of Foundry,* virtual.
- Reading: “*This World Is Not Yours.*” Panel: “The Plot Thickens” Locus Awards Ceremony, featured local author and award presenter for Best Novella (2025).
- Lecture: “Ancient Ghosts: An Overview of the Big Five Mass Extinctions and Opportunities for Speculative Biology.” Panels: “Revolutions are Messy”, “It’s Life, But Not as We Know It.” Balticon 59, guest of honor (2025).
- Fundraiser - book talk: “The World As It Could be: A Benefit for Chapter 510” with Nnedi Okorafor (2025).
- School visit: “Worlds Collide: Science and Science Fiction.” STEAM Week. Los Altos High School (2024).
- Literary festival: “New Encounters of the Weird Kind: Fresh Voices in Sci-fi and Fantasy.” Litquake (2024).
- Fundraiser - book talk: “Writers with Drinks” with Maia Kobabe, Jaime Cortez, Annalee Newitz, and Susan Stryker, hosted by Charlie Jane Anders (2024).
- Panels: “There’s No Such Thing as Apolitical Fiction,” “Decolonizing Genre Fiction,” and “Creating Believable Cultures.” Balticon 58, award winner and guest of honor (2024).
- School visit: “Out of this World II: Writing Speculative Fiction.” Oak Knoll Elementary School (2024).
- Panel: “Africa Risen: African Speculative Fiction from Ghana to Gambia.” Virtuous Con (2024).
- Book talk: “*The Splinter in the Sky*” hosted by Sistah Scifi. San Francisco Public Library (2023).
- Lecture: “The Science Behind *The Splinter in the Sky*” hosted by Sistah Scifi. Oakland (2023).
- Virtual Panel: “Dangerous Worlds.” In *Gotham Writers’ Workshop Genre Fiction Conference,* virtual (2023).
- Panel: “Sci-Fi and SETI”. Assembly of the Order of the Octopus. Pennsylvania State University (2021).

Awards, fellowships, and scholarships

Irene Brown Fund for Nature-related Research, Jasper Ridge Biological Preserve - 2024, 2026
Harriet Benson Fellowship Award, Stanford University - 2025
Paleontological Society Student Research Grant, Paleontological Society - 2024
Lewis and Clark Fund for Exploration and Field Research, American Philosophical Society - 2024
Anne Hof Blinks Fellowship in Marine Biology, University of Washington - 2024
Charles A. & June R.P. Ross Research Grant, Geological Society of America - 2023
Doerr School of Sustainability Research Grant, Stanford University - 2023
Friday Harbor Labs Fellowship, University of Washington - 2023
Inaugural Carl H. Beal Achievement Award, Stanford University - 2022
Origins of Life Summer Undergraduate Research Prize, Harvard University - 2021
Herchel Smith Fellowship, Harvard University - 2021
Earth & Planetary Sciences Summer Research Fellowship, Harvard College - 2021
John Harvard Scholarship, Harvard College - 2020, 2021
Program for Research in Science and Engineering Fellowship, Harvard College - 2019

Organizations

Geological Sciences of America - student member, 2022-
Science Fiction & Fantasy Writers Association - full member, 2025-
World Fantasy Convention Advisory Committee - 2026
The Science & Entertainment Exchange (National Academy of Sciences) - member, 2021-