

CURRICULUM VITAE

Anne-Sofie C. Ahm

School of Earth and Ocean Sciences
University of Victoria,
Victoria, BC,
Canada

email: annesofieahm@uvic.ca
phone: 250-472-4182
Website: <https://anne-sofieahm.github.io/>
ORCID: 0000-0002-5142-0326

1. ACADEMIC APPOINTMENTS

April 2022 – present: Assistant Professor, School of Earth and Ocean Sciences, University of Victoria

2. EDUCATION AND POSTDOCTORAL TRAINING

Degree	Institution	Year obtained
PhD	University of Copenhagen	2016
MSc	University of Copenhagen	2014
BSc	University of Copenhagen	2011

Postdoctoral experience

Postdoctoral Fellow, Princeton University	2017–2022
---	-----------

3. HONOURS AND AWARDS

2026 Confederation of University Faculty Associations of BC (CUFA), Early in Career Award
([YouTube Video Link](#))

4. FUNDING

All amounts in CAD

Total external funding awarded to Ahm since joining UVic in 2022: \$1,446,675

Agency & Award	Project	Investigators (*PI)	Period	Amount
NSERC Alliance International	Middle Age Earth: ocean chemistry and evolution in the Boring Billion	Ahm*	2024–2027	\$294,849
UVic	Alliance International Project Support	Ahm*	2024–2027	\$10,000
ARC ¹ Discovery Project	Middle Age Earth: ocean chemistry and evolution in the Boring Billion	Dosseto*, Farkas, Ahm, Maloney, Halverson	2024–2027	\$424,552 (\$2,635 to UVic)
CFI-IOF	MC ICP-MS Infrastructure operational funds	Ahm* and Dyer*	2023–2028	\$76,000
BC-KDF	Provincial CFI-JELF matching	Ahm* and Dyer*	2023	\$380,000
CFI-JELF	State-of-the-Art Multi-Collector Inductively Coupled Mass Spectrometry (MC ICP-MS) Laboratory for Earth, Ocean and Climate Science	Ahm* and Dyer*	2022	\$380,000
NSERC-RTI	A novel ion chromatography system for Earth, Ocean and Environmental Science	Ahm*, Coogan, Cullen	2022	\$120,691
NSERC-Discovery	The emergence of oxygenic photosynthesis through the lens of carbonate diagenesis	Ahm*	2022–2028	\$180,000
NSERC	Discovery Launch supplement	Ahm*	2022–2023	\$12,500
UVic	Faculty Start-up	Ahm	2022–2027	\$160,000
Simons Foundation	SCOL postdoctoral fellowship	Ahm	2019–2022	\$368,880
Carlsberg Foundation	Internationalisation postdoctoral fellowship	Ahm	2017–2019	\$136,460

¹Australian Research Council (ARC) Discovery project awarded to University of Wollongong. Matching funds to me (UVic) from NSERC Alliance International Collaboration.

5. PEER-REVIEWED PUBLICATIONS

Total publications: 27

Total citations*: 1798

h-index*: 18

i10-index*: 22

*Source: Google Scholar, August 2026

† Student or postdoctoral researcher supervised by Ahm at UVic

Under review or revision

†Ruiz, D. G., Goldblatt, C., Spence, J., Kurucz, S., Ramsay, B., Fralick, P., & **Ahm, A.-S. C.** Contradicting redox proxies across the Great Oxidation Event: Insights from iodine and Ce anomalies. *Geochimica et Cosmochimica Acta*, under revision following review.

Published peer-reviewed works

Ahm, A.-S. C., Fralick, P. W., & Higgins, J. A. (2026). As it ever was: Calcium isotope constraints on Mesoarchean seawater chemistry. *Geology*, 54, 195–199.

<https://doi.org/10.1130/G53945.1>

Farrell, Ú. C., Olson, H. C., Thompson, M. O., Abshire, M. L., Adeboye, O. O., **Ahm, A.-S. C.**, et al. (2026). The Sedimentary Geochemistry and Paleoenvironments Project Phase 2 data release: An open data resource for the study of Earth's environmental history. *Chemical Geology*, 712, 123148. <https://doi.org/10.1016/j.chemgeo.2025.123148>

Lonsdale, M. C., **Ahm, A.-S. C.**, Nelson, L. L., Thompson, J. W., Higgins, J. A., & Smith, E. F. (2026). Carbon isotope trends of Precambrian–Cambrian carbonates in southwestern Laurentia are robust to diagenetic overprinting. *American Journal of Science*, 326, Article 4.

