

Dr Scott Jess

(he/him)

Assistant Professor (tenure track)

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Professional Experience

Assistant Professor (tenure-track), School of the Environment, Washington State University, USA (08/2023 – present)

- In this role I am building a fission-track laboratory and research group focusing on extensional tectonics and source-to-sink analysis. Additionally, I am teaching three courses, a graduate class focusing on computational geoscience, an undergraduate accessible field class, and an undergraduate sedimentology class. Service appointments include the department's DEI committee and a tenure track faculty search committee.
- Ongoing projects: *Extensional tectonics across the Central North American Cordillera, Tracing glacial sediment transport with thermo- and geochronology; Dating river terrace abandonment due to uplift along passive margins with cosmogenic nuclide dating; Establishing the demographics of academic geoscience; Examining the longevity of hot springs with thermochronology.*

Postdoctoral Fellow, Schoenbohm Research Group, University of Toronto Mississauga, Canada (11/2021 – 07/2023)

- This role aims to research how the earth's surface is shaped through the interaction between tectonic and climatic processes, and its record in sedimentary systems. This is completed through the design, management and execution of research projects utilising GIS, thermochronology, geochronology and cosmogenic nuclide dating. Additional work includes the designing and building of a mineral separation laboratory, supervising of students, manuscript publication and the presentation of work at conferences.
- Skills and techniques applied: *River profile modelling with python and MATLAB; Geomorphological analysis with MATLAB; hydrological modelling with python; Academic manuscript writing; Supervision of students; Laboratory management and organisation.*

Postdoctoral Associate, Geo- and Thermochronology Research Group, University of Calgary, Canada (01/2019 – 11/2021)

- In this role, I principally conducted research using detrital geochronology and thermochronology to study sediment transport in glacial catchments and the exhumation of the Appalachians, Canadian Cordillera, and Eastern Africa. Additionally, I development new detrital radiometric dating techniques and studying hot-spring longevity across Western Canada. Further work included the supervision of postgraduate students, manuscript publication and the presentation of work at conferences.

- Skills and techniques applied: *Laser ablation ICP-MS analysis; U-Pb, fission track and (U-Th)/He dating; Basin analysis, Reactive transport modelling with Fortran; Academic manuscript writing; Teaching; Planning and leading field work; Laboratory management and organisation; Supervision of students.*

Education

PhD Geology, University of Aberdeen, Scotland (10/2014 – 11/2018)

- Thesis title: *Resolving the timing of major erosion events along the West Greenland-Baffin-Bylot continental margins utilising low temperature thermochronology.*
- Skills and techniques applied: *Quantitative thermochronology; fission-track analysis; (U-Th)/He analysis; Bayesian transdimensional modelling; spatial data analysis; geomorphological modelling; statistical analysis of large data sets; stratigraphic basin characterisation; mineral separation and sample preparation; offshore stratigraphic analysis; Academic article writing; Academic presentations; working with research groups.*
- Supervisors: *Prof. Randell Stephenson (University of Aberdeen) and Prof. Roderick Brown (University of Glasgow)*
- Professional training as part of the NERC CDT in Oil and Gas: *Practical Introduction to Geological Interpretation of 3D Seismic Data (University of Oxford), Deepwater Sedimentology (Equinor), Geoinformatics (Durham University), Environmental Science (Heriot-Watt University), Petroleum Economics (Heriot-Watt University), Industrial Biostratigraphy and Carbonate Sequence Stratigraphy (Haliburton), Exploring in Challenging Environments (University of Aberdeen), Unconventional Hydrocarbons (Durham University), Extending the Life of Mature Basins (University of Manchester), Petroleum Systems Analysis (Shell), Environmental Impact & Regulation (Heriot-Watt University).*

BSc. (Hons) Earth Science, Second-Class Honours, University of Glasgow, Scotland (09/2010 – 06/2014)

