Al Aswad, Jood – Curriculum Vitae

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EDUCATION

Ph.D. in Geological Sciences **2019 - Present**
Stanford University
Current and future projects involve the response and recovery of marine organisms to periods of extreme climate change over deep time.

M.S. in Geological Sciences **2019**
Cornell University
"A stratigraphic and petrophysical study of in-situ geothermal reservoir quality of the Cambro-Ordovician strata in the subsurface at Cornell University, Ithaca, New York."

B.S. in Earth Science, concentration in Geology **2016**
George Mason University
"The harmonic analysis of geophysical phenomena recorded by borehole strainmeters."

PUBLICATIONS

1. **Al Aswad, J.,** Monarrez, P.M., Penn., J., Deutsch, C., and Payne, J., *Physiology and climate change explain unusually high similarity across marine communities after end-Permian mass extinction* (*Science Advances,* March 2025).

2. **Al Aswad, J.,** Monarrez, P.M., Penn., J., Deutsch, C., and Payne, J., *Climatic and taxonomic controls on the simplification and connectedness of ecosystems in deep time* (Manuscript in preparation).

3. **Al Aswad, J**., Hautmann, M., Singh, P., Ferrill, N.L., Al-Ramadan, K., Lehrmann, D.J., Morsilli, M.D., Koeshidayatullah,A.I, Payne, J.L., *Bivalves and gastropods from the Early Triassic of central Saudi Arabia: Systematics and calibration of Permo-Triassic boundary position within the Khartam Member of the Khuff Formation* (Manuscript in preparation).

4. Payne, J.L., **Al Aswad, J.**, Deutsch, C., Monarrez, P.M., Penn, J.L., and Singh, P. *Selectivity of mass extinctions: Patterns, processes, and future directions.* (Cambridge Prisms: Extinction, April 2023)

5. Tester, J., Beyers, S., Gustafson, J.O., Jordan, T.E., Smith, J.D., **Al Aswad, J.A.,** Beckers, K.F., Allmendinger, R., Brown, L., Horowitz, F., May, D., Khan, T.M., and Pritchard, M.,

District geothermal heating using EGS technology to meet carbon neutrality goals: A case study of Earth Source Heat for the Cornell University campus, Proceedings World Geothermal Congress (May 2020).

6. Gustafson, J.O., Smith, J.D., Beyers, S.M., **Al Aswad, J.A.**, Jordan, T.E., and Tester, J.W., *Earth Source Heat: Feasibility of deep direct use of geothermal energy on the Cornell campus*, GRC Transactions, Vol. 42. (2018).

SELECTED HONORS AND AWARDS

The Thomas D. and Janice H. Barrow Fellowship	2024 - 2025
Funds for Grants Program, PaleoSociety	2023
Grant for DEEP Paleontology Awards, PaleoSociety	2022
Harriet Benson Fellowship Award for Excellent Research	2022
Full graduate fellowship (Stanford), King Abdullah Scholarship Program	2019 – 2022
Best Scientific Video (Storytelling), BioX	2020
Full graduate fellowship (Cornell), King Abdullah Scholarship Program	2017 –2019
Donovan Family Scholarship	2018
Full Ride Scholarship, King Abdullah Scholarship Program	2011 –2016
Certificate of Highest GPA in Program, George Mason University	2016
Outstanding Senior in Earth Science Award	2016
$1500 Student Research Grant, URSP George Mason University	2015

TEACHING AND RESEARCH EXPERIENCE

Teaching Assistant
EPS 169/269: The Sixth Mass Extinction **Autumn 2024; Winter 2023; Spring 2023**
Assisted in creating a class on mass extinctions with Dr. Jonathan Payne, which included syllabus creation and formation of activities and preparation of lectures. Taught three lectures.

Teaching Assistant
EPS 136/236: Macroevolution – Stanford University **Spring 2024**

Guest Lecturer **Winter 2023**
Foothill College: Physical Geography
Taught lecture and activities for *Week 7: Climate Change*, which included a paper-chain of 460 circles representing the age of the Earth, climograph exercises, and a Book Club discussion.

Teaching Assistant **Autumn 2022**
GEOLSCI 4: Coevolution of Life and Earth – Stanford University

Mentor for Independent Undergraduate Research — Summer 2022

Stanford SURGE - Summer Undergraduate Research in Geosciences and Engineering
Payne Paleobiology Lab
Mentees: Victor Trujillo and Lucy Helms of the SURGE intern research program to provide opportunities for students across the United States.
Assisted in mentoring Edward Huang of the Bio-X Stanford internship and Kelly Tung, McKenna Sanders, and Sakeena Saber of the Stanford Earth Young Investigators high school internship program.

Paleontological and Stratigraphic Field Work — Spring 2022

Measured stratigraphic sections and collected 87 samples of invertebrate fossils from the earliestTriassic in Central Saudi Arabia for a project in collaboration with colleagues from the King Fahd University of Petroleum and Minerals.

Module in Introduction to Paleobiology — Summer 2021

Friday Harbor Laboratories – University of Washington
Taught a module introducing the field of paleobiology to a range of undergraduate and graduate students. This module incorporated active participation via the application TopHat.

Graduate Research Assistant — May - August 2018

Smith School of Chemical and Biomolecular Engineering (CBE)
Principle Investigator: Dr. Jeff Tester
Obtained, processed, and analyzed stratigraphic, petrophysical and geophysical data from existing wells and their geophysical well logs in Central New York.

