

Dr. Alannah C. Brett

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Languages: English (native), German (B1), Spanish (A2), French (A2)

ORCID: 0000-0001-8228-4999

Location: Switzerland

Research Experience

- 11.2023 – present **Postdoctoral Researcher**, Deformation and Tectonics (DeTect) group, Institute of Earth Sciences, University of Lausanne
- 05.2021 – 09.2023 **Postdoctoral Researcher**, Rock-Water Interaction Group, Institute of Geological Sciences, University of Bern
- 03.2017 – 04.2021 **Doctoral Researcher**, Rock-Water Interaction Group, Institute of Geological Sciences, University of Bern
- 04.2015 – 01.2017 **Graduate Researcher**, Institute of Geological Sciences, University of Bern

Education

- 03.2017 – 05.2021 **Ph.D.**, Geology, University of Bern, Switzerland
Hydrothermal flow paths in the upper oceanic crust: magnitude and distribution of porosity and permeability in altered, fractured lavas, Oman ophiolite
- 02.2015 – 02.2017 **M.Sc.**, Geology, University of Bern, Switzerland
Porosity and permeability changes associated with epidosite alteration of the upper oceanic crust, Semail ophiolite, Oman
- 02.2012 – 12.2014 **B.Sc.**, Geology, University of Auckland, New Zealand; including 1 year exchange to the University of Manchester

Publications

- Feb. 2026 Malone, A, Brett, AC., Spiller, E, Battalora, L, Holley, EA, Fitzgerald, F, Ruppert, C, Reyes, A, Jann, J (2026). Geotechnical, economic, social, and environmental dimensions of direct lithium extraction (DLE) from Smackover brines in Arkansas. *Environmental Research: Energy*.
- 2024 Brett, AC, Holley, EA, Deberdt, R, Fahle, L, & Smith, NM (2024). Lithium Production in the United States: Socio-Technical Review of Sites, Environmental Impacts, and Social Acceptance. *Resources Policy*. <https://doi.org/10.2139/ssrn.4980674>
- 2023 Diamond, LW, Alt-Epping, P, Brett, AC, Aschwanden, L, & Wanner, C, (2023). Geochemical–hydrogeological study of a proposed CO2 injection pilot at Trüllikon, Switzerland. Pre-feasibility study, open access on Zenodo. <https://doi.org/10.5281/ZENODO.10938102>
- In preparation Brett AC, Diamond LW, Hyman JD. Permeability of hydrothermally altered and fractured lavas in the oceanic crust at centimetre to kilometre scales, Oman ophiolite: from field mapping to flow simulations.
- 2023 Brett-Adams AC, Diamond LW, Weber S, Gilgen S, (2023). Rock-matrix porosity and permeability in the hydrothermally altered, upper oceanic crust, Oman ophiolite. *Journal of Geophysical Research: Solid Earth*
- 2021 Brett-Adams AC, Diamond LW, Petrini C, Madonna C, (2021). Influence of in-situ temperatures and pressures on the permeability of hydrothermally altered basalts in the oceanic crust. *Tectonophysics*, 815, 1–15
- 2021 Weber S, Diamond LW, Alt-Epping P, Brett-Adams AC, (2021). Reaction Mechanism and Water/Rock Ratios Involved in Epidosite Alteration of the Oceanic Crust. *JGR Solid Earth*, 126, 1–27

CV – Dr. Alannah C. Brett

Awards/Grants

10.2026	Principal Investigator , <i>Matterhorn Grant</i> , junior lecturer scoping grant, Faculty of Geoscience and Environment UNIL (10'000 CHF)
09.2025	Collaborator , technical geological, hydrogeological and process co-lead on <i>Resources for Future</i> grant (PI Assistant Prof. Aaron Malone, Colorado School of Mines, U.S.) (25'000 USD)
05.2022	Recipient , COMET Mentoring Program for Women in Science (University of Bern, 3000 CHF)
01.2020	Recipient , Young Academic Support Grant for travel to present at the International Conference on Ophiolites and the Oceanic Lithosphere, Oman (University of Bern, 1500 CHF)
2013	Recipient , 360 Auckland Abroad Exchange Travel Award for 1 year abroad at the University of Manchester (University of Auckland)
2010	Recipient , Jubilee Award for academic excellence in support for BSc Studies at the University of Auckland (University of Auckland, 6000 NZD)