- Honours Research Project: *Establishing the source of ikaite formation within the Easdale Slates of Kerrera, Scotland as a proxy for Snowball Earth.*
- Independent Mapping Project: *The Geology of Girvan, SW Scotland: logging of sedimentary strata, provenance analysis and mapping individual lithologies.*
- Honours Courses: *Earth Science Skills Portfolio A; Earth Science Skills Portfolio B, Earth Science Skills Portfolio C, Advanced Sequence Stratigraphy, Orogens and Basins, Petroleum Geology, Macro-geomorphology, Tectonic Geomorphology, Isotope Geology, Geophysics, Digital Geoscience, Economic Minerals, Igneous Petrology & Geochemistry, Major Earth Processes, Metamorphic Petrology, Sedimentary Geology, Stratigraphy, Structural Geology, Engineering Earth Science.*

Linlithgow Academy, Linlithgow, Scotland (08/2003 – 06/2009)

- Scottish Qualification Authority Highers: *Mathematics, Physics (Adv), Geography, Music (Adv), English, Media Studies.*

Publications

1. Peace, A., Phethean, J., **Jess, S.** and Schiffer, C. *Accepted. Fault Reactivation and Halokinesis: An Example From The Penobscot 3d Seismic Volume, Offshore Nova Scotia, Canada.* Pure and Applied Geophysics
2. **Jess, S.**, Enkelmann, E. and Matthews, W., 2023. The Effect of Sediment Storage in Glaciated Catchments on Multimineral Detrital Geochronology: Deciphering Conflicting Zircon and Apatite U-Pb Dates. *Journal of Geophysical Research: Earth Surface*, 128(1), p.e2022JF006738.
3. Damant, K.A., Enkelmann, E. and **Jess, S.** 2023. Prolonged post-orogenic extension in the southeastern Canadian Cordillera: Miocene reactivation of the Columbia River Fault. *Tectonophysics*, 850, p.229763.
4. Peace, A.L. and **Jess, S.**, 2022. Microdrones in field-based structural geology: a photogrammetry and fracture quantification case study from the North Mountain Basalt, Nova Scotia, Canada. *Drone Systems and Applications*.
5. Johns-Buss, E.G., Beranek, L.P., Enkelmann, E., **Jess, S.** and Matthews, W., 2022. Exhumation history and Early Cretaceous paleogeography of the Newfoundland margin revealed by detrital zircon U-Pb and fission-track studies of syn-rift Hibernia Formation strata. *Marine and Petroleum Geology*, p.106055.
6. **Jess, S.**, Enkelmann, E. and Matthews, W. 2022. Why are the Appalachians high? New insights from detrital apatite laser ablation (U-Th-Sm)/He dating. *Earth and Planetary Science Letters*, 597, 117794. <https://doi.org/10.1016/j.epsl.2022.117794>
7. Schiffer, C., Peace, A.L., **Jess, S.** and Rondenay, S., 2022. The crustal structure in the Northwest Atlantic region from receiver function inversion–Implications for basin dynamics and magmatism. *Tectonophysics*, 825, p.229235. doi.org/10.1016/j.tecto.2022.229235
8. **Jess, S.**, Enkelmann, E., Grasby, S.E. and Fraser, K., 2021. Determining the Lifespan of Hydrothermal Systems Using Thermochronology and Thermal Modeling. *Journal of Geophysical Research: Earth Surface*, 126(11), p.e2021JF006286. doi.org/10.1029/2021JF006286.
9. Fraser, K.I., Enkelmann, E., **Jess, S.**, Gilbert, H. and Grieco, R., 2021. Resolving the Cenozoic History of Rock Exhumation Along the Central Rocky Mountain Trench Using Apatite Low-Temperature Thermochronology. *Tectonics*, 40(10), p.e 2021TC006847. doi.org/10.1029/2021TC006847.
10. Arkle, J.C., Weber, J., Enkelmann, E., Owen, L.A., Govers, R., **Jess, S.**, Denison, C., O'sullivan, P.B. and Donelick, R.A., 2021. Exhumation of the Coastal Metamorphic Belt Above the Subduction-to-Transform Transition, in the Southeast Caribbean Plate Corner. *Tectonics*, 40(8), p.e2020TC006414. doi.org/10.1029/2020TC006414
11. **Jess, S.**, Koehn, D., Fox, M., Enkelmann, E., Sachau, T. and Aanyu, K., 2020. Paleogene initiation of the Western Branch of the East African Rift: The uplift history of the Rwenzori Mountains, Western Uganda. *Earth and Planetary Science Letters*, 552, p.116593. doi.org/10.1016/j.epsl.2020.116555
12. **Jess, S.**, Peace, A.L. and Schiffer, C., 2020. Sediment supply on the West Greenland passive

margin: redirection of a large pre-glacial drainage system. *Journal of the Geological Society*, 177(6), pp.1149-1160. doi.org/10.1144/jgs2020-028.