<https://doi.org/10.2475/001c.155346>

†Ruiz, D. G., Goldblatt, C., & **Ahm, A.-S. C.** (2025). Chempath 1.0: An open-source pathway analysis program for photochemical models. *Geoscientific Model Development*, 18, 4433–4454. <https://doi.org/10.5194/gmd-18-4433-2025>

Nadeau, M. D., Murphy, J. G., Hagen, C. J., Wu, Z., Akhtar, A. A., **Ahm, A.-S. C.**, Stolper, D. A., Maloof, A. C., & Higgins, J. A. (2025). Disentangling global geochemical change from local diagenetic alteration in shallow-water marine carbonates: A case study from OAE1a. *Earth and Planetary Science Letters*, 666, 119513.

<https://doi.org/10.1016/j.epsl.2025.119513>

Akhtar, A. A., **Ahm, A.-S. C.**, & Higgins, J. A. (2024). Geochemical fingerprints of early diagenesis in shallow-water marine carbonates: Insights from paired $\delta^{44}/^{40}\text{Ca}$ and $\delta^{26}\text{Mg}$ values. *Geochimica et Cosmochimica Acta*, 383, 57–69. <https://doi.org/10.1016/j.gca.2024.08.002>

†Ruiz, D. G., Goldblatt, C., & **Ahm, A.-S. C.** (2024). Climate variability leads to multiple oxygenation episodes across the Great Oxidation Event. *Geophysical Research Letters*, 51, e2023GL106694. <https://doi.org/10.1029/2023GL106694>

- Edmonson, S., Nadeau, M. D., Turner, A. C., Wu, Z., Geyman, E. C., **Ahm, A.-S. C.**, Dyer, B., Oleynik, S., McGee, D., Stolper, D. A., Higgins, J. A., & Maloof, A. C. (2024). Shallow carbonate geochemistry in the Bahamas since the last interglacial period. *Earth and Planetary Science Letters*, 627, 118566. <https://doi.org/10.1016/j.epsl.2023.118566>
- Ostrander, C. M., Bjerrum, C. J., **Ahm, A.-S. C.**, Stenger, S. R., Bergmann, K. D., El-Ghali, M. A. K., Harthi, A. R., Aisri, Z., & Nielsen, S. G. (2023). Widespread seafloor anoxia during generation of the Ediacaran Shuram carbon isotope excursion. *Geobiology*, 21, 556–570. <https://doi.org/10.1111/gbi.12557>
- †Ruiz, D. G., Goldblatt, C., & **Ahm, A.-S. C.** (2023). Climate shapes the oxygenation of Earth's atmosphere across the Great Oxidation Event. *Earth and Planetary Science Letters*, 607, 118071. <https://doi.org/10.1016/j.epsl.2023.118071>
- Geyman, E. C., Wu, Z., Nadeau, M. D., Edmonson, S., Turner, A. C., Purkis, S. J., Howes, B., Dyer, B., **Ahm, A.-S. C.**, Yao, N., & Maloof, A. C. (2022). The origin of carbonate mud and implications for global climate. *Proceedings of the National Academy of Sciences*, 119, e2210617119. <https://doi.org/10.1073/pnas.2210617119>
- Murphy, J. G., **Ahm, A.-S. C.**, Swart, P. K., & Higgins, J. A. (2022). Reconstructing the lithium isotopic composition ($\delta^7\text{Li}$) of seawater from shallow-marine carbonate sediments. *Geochimica et Cosmochimica Acta*, 337, 140–154. <https://doi.org/10.1016/j.gca.2022.09.019>
- Bryant, R. N., Present, T. M., **Ahm, A.-S. C.**, McClelland, H.-L. O., Rationale, D., & Blättler, C. L. (2022). Early diagenetic constraints on Permian seawater chemistry from the Capitan Reef. *Geochimica et Cosmochimica Acta*, 328, 1–18. <https://doi.org/10.1016/j.gca.2022.04.027>
- Ahm, A.-S. C.**, & Husson, J. M. (2022). Local and global controls on carbon isotope chemostratigraphy. *Cambridge Elements: Geochemical Tracers in Earth System Science*. <https://doi.org/10.1017/9781009028882>
- Busch, J. F., Hodgin, E. B., **Ahm, A.-S. C.**, Husson, J. M., Macdonald, F. A., Bergmann, K. D., Higgins, J. A., & Strauss, J. V. (2022). Global and local drivers of the Ediacaran Shuram carbon isotope excursion. *Earth and Planetary Science Letters*, 579, 117368. <https://doi.org/10.1016/j.epsl.2022.117368>
- Farrell, Ú. C., Samawi, R., Anjanappa, S., Klykov, R., Adeboye, O. O., Agić, H., **Ahm, A.-S. C.**, et al. (2021). The Sedimentary Geochemistry and Paleoenvironments Project. *Geobiology*, 19, 545–556. <https://doi.org/10.1111/gbi.12462>
- Nelson, L. L., **Ahm, A.-S. C.**, Macdonald, F. A., Higgins, J. A., & Smith, E. F. (2021). Fingerprinting local controls on the Neoproterozoic carbon cycle with the isotopic record of Cryogenian carbonates in the Panamint Range, California. *Earth and Planetary Science Letters*, 566, 116956. <https://doi.org/10.1016/j.epsl.2021.116956>
- Ahm, A.-S. C.**, Bjerrum, C. J., Hoffman, P. F., Macdonald, F. A., Maloof, A. C., Rose, C. V., Strauss, J. V., & Higgins, J. A. (2021). The Ca and Mg isotope record of the Cryogenian Trezona carbon isotope excursion. *Earth and Planetary Science Letters*, 568, 117002. <https://doi.org/10.1016/j.epsl.2021.117002>
- Crockford, P. W., Kunzmann, M., Blättler, C. L., Kalderon-Asael, B., Murphy, J. G., **Ahm, A.-S. C.**, Sharoni, S., Halverson, G. P., Planavsky, N. J., Halevy, I., & Higgins, J. A. (2021). Reconstructing Neoproterozoic seawater chemistry from early diagenetic dolomite. *Geology*, 49, 442–446. <https://doi.org/10.1130/G48213.1>

