

TESSA BRUNOIR- CURRICULUM VITAE

Ph.D. Candidate, Department of Earth & Planetary Sciences
2119 Earth and Physical Sciences • UC Davis • One Shields Avenue • Davis, CA 95616



ORCID: **0000-0003-4354-2988**

EDUCATION

Ph.D. in Earth & Planetary Sciences

Sep. 2020 – Present

University of California, Davis

Advisor: Dr. David Gold

Dissertation: Investigating the Neoproterozoic Sponge

Biomarker Hypothesis through Modern Means

B.A. in Geosciences

Sep. 2015 – May 2017

Smith College

Advisor: Dr. Sara Pruss

Emphasis: Invertebrate Paleontology

PUBLICATIONS & ABSTRACTS

Brunoir, T., **2023**. When is a loss a gain? Decoding annelids dietary secrets ~630 million years ago. Behind the Paper. URL <https://communities.springernature.com/posts/when-is-a-loss-a-gain-decoding-annelids-dietary-secrets-630-million-years-ago> (accessed 12.29.23).

Brunoir, T., et al., **2023**. Common origin of sterol biosynthesis points to a feeding strategy shift in Neoproterozoic animals. Nat Commun 14, 7941. <https://doi.org/10.1038/s41467-023-43545-z>

Brunoir, Tessa. **2022**. Sterol Methyltransferases in Annelid Worms Rewrite the Molecular Fossil Record, in: New Voices in Geobiology. Presented at the GSA Connects 2022, GSA, Denver, Colorado, USA. <https://doi.org/10.1130/abs/2022AM-379022>

Farrell, Ú.C., et al., **2021**. The Sedimentary Geochemistry and Paleoenvironments Project. Geobiology 19, 545–556. <https://doi.org/10.1111/gbi.12462>

Sperling, E.A., et al., **2021**. A long-term record of early to mid-Paleozoic marine redox change. Sci. Adv. 7, eabf4382. <https://doi.org/10.1126/sciadv.abf4382>

Browne, T.N., et al., **2020**. Redox and paleoenvironmental conditions of the Devonian-Carboniferous Sappington Formation, southwestern Montana, and comparison to the Bakken Formation, Williston Basin. Palaeogeography, Palaeoclimatology, Palaeoecology 560, 110025.

Browne, T.N., **2019**. Redox Geochemical Study of the Devonian-Carboniferous Sappington Formation, Southwest Montana: Paleoenvironmental Conditions in the Sappington Formation and Comparison to the Bakken Formation. Presented at the GSA Annual Meeting in Phoenix, Arizona, USA - 2019, GSA. <https://doi.org/10.1130/abs/2019AM-340964>

Browne, T.N., Tatgenhorst, H., **2016**. Lower-Middle Cambrian Oncoid Growth Formation of the Carrara Formation, Emigrant Pass, Desert Southwest Region of the U.S.

FIELD EXPERIENCE

Southern California, U.S.A.

Jul. 2024-25

Sequence stratigraphy and sampling for invertebrate diversity.

Southwest Utah & southern Nevada, U.S.A.

Sep. 2022

Reconnaissance and sampling for RockEval.

Bozeman, Montana, U.S.A.

May 2019

Reconnaissance, stratigraphic logging, and sampling for iron speciation and trace metals.

Naukluft Mountains, Namibia

Aug. 2018

Mapping, stratigraphic logging, and high-resolution sampling for carbon isotopes and U/Pb geochronology.

Eastern Washington, U.S.A.

Aug. 2016

Reconnaissance and mapping, stratigraphic logging, and sampling for U/Pb geochronology.

Desert Southwest, U.S.A.

Jan. 2016

Stratigraphic logging and fossil description. Sampling for carbon and oxygen isotopes.

TESSA BRUNOIR- CURRICULUM VITAE

RELEVANT WORK EXPERIENCE

UNIVERSITY OF CALIFORNIA, DAVIS

Gold Lab Graduate Student Researcher

Sep. 2020 - Present

- Extract and quantify total lipids from geologic and biologic specimens.
- Extract DNA and assemble genetic information from marine sponge.
- Utilize bioinformatic technique to analyze timing and inception of gene(s).

Teaching Assistant, Earth & Planetary Sciences Department

Sep. 2021 - Present

- Clearly articulate complex Earth science concepts and actively engage with students through concise explanations and demonstrations.
- Designing fair and meaningful assessments, such as quizzes or lab reports, and providing timely and constructive feedback to guide students.
- Teach hands-on lab field work, case studies, and group discussions to undergraduate classes

STANFORD UNIVERSITY

Sperling Lab Manager

Mar. 2019 - Feb. 2020

- Process and analyze sedimentary samples for geochemical analysis.
- Serve as Lead Investigator for Stanford Project on Deep-water Depositional Systems 2019 research presentation/project.

Teaching Assistant, Earth & Planetary Science Department

Sep. - Dec. 2019

- Lead interactive lab sessions, foster hands-on learning for undergraduates.
- Provide individual mentorship, ensuring students of diverse backgrounds excel.
- Lead class discussion, labs, exercises, and field trips.

HARVARD UNIVERSITY

Oct. 2017 – Oct. 2018

Macdonald Lab Manager

- Collect, prepare, and process geologic samples for U-Pb dating.
- Maintain and order laboratory equipment and supplies.

Ancient Earth Archives Assistant Curator

Oct. 2018 - Apr. 2019

- Manage curation and preservation of Ancient Earth materials, ensuring meticulous organization and documentation.
- Conduct research and support academic initiatives.
- Leading educational outreach to convey the archive's significance to diverse audiences.

SMITH COLLEGE

Pruss Lab Research Assistant, Geosciences Department

Jan. 2016 – Jun. 2017

- Operate, maintain, and run standard lab equipment, i.e. centrifuges, titrators, pH meters, rock saws, lap wheels, and thin-section machines.
- Create thin sections of geologic samples for microscopy.

TEACHING ASSISTANT COURSE HISTORY

Introduction to Geology, Vertebrate Paleontology, Sedimentary Stratigraphy, Oceanography, The Earth, Paleobiology

OTHER CERTIFICATIONS & TRAININGS

Wilderness First Aid Training	Spring 2022, Spring 2024
Cooperative Institute for Dynamic Earth Research (CIDER) Summer Program	Summer 2022
Stratigraphic Paleobiology Field Conference	Summer 2024
Future Undergraduate Science Educator Certification	Spring 2023-25

AWARDS & HONORS

Paleontological Society Student Research Grant	2023
NSF-GRFP Honorable Mention	2021
Smith College Praxis Summer Internship Funding	2016
Sigma Xi Scientific Research Honors Society	2015
Phi Theta Kappa Honor Society	2015
Dean's List	2014