13. Stephenson, R., Schiffer, C., Peace, A., Nielsen, S.B. and **Jess, S.**, 2020. Late Cretaceous-Cenozoic basin inversion and palaeostress fields in the North Atlantic-western Alpine-Tethys realm: Implications for intraplate tectonics. *Earth-science reviews*, 210, p.103252. doi.org/10.1016/j.earscirev.2020.103252
14. **Jess, S.**, Stephenson, R.A., Roberts, D.H. and Brown, R., 2020. Reply to: Thermal history solutions from thermochronology must be governed by geological relationships: A comment on Jess et al. (2019), *Geomorphology*, 360, pp. 106971. doi.org/10.1016/j.geomorph.2019.106971
15. **Jess, S.**, Stephenson, R., Nielsen, S.B. and Brown, R., 2019. The source of topography across the Cumberland Peninsula, Baffin Island, Arctic Canada: differential exhumation of a North Atlantic rift flank. *Journal of the Geological Society*, 176(6), pp.1093-1106. doi.org/10.1144/jgs2018-211
16. **Jess, S.**, Stephenson, R.A., Roberts, D.H. and Brown, R., 2019. Differential erosion of a Mesozoic rift flank: Establishing the source of topography across Karrat, central West Greenland, *Geomorphology*, 334, pp.138-150. doi.org/10.1016/j.geomorph.2019.02.026
17. **Jess, S.**, Stephenson, R. and Brown, R., 2018. Evolution of the central West Greenland margin and the Nuussuaq Basin: Localised basin uplift along a stable continental margin proposed from thermochronological data. *Basin Research*, 30(6), pp.1230-1246. doi.org/10.1111/bre.12301
18. Dempster, T. and **Jess, S.**, 2015. Ikaite pseudomorphs in Neoproterozoic Dalradian slates record Earth's coldest metamorphism. *Journal of the Geological Society*, 172(4), pp.459-464. doi.org/10.1144/jgs2015-018

Publications in review

1. **Jess, S.**, Gröger, H., Hendriks, B., Peace, A. and Schiffer, C. *In review*. Compilation of apatite fission-track data from the North-East Atlantic realm: a jigsaw puzzle with missing pieces. Submitted to: *Lithosphere*, Sep 2023.
2. Phethean, J., Peace, A.L., **Jess, S.**, Ferloni, G., Höskuldsson, A., & Foulger, G. Widespread continental crust beneath Iceland revealed by ancient zircons. Submitted to: *Nature Geoscience*, Dec 2023

Conference proceedings

Keynote/Invited

1. **Jess, S.** *Oral presentation (invited)*, Landscapes Lives Seminar Series EGU-GM Online Seminars in Geomorphology: The landscapes of extensional tectonics. April 2024.
2. **Jess, S.** *Oral presentation (invited)*, Universität Bern, Exogene Geology Seminar Series: The ups and downs of extensional tectonics. May 2023.

3. **Jess, S.**, Enkelmann, E. and Matthews, W. *Oral presentation (Keynote)*. Laser ablation (U-Th-Sm)/He dating: advancing detrital thermochronology and geochronology. GAC-MAC 2022.
4. **Jess, S.** *Oral presentation (invited)*, McMaster University, SEES Seminar Series: The ups and downs of extensional tectonics. March 2021.
5. **Jess, S.**, Koehn, D., Fox, M., Enkelmann, E., Sachau, T. and Aanyu, K. (invited). *Poster*. Thermal history modelling in extensional settings: the Rwenzori Mountains of the East African Rift. AGU 2020, Online.