- Bold, U., **Ahm, A.-S. C.**, Schrag, D. P., Higgins, J. A., Jamsran, E., & Macdonald, F. A. (2020). Effect of dolomitization on isotopic records from Neoproterozoic carbonates in southwestern Mongolia. *Precambrian Research*, 350, 105902. <https://doi.org/10.1016/j.precamres.2020.105902>
- Gussone, N., **Ahm, A.-S. C.**, Lau, K. V., & Bradbury, H. J. (2020). Calcium isotopes in deep time: Potential and limitations. *Chemical Geology*, 544, 119601. <https://doi.org/10.1016/j.chemgeo.2020.119601>
- Jones, D. S., Brothers, R. W., **Ahm, A.-S. C.**, Slater, N., Higgins, J. A., & Fike, D. A. (2020). Sea level, carbonate mineralogy, and early diagenesis controlled $\delta^{13}\text{C}$ records in Upper Ordovician carbonates. *Geology*, 48, 194–199. <https://doi.org/10.1130/G46861.1>
- Crockford, P. W., Wing, B. A., Paytan, A., Hodgskiss, M. S. W., Mayfield, K. K., Hayles, J. A., Middleton, J. E., **Ahm, A.-S. C.**, Johnston, D. T., Caxito, F., Uhlein, G., Halverson, G. P., Eickmann, B., Torres, M., & Horner, T. J. (2019). Barium-isotopic constraints on the origin of post-Marinoan barites. *Earth and Planetary Science Letters*, 519, 234–244. <https://doi.org/10.1016/j.epsl.2019.05.018>
- Ahm, A.-S. C.**, Maloof, A. C., Macdonald, F. A., Hoffman, P. F., Bjerrum, C. J., Bold, U., Rose, C. V., Strauss, J. V., & Higgins, J. A. (2019). An early diagenetic deglacial origin for basal Ediacaran ‘cap dolostones’. *Earth and Planetary Science Letters*, 506, 292–307. <https://doi.org/10.1016/j.epsl.2018.10.046>
- Ahm, A.-S. C.**, Bjerrum, C. J., Blättler, C. L., Swart, P. K., & Higgins, J. A. (2018). Quantifying early marine diagenesis in shallow-water carbonate sediments. *Geochimica et Cosmochimica Acta*, 236, 140–159. <https://doi.org/10.1016/j.gca.2018.02.042>
- Higgins, J. A., Blättler, C. L., Lundstrom, E. A., Santiago-Ramos, D. P., Akhtar, A. A., **Ahm, A.-S. C.**, Bialik, O., Holmden, C., Bradbury, H. J., Murray, S. T., & Swart, P. K. (2018). Mineralogy, early marine diagenesis, and the chemistry of shallow-water carbonate sediments. *Geochimica et Cosmochimica Acta*, 220, 512–534. <https://doi.org/10.1016/j.gca.2017.09.046>
- Ahm, A.-S. C.**, Bjerrum, C. J., & Hammarlund, E. U. (2017). Disentangling the record of diagenesis, local redox conditions, and global seawater chemistry during the latest Ordovician glaciation. *Earth and Planetary Science Letters*, 459, 145–156. <https://doi.org/10.1016/j.epsl.2016.09.049>

