

Dr Georgina Maja Falster

Personal information

Contact georgina.falster@adelaide.edu.au

ORCID <https://orcid.org/0000-0001-8567-7413>

Websites [Google Scholar](#); [personal research website](#)

Research foci Climate of the Common Era, water cycle variability and extremes, tropical Pacific dynamics, Australian climate, statistical methods for understanding climate processes

Research tools Climate observations, climate models, water isotopes, paleoclimate proxy data, advanced numerical models and statistical analysis, R, Python

Professional appointments

- 2025– **Australian Research Council (ARC) DECRA Fellow**, *School of Physics, Chemistry and Earth Sciences, The University of Adelaide, Australia.*
Member of the Adelaide University Environment Institute
Producing and analysing new precipitation stable isotope, tree ring isotope, and climate model data for a holistic understanding of the Australian water cycle and how it is changing.
- 2021–2025 **ARC Centre of Excellence for Climate Extremes Research Fellow**, *Research School of Earth Sciences, Australian National University, Australia.*
Member of the Australian National University Institute for Climate, Energy & Disaster Solutions
Using observational data, palaeoclimate proxy data, and model simulations to investigate the nature & drivers of Australian droughts.
- 2019–2021 **Postdoctoral Research Associate**, *Department of Earth and Planetary Sciences, Washington University in St. Louis, USA.*
Using water isotope observations, proxy records, and model simulations to investigate forced and internal variability in ocean-atmosphere circulation.
- 2018–2019 **Marine Geoscientist**, *Geoscience Australia, Australia*

Education

- 2015–2019 **PhD in Climate Science**, *The University of Adelaide, Australia*
Thesis: Reconstructing Australia's late Quaternary climates from the geochemistry of lake sediments and snail shells
Awarded Dean's Commendation for Doctoral Thesis Excellence
- 2008–2011 **Bachelor of Science with First Class Honours**, *The University of Adelaide, Australia*
Majors: Environmental Geoscience, Ecology, Geology

Publications

**denotes paper lead by one of my students*

Journal articles in press

- **Falster, G.**, G. Abramowitz, S. Hobeichi, C. Hughes, P. Treble, N. Abram, M. Bird, A. Cauquoin, B. Dixon, R. Drysdale, C. Jin, N. Munksgaard, B. Proemse, J. Tyler, C. Tadros: High resolution monthly precipitation isotope estimates across Australia from machine learning. *Accepted for publication in HESS.* [Link to preprint.](#)