Contributed

1. **Jess, S.** and Enkelmann, E. *Oral Presentation*. Examining Cenozoic Extension Across the Cordillera Through Low-Temperature Thermochronology. GSA Joint Cordilleran and Rocky Mountain Section Meeting 2024.
2. **Jess, S.**, Heer, E. and Schoenbohm, L. *Oral Presentation*. Active demographic data collection in geoscience: results, implications, and recommendations from a survey of Canadian academia. EGU2024.
3. **Jess, S.**, Schoenbohm, L. and Enkelmann, E. *Oral Presentation* Changes in erosion and sediment dynamics in a retreating world: high resolution provenance analysis from detrital apatite. EGU2024.
4. Haag, M., Schoenbohm, L., **Jess, S.**, Sommer, G., and Endrizzi, G. Lithological influence on bedrock incision and transience: Insights from the Aparados da Serra Escarpment, southeast Brazil. EGU2024.
5. Wolpert, J., Schoenbohm, L. and **Jess, S.** *Poster*. Modeling Precipitation Phase and its Role on Long-Term Landscape Evolution with a Coupled Snow Balance-Surface Process Model. AGU2023.
6. **Jess, S.**, Schoenbohm, L. and Enkelmann, E. *Oral Presentation*. Sediment transport during glacier retreat: Apatite double-dating and chemistry provenance. Thermo2023.
7. **Jess, S.**, Heer, E. and Schoenbohm, L. *Oral Presentation*. Demographics of Canadian Academic Geoscience: results from a survey of the Great White North. GAC-MAC 2023.
8. Enkelmann, E., Damant, K., **Jess, S.** and Fraser, K. *Oral Presentation*. New insights on the Cenozoic extension of the southeastern Canadian Cordillera. GSA Connects 2022.
9. **Jess, S.**, Enkelmann, E. and Matthews, W. *Oral presentation*. The effect of sediment transport in glaciated catchments on multiminerale detrital geochronology: deciphering contrasting zircon and apatite U-Pb dates. GSA Connects 2022.
10. Peace, A., Schiffer, C., **Jess, S.** and Phethean, J. *Oral presentation*. Fault reactivation and halokinesis: an example from the Penobscot 3D seismic volume, offshore Nova Scotia, Canada. EGU 2022.