6. RESEARCH GROUP AND MENTORSHIP

Primary supervision

Position or Degree	Name	Period	Type of supervision
Postdoctoral fellow	Keyi Cheng	2025–present	Main supervisor
PhD	Daniel Garduno Ruiz	2020–2025	Co-supervised with Goldblatt
MRes Candidate, U. of Adelaide	Xiaohan Zhang	2026–present	Co-supervised with Farkas and Collins
MSc Candidate	Rizzieri Balestra	2025–present	Co-supervised with Husson
MSc Candidate	Jinfeng Hong	2025–present	Main supervisor

BSc Honours	Brooke Taylor	2025–2026	Main supervisor
BSc Honours	Noa Hardcastle	2023–2024	Main supervisor
BSc Honours	Maya Thompson	2023–2024	Main supervisor

Graduate supervisory committees

Position or Degree	Name	Period	Primary supervisor
MSc Candidate	Joe Marshall	2025–present	Goldblatt
MSc Candidate	Matthew Stephens	2024–present	Husson
PhD Candidate	Stacey Edmonson	2021–present	Dyer
MSc	Leslie Moffat	2024–2026	Weaver
MSc	Kai Morsink	2023–2025	Coogan and Dyer
PhD	Connor Vanwieren	2020–2025	Dyer and Husson
MSc	Olivia Wren	2021–2023	Husson

7. INVITED AND KEYNOTE PRESENTATIONS

Seminars:

2026 (*upcoming*): GOE-Time Virtual Early Earth Workshop. November 2026
 2026: George Mason University, Departmental Seminar, September 2026
 2025: University of California, Riverside: Virtual Seminars in Precambrian Geology, October 2025 ([YouTube link](#))
 2025: Virtual SGP Proxy Primer, May 2025 ([YouTube link](#)).
 2025: University of Victoria, Fireside chat, March 14th, 2025.
 2023: Stanford, Earth and Planetary Sciences Seminar, February 2023.
 2023: UBC, Department Seminar, February 2023.
 2021: Dartmouth College, Department Seminar, May 2021.
 2019: University of Victoria, SEOS, Department Seminar, April 2019.
 2019: University of Houston, Department Seminar, March 2019.
 2019: Princeton University, EGGs Seminar, February 2019.
 2019: Cornell University, Department Seminar, February 2019.
 2019: University of Göttingen, Department Colloquium, January 2019.
 2018: University of Southern California, Department Seminar, December 2018.
 2018: University of California Santa Barbara, Speakers Club, October 2018.
 2016: University of Cambridge, Geochemical Seminar, December 2016.

Conference invited presentations:

Ahm, Anne-Sofie C., John A Higgins, Philip W Fralick. Primary evidence for redox cycling in 2.8-billion-year-old microbialites. Goldschmidt, 2023. (*Invited talk*)
Ahm, Anne-Sofie C., Higgins, J.A., Fralick, P., The Chemistry of Archean Seawater Constrained through the Lens of Carbonate Diagenesis, AGU Fall meeting 2022, Chicago (*Invited talk*)

Ahm, Anne-Sofie C., Seeing through the lens of carbonate diagenesis – a Ca isotope perspective. TIMOR Magellan Plus meeting, May 19, 2022, Vienna. (*Invited talk*)

Ahm, Anne-Sofie C., Higgins, J.A., Fralick, P. The carbonate rock record of an Archean habitat. Mountjoy carbonate research conference III, 2021. (*Invited talk*)

Ahm, Anne-Sofie C., Higgins, J.A., Earth History through the Lens of Carbonate Diagenesis. Goldschmidt virtual 2020. (*Invited keynote*)

Ahm, Anne-Sofie C., Higgins, J.A. The chemistry of ancient shallow-marine carbonate sediments. Gordon Research Conference on Geochronology. Waterville Valley, NH. 2019 (*Invited talk*)

Ahm, Anne-Sofie C., The geochemical record of a Snowball Earth. Geobiology meeting, Banff, 2019. (*Invited talk*)