Active Community Leadership Positions

01.2025 – Present	Committee Member and GEODES representative , Swiss Geological Society
06.2024 – Present	Early Career Staff Representative , Equality Commission, Faculty of Geoscience and Environment, University of Lausanne
06.2020 – Present	Committee Member , Geoscience and Diversity Switzerland (GEODES) Committee

Previous Community Leadership Positions

09.2025 – 01.2025	Co-organiser , Table Ronde Seminars, Institute of Earth Sciences, UNIL
09.2025 – 12.2024	Convener and co-organizer , CLIMACT seminar series – <i>Swiss geoscience solutions for the energy transition and climate</i>
09.2021 – 09.2023	Early Career Staff Representative , Equal Opportunities Commission, Faculty of Science, University of Bern
03.2020 – 12.2024	Co-founder and Director , Ore Deposits Hub - Founded and grew international platform for science communication to >7000 email subscribers. - Organized over 100 international presentations by scientists and professionals. - Published in international news journals and presented at international conferences to establish best practice for digital science communication during the pandemic. - Directed and managed a team of 15 early career volunteers, creating a positive daily and weekly environment and early career network Optimized social media approach to increase reach of platform, to establish the second largest LinkedIn (7000 followers) presence in the field of ore deposit research.
06.2020 – 06.2022	Co-founding Vice President , Geoscience Diversity and Equality Switzerland GEODES Committee - Led the organisation of three workshops for the Swiss Geoscience Meeting, encouraging engagement with diversity topics and initiates and a positive reputation for GEODES.
2019	President , Black Forest – Alpine SGA Student Chapter
2018	Vice President , Black Forest – Alpine SGA Student Chapter
2018 – 2022	Committee member of the DEI group at the Institute of Geological Sciences

CV – Dr. Alannah C. Brett

Invited Lectures, Talks and Panels

06.2023	Women in Science Now (UNIL–EPFL) Invited panelist
03.2022	16th SGA Biennial Meeting (Online) Invited speaker 1st author: <i>Permeability available for hydrothermal leaching of VMS metals from basaltic lavas, Semail ophiolite, Oman</i>
09.2021	SEG 100 Conference (Canada & online) Invited panelist: <i>Economic geology: Big Ideas</i>
05.2020	Responsible Raw Material Conference (Online) Invited speaker 1st author: <i>Ore Deposits Hub: A model for open scientific communication in the digital age</i>
2020	Discovery to Recovery Podcast, Society of Economic Geologists (Online) Invited guest: <i>Episode 10: Exploration, Geoscience and Communities</i>

Outreach Articles

2022	<u>Brett-Adams, AC</u> , Hector, S, (2022). The Rapid Uplift of the Black Forest – Alpine Chapter. <i>SGA News, Feb 2022 Edition</i>
2022	Co-designer of workshop and significant contributor to blog: <i>Reflections on Community Communication for Exploration Geologists</i> by Johnson, C, People and Mining Blog (2022).
2023	Scientific collaborator and contributor to research project book: <i>Following in Her Bootsteps</i> on Mary Anning and modern geologists by Brightly, H.
2021	<u>Brett-Adams, AC</u> , Hantsche, A, Bruce, W, Luz, F, Belgrano, T (2021). The great digital movement: take-home messages from open online seminars. <i>SGA News, Oct 2021 Edition</i>
2020	<u>Brett-Adams, AC</u> , Dolejš, D, (2020). Mineral deposits of the Erzgebirge: A field trip report. <i>SGA News, Feb 2020 Edition</i>
2020	<u>Brett-Adams, AC</u> (2020). Responsible Raw Materials Conference – Day 2 (afternoon). <i>LinkedIn Pulse</i>

Formal Teaching Experience

Location	Format	Program	Course Title: contribution	Date
University of Lausanne – University of Geneva	Invited lecture	MSc	Great Challenges in the Earth and Environmental Sciences	March 2025
	Invited lecture and practical assistant	MSc	3D geological modelling	Oct. 2024
University of Lausanne	Field course	MSc	Kickstarter Field Course	2025
	Field course	BSc	Geological Field Mapping	2025
	Practical assistant	BSc	Structural Geology 101:	Sept. 2024
Colorado School of Mines	Invited lecture and practical exercise	BSc	Engineering Geology: Paths to Lithium	Jan. 2023
University of Bern	Lecturing	BSc	Rohrstoff (Geo-resources): Paths to Lithium	2023, invited back for April 2025 lecture
	Field courses	BSc	Metamorphic mapping (Kartierkurs), Piora	Sep. 2018; Sep. 2020