Published peer-reviewed journal articles

- Oct. 2025 Abram, N. J., N. Maher, S. Perkins-Kirkpatrick, **G. Falster**, T. Hughes, K. Meissner L. Slater, A. King, A. Pitman, G. Moon, W. Morgan. Quantifying the regional to global climate impacts of individual fossil fuel projects to inform decision-making. *npj Climate Action* **4**, 92. [Link to publication](#).
- Jul. 2025 Vaiglova, P., H. Kierdorf, C. Witzel, **G. Falster**, R. Joannes-Boyau, Y. Wang, J. Wu, I. Williams, B. Knowles, Y. Wu, P. Bangsgaard, L. Yeomans, T. Richter, H. Darabi: Transport of animals underpinned ritual feasting at the onset of the Neolithic in southwestern Asia. *Communications Earth & Environment* **6**, Article number 519. [Link to publication](#).
- Apr. 2025 *Cho, P., **G. Falster**, D. Bolster, M. Berke, M. Müller: Influence of the Indian Walker Circulation on $\delta^{18}\text{O}_\text{P}$ and Hydroclimate Variability in the Indian Ocean Basin. *JGR Atmospheres* **138**(8), e2025JD043840. [Link to publication](#).
- Mar. 2025 Holgate, C., **G. Falster**, Z. Gillett, P. Goswami, M. Grant, S. Hobeichi, D. Hoffman, X. Jiang, C. Jin, X. Lu, M. Mu, J. Page, T. Parker, E. Vogel, N. Abram, J. Evans, A. Gallant, B. Henley, J. Kala, A. King, N. Maher, H. Nguyen, A. Pitman, S. Power, S. Rauniyar, A. Taschetto, A. Ukkola: Physical mechanisms of meteorological drought development, intensification and termination: an Australian review. *Communications Earth and Environment* **6**, Article 220 (2025). [Link to publication](#)
- Nov. 2024 **Falster, G.**, S. Coats, N. Abram: How Unusual Was Australia's 2017–2019 Tinderbox Drought? *Weather and Climate Extremes* **46**, 100734. [Link to publication](#).
- Sep. 2024 **Falster, G.**, N. Wright, N. Abram. A. Ukkola, B. Henley: Potential for historically unprecedented Australian droughts from natural variability and climate change. *Hydrology and Earth System Science* **28**, 1383-1401. [Link to publication](#)
- Mar. 2024 Devanand, A., **G. Falster**, Z. Gillett, S. Hobeichi, C. Holgate, C. Jin, M. Mu, T. Parker, S. Rifai, K. Rome, M. Stojanovic, E. Vogel, N. Abram. G. Abramowitz, S. Coats, J. Evans, A. Gallant, A. Pitman, S. Power, S. Rauniyar, A. Taschetto, A. Ukkola: Australia's Tinderbox Drought: an extreme natural event likely worsened by human-caused climate change. *Science Advances* **10**, ead3460. [Link to publication](#)
- Nov. 2023 Konecky, B., N. McKay, **G. Falster**, S. Stevenson, M. Fischer, A. Atwood, D. Thompson, M. Jones, K. DeLong, J. Tyler, B. Martrat, E. Thomas, J. Conroy, S. Dee. L. Jonkers, O. Curakova (Sidorova), Z. Kern, T. Opel, H. Sayani, Iso2k Project Members: Globally coherent water cycle response to temperature change during the past two millennia. *Nature Geoscience* **16**, 997-1004. [Link to publication](#)
- Aug. 2023 **Falster, G.**, B. Konecky, S. Coats, S. Stevenson. Forced changes in the Pacific Walker Circulation over the past millennium. *Nature* **662**, 93-100. [Link to publication](#)
- May 2022 Churakova-Sidorova, O., V. Myglan, M. Fonti, O. Naumova, A. Kirilyanov, I. Kalugin, V. Babich, **G. Falster**, E. Vaganov, R. Siegwolf, M. Saurer: Modern aridity in the Altai-Sayan mountain range derived from multiple millennial proxies. *Scientific Reports* **12**(1), 1-10. [Link to publication](#)
- May 2021 **Falster, G.**, B. Konecky, M. Madhavan, S. Stevenson, S. Coats: Imprint of the Pacific Walker Circulation in global precipitation $\delta^{18}\text{O}$. *Journal of Climate* **34**(21), 8579-8597. [Link to publication](#)

- Sep. 2020 Konecky, B., N. McKay, O. Churakova, L. Comas-Bru, E. Dassié, K. DeLong, **G. Falster**, M. Fischer, M. Jones, L. Jonkers, D. Kaufman, G. Leduc, S. Managave, B. Martrat, T. Opel, A. Orsi, J. Partin, H. Sayani, E. Thomas, D. Thompson, J. Tyler, N. Abram, A. Atwood, J. Conroy, Z. Kern, T. Porter, S. Stevenson, L. von Gunten, Iso2k Project Members: The Iso2k Database: A global compilation of paleo- $\delta^{18}\text{O}$ and $\delta^2\text{H}$ records to aid understanding of Common Era climate. *Earth System Science Data* **12**, 2261-2288. [Link to publication](#)
- Sep. 2019 Khider, D., J. Emile-Geay, N. McKay, Y. Gil, D. Garijo, V. Ratnakar...**G. Falster**...[see paper for full author list]: PaCTS 1.0: a crowdsourced reporting standard for paleoclimate data. *Paleoceanography and Paleoclimatology* **34**(10), 1570-1596. [Link to publication](#)
- Aug. 2018 **Falster, G.**, S. Delean, J. Tyler: Hydrogen peroxide treatment of natural lake sediment prior to carbon and oxygen stable isotope analysis of calcium carbonate. *Geochemistry, Geophysics, Geosystems* **19**(9), 3583-3595. [Link to publication](#)
- Jul. 2018 **Falster, G.**, J. Tyler, K. Grant, J. Tibby, C. Turney, G. Jacobsen, A. P. Kershaw: Millennial-scale variability in south-east Australian hydroclimate between 30,000 and 10,000 years ago. *Quaternary Science Reviews* **192**, 106-122. [Link to publication](#)
- Dec. 2015 Collins, A., S. Patranabis-Deb, E. Alexander, C. Bertram, **G. Falster**, R. Gore, J. Mackintosh, P. Dhang, D. Saha, J. Payne, F. Jourdan, G. Backe, G. Halverson, B. Wade: Detrital mineral age, radiogenic isotopic stratigraphy and tectonic significance of the Cuddapah Basin, India. *Gondwana Research* **28**(4), 1294-1309. [Link to publication](#)