Independent Geodetic Research — Spring 2016; Summer 2018- 2020

George Mason University, Fairfax, VA
Mentor: Dr. Linda A Hinnov
Geodetic research using borehole strainmeters in Yellowstone, WY and Sequim, WA. High density data with over 1,000,000 data points analyzed on MATLAB to calculate geophysical and statistical data through power spectra estimation and harmonic analyses.

PEDAGOGICAL AND EDUCATIONAL TRAINING

Course Design Institute — 2025

Stanford University Center for Teaching and Learning
Designed a course and syllabus for a course in biogeography while integrating principles, assignments and scaffolded projects that allow students to learn and express their knowledge in ways that improve their learning incomes.

Preparing Future Professors — 2023

Mentor: Dr. K. Allison Meezan, Foothill College

Paired with a professor as a mentor; shadowed classes; attended classes in the PFP geared toward preparing for a career in academia.

TEACH Symposium 2022
Stanford University
Participated in workshops on pedagogy and creating an inclusive atmosphere in the classroom.

Marine Invertebrate Zoology 2021
University of Washington – Friday Harbor Laboratories
Grade: 99/100 | Intensive summer course at Friday Harbor, WA. Learned about embryology, reproduction, taxonomic classification, biology and ecology of marine invertebrates.

Field Camp 2015
South Dakota School of Mines and Technology
Grade: A | Six-week course in South Dakota and Wyoming to train in geological mapping, creation of stratigraphic columns and cross-sections, and creation of reports

SELECTED PRESENTATIONS AND CONFERENCE PROCEEDINGS

1. Invited talk: **Al Aswad, J.A.,** Penn, J.L., Monarrez, P.M., Deutsch, C., and Payne, J., *Examining the compositional similarity of marine invertebrate ecosystems after the Big Five mass extinction events,* Fossil Coffee series at U.C. Berkeley, Berkely, California, 2024

2. Invited talk: **Al Aswad, J.A.,** Penn, J.L., Monarrez, P.M., Deutsch, C., and Payne, J., *Taxonomic homogenization of marine ecosystems after the end Permian mass extinction,* presented at Oxford University Biogeography Workshop, Oxford, United Kingdom, 2024

3. **Al Aswad, J.A.,** Penn, J.L., Monarrez, P.M., Deutsch, C., and Payne, J.*, What Causes Biotic Homogenization?,* NAPC, Michigan, MA, 2024

4. **Al Aswad, J.A.,** Penn, J.L., Monarrez, P.M., Deutsch, C., and Payne, J.*, Physiology of marine invertebrates explains broadened biogeography after end-Permian extinction*, University of Lausanne, Lausanne, Switzerland, 2023

5. **Al Aswad, J.A.,** Penn, J.L., Monarrez, P.M., Deutsch, C., and Payne, J.*, Physiology of marine invertebrates explains broadened biogeography after end-Permian extinction*, to be presented at GSA Annual Meeting, Pittsburgh, PA, 2023

6. Trujillo, V., Helms, L., **Al Aswad, J.A.,** Monarrez, P., and Payne, J.L., *Biogeographic stability of benthic marine mollusks across the end-cretaceous mass extinction,* GSA Annual Meeting 2022, Denver, CO.

7. Tung, K., Anderson, M., Saber, S., Monarrez, P.M., **Al Aswad, J.A**., and Payne, J.L., *Comparing the latitudinal ranges of genera of Mollusca and arthropoda before and after the end-Permian mass extinction,* to be presented at 2021 Fall Meeting, American Geophysical Union, Washington D.C., 2022

8. **Al Aswad, J.A.,** Jordan, T.E., Smith, J.D., and Gustafson, J.O., 2018, *Porosity, permeability, and paleotopographic analysis: A geological interpretation of in-situ geothermal reservoir quality at Cornell University, Ithaca, New York,* GSA Annual Meeting 2018, Indianapolis, IN (talk: Hydrogeology and Energy).

9. **Al Aswad, J.A.,** Jordan, T.E., and Smith, J.D., 2018, *Earth Source Heat: Exploring the subsurface at Cornell for potential reservoirs for an Enhanced Geothermal System* (talk), Paleontological Research Institute Summer Symposium, Museum of the Earth, Ithaca, NY,

10. **Al Aswad, J.A.,** and Hinnov, L.,A., 2016, *The harmonic analysis of geophysical phenomena recorded by borehole strainmeters*:
    a. Presented at American Geophysical Union Undergraduate Virtual Poster Showcase, 2016; OSCAR Students as Scholars Symposium (talk), 2016; and AGU 2018

LEADERSHIP AND EXPERIENCE

Reviewer, *Palaeogeography, Palaeoclimatology, Palaeoecology*	2024
DEEP Award Creator and Committee Leader	2022 - 2023
Committee member, Paleontological Society	2021 - present
Student representative, Paleontological Society Council	2021 - 2023
Program coordinator, Science Teaching Through Art – Stanford	2021 – 2022
Committee member, North California Paleontological Conference	2020
Coordinator, Stanford University Geological Sciences graduate seminar series	2019 - 2022
Peer advisor, Bay Area Graduate Pathways in STEM	2019 - 2020
President, American Association of Petroleum Geologists – Cornell	2017 - 2019
Volunteer for 100+ hours, Alpha Phi Omega	2013 - 2016
Founding Member/ Vice President, George Mason Geology Club	2014 - 2016