CV – Dr. Alannah C. Brett

(teaching assistant)	MSc	Hydrothermal Alteration Mapping Course, Spain	May 2018
	MSc	Mineral Resources	HS 2019; HS 2021
Laboratory course (teaching assistant)	BSc	Ore Deposits	FS 2018; FS 2020
	MSc	Geochemical Laboratory Techniques; Petrophysical methods	HS 2017

Research Supervision

- 08.2026 – Open **M.Sc. Thesis**, Institute of Earth Sciences, University of Lausanne, in collaboration with University of Bern and Schweizer Salinen
- Fluid pathways for brines from dissolution salt mining: an open MSc project, ELSTE*
- Co-supervising an open MSc project mapping sub-seismic fracture networks that control brine and groundwater flow near Basel.
- 08.2025 – 06.2026 **M.Sc. Thesis**, Institute of Earth Sciences, University of Lausanne, with an internship at the Direction générale de l'environnement (DGE), État de Vaud. Under nomination for best MSc 2026 Faculty of Geoscience and Environment, UNIL.
- Development of an Integrated Geothermal Risk Assessment (INGRA) Tool, Applied as a Case Study in the Canton of Vaud*
- Co-designed a semi-quantitative risk-assessment framework combining geological hazards, environmental vulnerability, monitoring capacity, and public perception into one transparent, reproducible scoring system.
 - Supervised a social acceptance survey of Vaud residents and calibration against a case-study geothermal exploration project.
 - Edited and assessed thesis manuscript.
- 01.2020 – 08.2021 **M.Sc. Thesis**, Institute of Geological Sciences, University of Bern
- Calcschist devolatilization as a source of hydrothermal fluid for orogenic gold deposits in the Western Alps*
- Co-designed research objectives and created workflow for vein mapping and digital image analysis for quantification of fractures abundance and hydrothermal minerals.
 - Instructed field mapping of hydrothermal veins.
 - Edited and assessed thesis manuscript.

Key Workshops & Events Organized

- 04.2022 **Practices to People: An introduction to community communication for exploration geologists:** 60 attendees, 2 half days workshop
- Organized and chaired workshop; moderated panel of 10 invited speakers, to create open discussion of community communication challenges and insights.
 - Developed and led two-hour exercise with invited speakers to encourage case study based active learning for participants.
- 04.2022 **Emilie Jäger Lecture:** 60 attendees, half day event
- Organized event to promote strategies for gender equality and moderated panel discussion with four national leaders from UniBern, UniBasel and SNF on equality policy from national funding bodies.
- 11.2021 **Retention of women in science and academia, GEODES – SGM 2021 workshop:**
- Organized workshop 90 attendees, half day workshop.
 - Gave introduction presentation on recent GEODES developments and dynamically

CV – Dr. Alannah C. Brett

- chaired the workshop.
- 05.2021 **Exploration Career Kickstarter:** half day networking event
- Organized half day networking event online, connecting 70 attendees to 30 industry professionals.
 - Chaired workshop, and carefully moderated Zoom breakout rooms to encourage connections between junior students and senior industry professionals.
- 12.2020 **Gender Diversity and Equality Workshop, GEODES – SGM 2020 workshop**
- Organized online workshop for 130 attendees from the Swiss geosciences.
 - Tactfully and energetically moderated the panel discussion between senior Swiss scientists and SNF guests.
- 11.2019 **Orogenic Gold Workshop: New Deposits and Perspectives**
- Organized two-day workshop for 60 attendees in person, KIT Germany.
 - Chaired workshop and moderated panel discussion to encourage the participation and feedback to both junior and senior scientific talks.