Journal articles in advanced stages of preparation

- *Perlmutter, F., **G. Falster**, B. Konecky, N. McKay: Incorporating chronological uncertainty into a globally distributed, multi-archive network of water isotope proxy records. *To be submitted to Geochronology* [expected submission June 2025]

Invited book chapters in preparation

- **Falster, G.**, [tbc]: Climate of the Common Era. *Encyclopedia of Climate System Science* [to be submitted 2026]

Invited journal articles in preparation

- **Falster, G.**, B. Konecky, S. Stevenson, S. Coats, C. Pfleger: The Pacific Walker Circulation: past, present, and future variability. *WIREs Climate Change* [invited review article, to be submitted December 2025]

Selected non-traditional publications

- Apr. 2024 **Falster, G.** and PAGES Early-Career Network Steering Committee Members: What defines an "early-career researcher" in the paleosciences? *PAGES Magazine* **32**(1). [Link to article](#).
- Dec. 2023 **Falster, G.**: Big Air Circle Ballad. *Consilience* **15**. [Link to publication](#)
Poem summarising my research into the long-term behaviour of the Pacific Walker Circulation: [Link to a recording of the poem](#)
- Mar. 2023 Laepple, T., H. Goosse, R. Hebert, N. Kaushal, L. Jonkers, **G. Falster**: 2k-CVAS Topical Science Meeting: Centennial Climate Variability at regional scale in models and reconstructions. Workshop report in PAGES Magazine. [Link to article](#).
- Aug. 2019 Amirebrahimi, S., K. Picard, N. Quadros, **G. Falster**: Multibeam Echo Sounder Data Acquisition in Australia and Beyond. *Geoscience Australia Records* 2019/08. [Link to report](#) (cited 4 times)

Jul. 2017 **Falster, G.:** A report on the inaugural workshop for the Last Glacial Maximum in the Southern Hemisphere (SHeMax) project. *Quaternary Australasia* **34**, 33-36. [Link to publication](#)

Selected conference presentations

****Denotes invited/solicited conference submission**

- Dec. 2025 ****Falster, G.,** N. Abram, S. Wong, Z. Gillett: Paleoclimate-informed model simulations to test the link between tropical Indo-Pacific SST variability and mid-latitude megadroughts. *Invited talk in "Climate of the Common Era" session at the AGU Annual Meeting, USA* (oral). [Link to abstract](#).
- Dec. 2025 **Falster, G.,** M. Jones, N. McKay, A. Atwood, C. Hancock, B. Henley, N. Kaushal, M. Morales, A. Orsi, S. Shah, L. Smyth: Hydroclimate2k: A New PAGES Database of Hydroclimate Proxy Records for the Common Era. *AGU Annual Meeting, USA* (poster). [Link to abstract](#).
- Dec. 2025 **Falster, G.,** G. Abramowitz, S. Hobeichi, C. Hughes, P. Treble, N. Abram, M. Bird, A. Cauquoin, B. Dixon, R. Drysdale, C. Jin, N. Munksgaard, B. Proemse, J. Tyler, C. Tadros: High resolution monthly precipitation stable isotope estimates across Australia from machine learning. *AGU Annual Meeting, USA* (poster). [Link to abstract](#).
- Sep. 2025 **Falster, G.,** N. Abram, S. Coats: The role of Indo-Pacific SST variability in global drought occurrence. *ACCESS-NRI meeting, Australia* (oral). [Link to abstract and model set-up](#).
- Apr. 2024 ****Falster, G.,** B. Konecky, S. Stevenson, S. Coats: New insights into the Pacific Walker Circulation from an 800-year-long water isotope-based reconstruction ensemble. *Solicited presentation in "The atmospheric water cycle: processes, dynamics, isotopic tracers, and characteristics" session at EGU General Assembly, Austria*.
- Feb. 2024 **Falster, G.,** S. Coats: Assessing rainfall deficits during the 2017-2019 eastern Australian drought, in the context of previous observations. *Australian Meteorological and Oceanographic Society Conference, Australia* (oral).
- Dec. 2023 **Falster, G.,** B. Konecky, S. Stevenson, S. Coats: Anthropogenic impacts on the Pacific Walker Circulation: not quite what we expected. *AGU Fall Meeting, USA* (oral).
- Apr. 2023 **Falster, G.,** H. Sayani, A. Orsi, H. McGregor, N. Kaushal, L. Jonkers, M. Jones, B. Henley, S. Eggleston, A. Atwood: Phase 4 of PAGES 2k: Hydroclimate of the Common Era. *EGU General Assembly, Austria* (oral; given in lieu by N. Kaushal).
- Dec. 2022 **Falster, G.,** B. Konecky, S. Stevenson, S. Coats: Volcanoes 1, Humans 0: New Reconstruction Elucidates Forced Response of the Pacific Walker Circulation over the Past 800 Years. *AGU Fall Meeting, USA* (oral).
- Nov. 2022 ****Falster, G.,** N. Wright, S. Coats, N. Abram: No anthropogenic change in the frequency or severity of Australian multi-year droughts compared with the past millennium. *Australian Research Council Centre of Excellence for Climate Extremes Annual Meeting, Australia* (oral).
- Dec. 2021 **Falster, G.,** B. Konecky, S. Stevenson, S. Coats: Multi-method, multi-proxy reconstructions of the Pacific Walker Circulation through the last millennium. *AGU Fall Meeting, virtual* (oral).
- Dec. 2020 ****Falster, G.,** B. Konecky, M. Madhavan, S. Stevenson, S. Coats: Fingerprinting the Pacific Walker Circulation using precipitation $\delta^{18}\text{O}$. *Invited talk in "The atmospheric water cycle: processes, dynamics, isotopic tracers, and characteristics" session at the AGU Fall Meeting, USA* (oral).