Ahm, Anne-Sofie C., Higgins, J.A., Jones, D., Quantifying early marine diagenesis in shallow-water carbonate sediments during latest Ordovician glaciation. GSA 2017 (*Invited talk*)

8. TEACHING

Undergraduate courses taught at UVic

Course	Number	No. of students	Period
Earth System Modelling	EOS 325	31 to 47 per offering	Annually, 2022–present
Earth System Science	EOS 460	10 to 19 per offering	Annually, 2024–present
Directed studies in Earth Science	EOS 490	1 to 2 per term	Annually, 2023–present

9. PROFESSIONAL SERVICE

Departmental and faculty committees at UVic

2026–present Faculty of Science Research Committee

2023–present SEOS Undergraduate Awards Committee Chair

2023–present SEOS Undergraduate Committee

2022–2025 SEOS EDI committee

2023–2024 SEOS Appointment, tenure, promotion (ARPT) committee

Search committees at UVic

2026 SEOS Director Search Committee

2024 Indigenous Scholar Appointment Committee

2024 Climate Science Appointment Committee (*search cancelled*)

Service on professional bodies and societies

2026–present Geochemical Society, F.W. Clarke Award Committee

2025–2026 Geochemical Society, DEI committee member

Conference and seminar committees

2021 Co-chair of session: Evolution of Earth System, AGU Fall meeting, New Orleans
2020 Co-chair of session: Evolving Perspectives on the Tonian Biosphere, GSA, Montreal
2019 Co-chair of session: Revisiting the carbon isotope record. Goldschmidt, Barcelona
2018 Co-chair of session: Seafloor diagenesis, hydrothermal processes, and biogeochemistry. Goldschmidt, Boston.
2019 Princeton University, Seminar organizer: Environmental geology and geochemistry seminar

Grant and fellowship review

2026: Canada Foundation for Innovation (CFI), JELF Grant.
2025: Natural Sciences and Engineering Research Council of Canada (NSERC). Discovery Grant.
2025: European Research Council (ERC)
2023; 2024: Deutsche Forschungsgemeinschaft (DFG)
2024: American Chemical Society (ACS) – with Outstanding Reviewer recognition
2018; 2021: The National Science Foundation (NSF)
2019: National Cave and Karst Research Institute (NCKRI)

Reviews for journals

American Journal of Science, Earth and Planetary Science Letters, Elements, Cambridge University Press, Geochemical Perspectives Letters, Geochemistry, Geophysics, Geosystems, Geochimica et Cosmochimica Acta, Geology, Chemical Geology, Global Biogeochemical Cycles, Nature Communications, Nature Geoscience, Proceedings of the National Academy of Sciences, Science Advances, The Depositional Record.

10. SELECTED CONFERENCE PROCEEDINGS

† *Student or postdoctoral researcher supervised by Ahm at UVic*

†Rizzieri Balestra, Jon Husson, †Keyi Cheng, Anthony Dosseto, Juraj Farkas, Galen P Halverson, Emma Jager, Katie Maloney, †Brooke Taylor, **Anne-Sofie C Ahm**. Facies/Off: Investigating Mid-Proterozoic Carbon Isotope Stability in the Lower Belt-Purcell Supergroup, GSA Connects Denver, 2026 (*upcoming*).

†Keyi Cheng, †Rizzieri Balestra, †Brooke Taylor, Anthony Dosseto, Juraj Farkas, Galen P Halverson, Jon Husson, Emma Jager, Katie Maloney, **Anne-Sofie C Ahm**. Revealing the mid-Proterozoic seawater redox condition based on geochemical records from the lower Belt-Purcell Supergroup. Goldschmidt, Montreal, 2026 (*Poster by K.C.*).

Ahm, A-S. C., Fralick, P. W., Higgins J. A. An extensive Mesoarchean shallow marine carbonate factory. Goldschmidt, Prague, 2025 (*talk by A-S. A.*).

†Ruiz, D. G., Goldblatt, C., **Ahm, A-S. C.**, Comparing oxygen proxies across the Great Oxidation Event: Iodine vs. Cerium Anomalies. Geobiology Society Conference, Banff, 2025 (*lightning talk by D.G.R.*).

†Ruiz, D. G., Goldblatt, C., **Ahm, A-S. C.**, Photochemical modelling of the climate-redox evolution of the Great Oxidation Event: from a Snowball Earth to a Hot-Moist Greenhouse. Goldschmidt 2022 (*talk by D.G.R.*).