11. Peace, A., Schiffer, C., **Jess, S.** and Phethean, J. *Poster*. Fault reactivation and halokinesis: an example from the Penobscot 3D seismic volume, offshore Nova Scotia, Canada. GAC-MAC 2022.
12. **Jess, S.**, Gröger, H., Hendriks, B., Peace, A.L. and Schiffer, S. *Oral presentation*. Compilation of apatite fission-track data from across the North Atlantic: regional trends and interpretations. GSA Connects 2021.
13. **Jess, S.**, Enkelmann, E. and Matthews, W. *Oral presentation*. Laser ablation (U-Th-Sm)/He dating of detrital apatite in the Appalachians: a new analytical tool for resolving regional landscape evolution. GSA Connects 2021.
14. Peace, A., Schiffer, C., **Jess, S.** and Phethean, J. *Oral presentation*. Depth-dependent inversion of normal faults: Structural analysis of the Penobscot 3D seismic volume, offshore Nova Scotia. EGU 2021, Online.
15. **Jess, S.**, Peace, A. and Schiffer, C. *Oral presentation*. Sediment supply on the West Greenland passive margin: redirection of a large pre-glacial drainage system. GSA 2020, Online.
16. Schiffer, C., Rondenay, S., Nielsen, S.B., Peace, A. and **Jess, S.** *Oral presentation*. Crustal structure of the West Greenland Igneous Province: implications for tectono-magmatic evolution. GSA 2020, Online.
17. Johns-Buss, E., Beranek, L., Enkelmann, E., **Jess, S.** and Matthews, W. *Oral presentation*. Detrital zircon U-Pb and fission-track double-dating studies of Lower Cretaceous Hibernia Formation strata in the Jeanne d'Arc basin, offshore Newfoundland. GSA 2020, Online.
18. **Jess, S.**, Enkelmann, E. and Matthews, W. (2020). *Oral presentation*. Multi-method dating of individual apatite and zircon grains: faster and less expensive methods for detrital studies. Geoconvention 2020, Online.
19. **Jess, S.**, Enkelmann, E. and Matthews, W. (2020). *Poster*. A new and innovative double dating technique suitable for porphyritic system exploration and development. Roundup 2020, Vancouver, Canada.
20. Stephenson, R.A., Schiffer, C., **Jess, S.A.**, Peace, A. and Nielsen, S. (2019). *Oral presentation*. Late Cretaceous-Cenozoic intraplate basin inversion and paleo-stress fields in the North Atlantic-western Alpine-Tethys realm. EGU 2019, Vienna, Austria.
21. **Jess, S.A.**, Stephenson, R.A., Roberts, D.H. and Brown, R. (2019). *Oral presentation*. Differential erosion of a Mesozoic rift flank: establishing the source of anomalous topography across Karrat, central West Greenland. In: GAC-MAC-IAH 2019, Québec, Canada.
22. **Jess, S.A.**, Stephenson, R.A., Brown, R., and Roberts, D.H. (2018). *Oral presentation*. Anomalous elevated topography along passive continental margins: a case study from central West Greenland applying apatite fission track and apatite (U-Th)/He data. In: 16th International conference on thermochronology, Quedlinburg, Germany.
23. **Jess, S.A.**, Stephenson, R.A., Brown, R., and Roberts, D.H. (2018). *Oral presentation*. Landscape evolution of Northern Uummannaq, central West Greenland: differential erosion of a Mesozoic rift flank. In: EGU General Assembly Conference Abstracts (Vol. 20, p. 3933), Vienna, Austria.

24. Stephenson, R.A., **Jess, S.A.**, Peace, A., Nielsen, S.B., Schiffer, C., Stoker, M.S. and Doré, A., (2018). *Poster*. A review of Late Cretaceous-Cenozoic intraplate basin inversion in the North Atlantic-western Tethys realm. In: EGU General Assembly Conference, Vienna, Austria.
25. **Jess, S.**, Stephenson, R.A. and Brown, R. (2017). *Oral presentation*. The Thermal Evolution of the Baffin Island Continental Margin: An Integrated apatite fission track and apatite (U-Th)/He study. In: AGU Fall Meeting Abstracts, New Orleans, USA.
26. **Jess, S.**, Stephenson, R.A. and Brown, R. (2016). *Oral presentation*. The evolution of Baffin Island: an integrated apatite fission track and apatite (U-Th)/He study. In: 15th International conference on thermochronology, Maresias, Brazil.
27. **Jess, S.**, Stephenson, R.A. and Brown, R. (2016). *Poster*. Cenozoic uplift on the West Greenland margin: active sedimentary basins in quiet Archean terranes. In EGU General Assembly Conference Abstracts (Vol. 18, p. 6391).

Funding

Received

1. University of Toronto Mississauga Postdoctoral Travel Grant. 08/2022: CAD\$500 for travel expenses related to GSA 2022 conference in Denver, USA.
2. Dr. Margaret “Marmie” Perkins Hess Research Fellowship. 08/2021: CAD\$114,000 for two-year project at the University of Victoria investigating the longevity of hot springs across Western Canada. (Not taken due to job offer)
3. The Geological Society, Elspeth Matthews Fund. 04/2021: £1900 to date and map hot springs in British Columbia using fission-track and (U-Th-Sm)/He analysis.
4. DAAD Short-Term Grants, 11/2021: €2575 Research exchange to Universität Tübingen, Germany (Not taken due to COVID-19).
5. The Geological Society, Daniel Pidgeon fund, 09/2019: £1400 to carry out (U-Th)/He analysis on samples from the Rwenzori Mountains, Uganda.
6. NERC CDT in Oil and Gas Studentship, 10/2014 – 10/2018: £71,436 to undertake four years of PhD Research at the University of Aberdeen.
7. NERC CDT in Oil and Gas Research Train Support Grant, 10/2014 – 10/2018: £20,000 to support the training and research of PhD student as part of the NERC CDT in Oil and Gas.