Conference Proceedings

- 04.2025 **EGU General Assembly 2025** (Vienna & online)
- Poster, 1st author: *Fracture networks in the Muschelkalk aquifer of the external northern foreland of the Central Alps (CH/DE); implications for permeability, CO₂ storage and geothermal potential.*
- 11.2024 **Swiss Geosciences Meeting 2024** (Basel)
- Poster, 1st author: *Fracture networks in the Muschelkalk aquifer of northern Switzerland and Wutach Gorge (DE); implications for permeability and CO₂ storage potential.*
- 11.2024 **Swiss Geosciences Meeting 2024** (Basel)
- Poster, non-presenting co-author: *Geochemical–hydrogeological feasibility study of a CO₂ injection test into a saline aquifer in Switzerland.*
- 11.2024 **Swiss Geosciences Meeting 2024** (Basel)
- Oral presentation, non-presenting co-author: *Assessing the repurposing of an existing exploration borehole for a pilot CO₂ injection test in the northern Swiss Molasse Basin.*
- 11.2024 **Swiss Geosciences Meeting 2024** (Basel)
- Poster, non-presenting co-author: *Predicting the fate of injected CO₂ at the Trüllikon pilot site: insights from reactive transport models.*
- 10.2024 **Jura Tectonics 2024** (Besançon, France)
- Poster, 1st author: *Investigating sub-seismic fracture networks in the Muschelkalk Group in the Wutach Gorge (Tabular Jura, DE), towards a revised CO₂ storage potential assessment in Switzerland.*
- 11.2023 **Swiss Geosciences Meeting 2023** (Mendrisio)
- Oral presentation, 1st author: *Fault damage zones in oceanic crust revealed: An extent and permeability assessment.*
- 09.2023 **SGA 2023** (Zürich)
- Oral presentation, 1st author: *Unlocking the Full Potential of Metal Leaching in the Oceanic Crust: Assessing Permeability and Fluid Flow.*
- 08.2023 **SEG 2023** (London, UK)
- Oral presentation, 1st author: *Unlocking the Full Potential of Metal Leaching in the Oceanic Crust: Assessing Permeability and Fluid Flow.*
- 05.2022 **Geological Association of Canada, GAC-MAC Annual Meeting** (Canada)
- Oral presentation, non-presenting co-author: *Feeling relieved: a roadmap for creating bathroom-positive fieldwork culture.*
- 09.2021 **GeoKarlsruhe** (Germany & online)

CV – Dr. Alannah C. Brett

	Oral presentation 1 st author: <i>Permeability available for hydrothermal fluid flow in altered and fractured lavas in the oceanic crust, Semail ophiolite, Oman</i>
01.2020	International Conference on Ophiolites and the Oceanic Lithosphere (Oman) Oral presentation 1 st author: <i>Bulk permeability of the Extrusive Oceanic Crust.</i>
08.2019	Goldschmidt (Spain) Oral presentation 1 st author: <i>Rock-matrix versus fracture-controlled fluid pathways in the extrusive layer of the oceanic crust.</i>
11.2018	Swiss Geoscientists Meeting (Switzerland) Oral presentation 1 st author: <i>Rock-matrix versus fracture-controlled fluid pathways in the upper oceanic crust.</i>
08.2017	13th Biennial SGA Conference (Canada) Poster 1 st author: <i>Deep flow paths in VMS systems: Porosity and permeability of epidosite alteration in the Semail ophiolite, Oman.</i>
11.2016	Swiss Geoscientists Meeting (Switzerland) Oral presentation 1 st author: <i>Porosity and permeability evolution during epidosite alteration of the upper oceanic crust, Semail Ophiolite, Oman.</i>

Further training

03.2024	Petrel course, SLB course provided by CUSO, UNIGE
01.2024	Research - Introduction to using the HPC clusters, UNIL
08.2022	Power dynamics: COMET
11.2022	Introduction to data analysis and visualization with Python, <i>University of Bern</i>
02.2022	Project communication in scientific collaborations and academic groups, <i>Explainables</i>
10.2021	Budgeting in research grant applications or related projects, <i>University of Bern</i>
09.2021	How to write a competitive research grant proposal & fellowship application, <i>University of Bern</i>
06.2021	Unconscious bias – The key to making reflected decisions, <i>University of Basel</i>
09.2021	Bystander Intervention, <i>MineShift</i>
09.2019	Getting started with R – analyzing and visualising your statistical data, <i>University of Bern</i>
09.2019	Management of teams, <i>University of Bern</i>
02.2018	Negotiation skills: improving your negotiation effectiveness, <i>University of Bern</i>

Society Memberships

2025 – Present	European Geophysical Union
2023 – Present	Swiss Geological Society
2018 – Present	SGA – Society for Geology Applied to Mineral Deposits
2020 – Present	SEG – Society of Economic Geology
2019	European Association of Geochemistry