Teaching Experience

- Course Instructor, Washington State University (01/2024 – present: 576 hrs/year, 10 students): *Currently teaching a graduate class on computational geoscience, SOE592 - Geoscience Computing Essentials for Graduate Students. This includes lecturing and running computational labs giving students the experience of ArcGIS, MATLAB, Python, and supercomputer use.*
- Course Instructor, University of Toronto Mississauga (2/1/2023 – 30/4/23; 265 hrs/year, 44 students): *Hired to teach a second-year structural geology course, ERS202H5S – “Dynamic Earth”. This includes lecturing and running laboratories with the assistance of teaching assistants.*
- Instructor, University of Calgary, Canada (1/04/2019 – present; 4 hrs/year, 4 students): *Taught and planned lectures and exam questions as part of the Radiometric Dating graduate course.*

Additionally, ran workshops on GIS practises and thermal modelling software.

- Teaching Assistant, University of Glasgow, Scotland (5/10/2016 – 10/4/2017; 12 hrs/year, >40 students): *Assisted in level 2 sedimentology and level 3 mapping, helping to organise lessons and worked with lecturers to ensure best teaching practice was being implemented.*
- Teaching Assistant, University of Aberdeen, Scotland (12/10/2014 – 5/5/2016; 12 hrs/year, >60 students): *Assisted in level 2 sedimentology, level 2 metamorphic petrology and level 3 mapping, helping to teach practical lessons on field classes for L2/L3 students and provided support and advice to any student with queries about the further stages of their course.*
- Teaching Assistant, University of Glasgow, Scotland (29/9/2013 – 30/4/2014; 20 hrs/year, >30 students): *Assisted in level 1 geology and level 1 mapping, helping in the teaching of L1 students in classroom and field environment, providing guidance on fundamental geology and basic skills.*
- STEM Ambassador, West Scotland (08/10/2013 – 4/5/2014): *Planned and taught workshops on basic geological concepts (rock cycle and rock identification) in local primary schools across the Glasgow area.*

Project and student supervision

Supervision of undergraduate and postgraduate student has involved assistance with sample collection, leading training on sample preparation and running a number of short courses on useful topics, such as GIS, thermal modelling and academic writing. Additionally, general supervision has also been provided through assistance in interpreting complex datasets, mentoring and being on hand to answer any questions or deal with any issues that materialize.

- The role of slab windows under a passive margin: tracing uplift across Eastern Patagonia (BSc, Z. Zaman; 09/2021 – present). *Project investigates the unique escarpment around the Golfo San Jorge in Argentina to better understand the spatial uplift pattern in the area.*
- The degradation of Large Igneous Provinces on passive margins: studying the topographic evolution of the Brazilian passive margin and the Paraná Traps (PhD, M. Hagg; 09/2021 - present). *Project investigates the erosional history of the Paraná Traps of SE Brazil, aiming to understand their topographic longevity.*
- Landscape Evolution of the Eastern Dadelhura Klippe, Western Nepal: Low Relief, Drainage Divide Migration, and Implications for Himalayan Tectonics (PhD, J. Wolpert; 9/2020 – present). *Project aims to understand the formation of high elevation low relief surfaces across the Himalaya and resolve paleo-drainage divides across landscapes.*
- Understanding the exhumation history evolution of the Intermontane belt in southern British Columbia (MSc, K. Damant; 05/2020 – 06/2021). *Project involves the application of zircon and apatite fission-track and (U-Th)/He analysis to understand the evolution of the low relief high elevation landscape of the Intermontane Terrane, British Columbia, Canada.*
- Detrital zircon U-Pb and fission-track double-dating studies of Lower Cretaceous Hibernia Formation strata in the Jeanne d'Arc basin, offshore Newfoundland (MSc, E. Johns-Buss (Memorial University); 06/2019 – 06/2021). *Project involves 'double-dating' zircon from offshore stratigraphy to understand the provenance of sands and their tectonic implications.*
- Unravelling the post-orogenic history of the Rocky Mountain Trench using apatite low temperature thermochronology (MSc, K. Fraser, 2020; 05/2018 - 04/2020): *Project involved the collection, analysis and modelling of apatite fission track and (U-Th)/He data from across the Rocky Mountain*

Trench to understand and quantify its post-orogenic history.

- Investigating the tectonic evolution of the Richardson Mountains using zircon and apatite (U-Th)/He (MSc, R. McKay, 2020; 05/2018 – 04/2020). *Project involves the collection, analysis and modelling of zircon and apatites from the Richardson Mountains, Northern Territories, Canada, to unearth their uplift history and role of ongoing subduction across western north America.*
- Low-temperature thermochronology reveals exhumation pattern across the central Rocky Mountain Trench (BSc, R. Grieco; 08/2018 – 04/2019): *Project involved the collection, analysis and modelling of apatite (U-Th)/He data from across the central rocky Mountain Trench to establish the structures structural history.*

Research expeditions

- Sampling around the Golfo San Jorge, Patagonia, Argentina (19/11/2022 – 01/12/2022): *Completed a two-week excursion to the Golfo San Jorge, Argentina, to collect detrital and cobble samples for cosmogenic nuclide dating.*
- Sampling of the Bugaboo Glacier, BC, Canada (03/07/2022 – 10/07/2022): *Planning of a 5-day field excursion to map and sample bedrock, detrital and glacial till samples from the Bugaboo Glacier in British Columbia, for apatite double dating analysis.*
- Sampling Halfway River Hot Springs, BC, Canada (31/05/2021 – 04/06/2021): *Planned and completed a 5-day field excursion to map and sample a transect across a hot spring in British Columbia for fission-track and (U-Th)/he analysis.*
- Sampling the Intermontane Terrane and Canoe River Hot Springs, BC, Canada (02/10/2020 – 11/10/2020): *Planned and completed a 10-day field excursion to sample a transect across central British Columbia. Basement samples were collected for a MSc project (10 samples) and a second transect across Canoe River Hot Springs (8 samples) for fission-track and (U-Th)/He analysis.*
- Sampling river catchments of the Appalachians, Eastern USA, (23/09/2019 – 01/10/2019): *Planned and completed 8-day field expedition across much of topography of the Eastern USA. Detrital samples were collected from 9 catchments for in-situ (U-Th)/He dating to understand the regions uplift history (9 samples).*
- Sampling the volcanic complexes of Southern British Columbia, Canada, (01/07/2019 – 06/07/2019): *Planned and led a 7-day field expedition with an undergraduate field assistant across Southern British collecting bedrock and detrital samples from Triassic and Eocene volcanic complexes and two regional transects (45 samples).*

Prizes and awards

- Postdoc Leadership Award, University of Toronto Mississauga, 01/04/2023: *Awarded to a UTM Postdoctoral Fellow who has taken a significant leadership role on campus, and in so doing have had a demonstrable impact on improving the quality of the Postdoc experience at the University of Toronto Mississauga.*
- Audience award, Three Minute Thesis Competition (3mt), University of Glasgow, 04/2017: *Awarded to presenter with best three-minute review of their thesis by popular vote.*
- Bill Aitken Prize, University of Glasgow, 06/2014: *Awarded to final year student who made a major*

contribution to the intellectual well-being and morale of the class during geological fieldwork.

- Greatest contributor to class ‘Major Earth Processes’, University of Glasgow, 04/2014: *Awarded to student who contributed the most to a class specifically designed to engage students in academic literature and discuss work.*

Committee assignments

- Faculty representative, Washington State University, School of the Environment DEI committee (11/2023 – present). *Currently a faculty representative on the department’s DEI committee aiming to improve Diversity, Equity, and Inclusion across all aspects of the university experience.*
- Member, Washington State University, School of the Environment search committee for tenure-track position for Critical Minerals for the Energy Transition (10/2023 – present). *Currently a faculty representative on the department’s search committee for the state sponsored tenure track position in the School of the Environment.*
- Postdoc representative, University of Toronto Mississauga, Department of Chemical and Physical Sciences, EDI Committee (12/2021 – present): *Represented postdocs on the department’s EDI committee aiming to improve Equity, Diversity and Inclusion across all aspects of the university experience.*
- Postdoc representative, University of Calgary, Department of Geoscience Equity, Diversity and Inclusion Committee (09/2020 – 11/2021): *Represented postdocs at meetings aimed at improving Equity, Diversity and Inclusion in the department of Geoscience.*
- Postdoctoral representative, University of Calgary Post-Doctoral Committee (05/2019 – 11/2021): *Represented the department of Geoscience at research and development meetings and planning events for National Postdoc Appreciation Week.*
- PhD student representative, University of Aberdeen’s Gender and Equality Steering Group (8/2015 – 6/2016): *Helped to compile the university’s own Athena Swan application and help introduce initiatives to the wider student body.*
- Final year undergraduate student representative, University of Glasgow Earth Science degree (10/2013 – 04/2014): *Represented the 4th year undergraduate class for the BSc in Earth Science, attending departmental meetings and ensuring student issues were dealt with.*

Outreach and Impact

The dissemination of scientific information and ideas to a public audience is something I believe is incredibly important to wider society and a skill all researchers must develop. Additionally, I feel it is valuable to represent and contribute to my position in a place of work and to broader instructional policies.

Outreach

- Finalist of Three Minute Thesis Competition (3mt), University of Toronto Mississauga, May 2022: *Produced a three-minute presentation on work determining the lifespan of hot spring using low temperature thermochronology.*
- Co-organiser, University of Calgary, Geoscience Open Lunch Discussions. (30/11/2020 – 15/11/2021): *Co-organise and lead Zoom-hosted ‘brown-bag’ lunch meetings where faculty present recent, ongoing or potential research to the wider department, aiming to enhance internal collaboration.*

- Organiser, University of Calgary Celebration of Science. (25/09/2020): *Organised a science communication event where postdocs from the Faculty of Science, University of Calgary, gave talks to the staff and public about their work.*
- Gave oral presentations to both staff and the student body of the University of Calgary, outlining my previous research and an overview of geochronology and thermochronology practices (April and September 2019).
- Customer engagement representative, Glasgow Science Centre, Scotland (20/11/2017 – 18/6/2018): *Assisted permanent staff with the everyday running of the centre and collected feedback from customers to help improve future projects.*

Impact

- Co-designer, School of the Environment DEI Climate Survey, Washington State University. 2023. *Currently co-designing a DEI climate survey for the undergraduate students of the School of the Environment.*
- Co-author, Department of Chemical and Physical Sciences EDI Climate Survey, University of Toronto Mississauga. 2022. *Co-authored an EDI climate survey for the Department of Chemical and Physical Sciences.*
- Co-author, Department of Chemical and Physical Sciences Laboratory Agreement, University of Toronto Mississauga. 2022. *Co-wrote and edited a departmental laboratory agreement aimed at assisting the onboarding experience of new graduate students and postdocs.*

Professional Services and Memberships

- Lead convener: T1. Advances and Applications of Thermochronology in Tectonic, Magmatic, Basin, and Geomorphic Studies I. GSA 2022, Denver. GSA.
- Lead convener: T1. Advances and Applications of Thermochronology in Tectonic, Magmatic, Basin, and Geomorphic Studies II. GSA 2022, Denver. GSA.
- Co-convener: D31. Recent Advances in Tectonics/Tectonophysics. 2021. GSA 2021 Portland. GSA.
- Co-convener: T17. Evolution, Structure and Landscapes of the North Atlantic-Arctic Realm. 2020. GSA 2020 Connects Online. GSA.
- Guest Editor: 2020-2021 Special Issue Geoscience: “Structural, Tectonic, and Magmatic Evolution of Rifted Continental Margins” edited by Christian Schiffer, Alex Peace and Scott Jess.
- Member of Geological Society of America (2018 – present).
- Member of European Geoscience Union (2016 – present).
- Member of American Geophysical Union (2016 – present).
- Fellow of the Geological Society of London (2014 – present).