- Dec. 2019 **Falster, G.**, B. Konecky, N. McKay, A. Atwood, J. Conroy, M. Fischer, M. Jones, L. Jonkers, S. Stevenson, D. Thompson, J. Tyler: New insights into spatial and temporal dynamics of the global water cycle from the Iso2k database. *AGU Fall Meeting, USA* (oral).
- Nov. 2018 **Falster G.**, J. Tyler, T. Kluge, F. Dux, R. Drysdale, A. Chivas, J. Tibby, L. Reed: Leaving a trail: reconstructing past climates from stable and clumped isotope analysis of snail shells. *Australasian Quaternary Association biennial meeting, Australia* (oral).

Honours and awards

Invited seminars and keynote talks

****Denotes travel and accommodation funded**

- Sep. 2025 ****ACCESS** (Australian climate modelling centre) National Research Infrastructure annual meeting (plenary speaker).
- May 2025 University of Adelaide, School of Physics, Chemistry and Earth Sciences
- Nov. 2024 Terrestrial Ecosystem Research Network (TERN) Online Seminar Series
YouTube recording viewed online >1000 times
- Oct. 2024 ****The University of Sydney, School of Geosciences**
- Apr. 2024 ****University of Cambridge, Department of Geography**
- Mar. 2024 Pal(a)eoPERCS Global Early Career Researcher online seminar series
[Link to recording](#)
- Mar. 2023 ****Past Global Changes (PAGES) Topical Science Meeting, Potsdam**
- Sep. 2022 Paleoclimate Advances Webinar Series, CESM Paleoclimate Working Group
[Link to recording](#)
- Mar. 2022 Australian National University, Research School of Earth Sciences
- Dec. 2021 LinkedEarth Town Hall, AGU Fall Meeting
- Jun. 2021 ****University of Hawai'i, International Pacific Research Center**
- Sep. 2021 Lamont-Doherty Earth Observatory, Biology & Paleo Environment Division
- Jul. 2021 PAGES 2k Network Online Seminar Series
[Link to recording](#)
- Mar. 2021 University of Adelaide, Department of Earth Sciences
- Sep. 2018 Australian National University, Research School of Earth Sciences

Competitive Research Funding

- 2025–2028 Australian Research Council Discovery Early Career Researcher Award (DECRA)
[DE250100071](#) "*Quantifying Australia's long-term risk of rainfall extremes*". Sole investigator.
AU\$438,335
- 2025 L'Oréal-UNESCO For Women In Science Fellowship. Sole investigator.
AU\$25,000.
- 2025 University of Adelaide Research Equipment Support Scheme. Sole investigator.
\$AU12,000
- 2025 University of Adelaide Environment Institute Research Funding Scheme "*A tree ring analytical facility to constrain decadal-scale risk in Australia's rainfall extremes*". Chief investigator. *AU\$28,130*
- 2025 National Computational Infrastructure (NCI) Merit Allocation Scheme "*The role of Indo-Pacific SST variability in global drought occurrence*". Chief investigator.
1000 kSU on Gadi supercomputer, equivalent to AU\$40,000 at official NCI rate
- 2023–2024 Combined grant from Swiss Academy of Sciences and Chinese National Academy of Sciences to fund workshop "*Global-scale hydroclimate synthesis of the Common Era*" held in Nottingham, September 2024. *US\$14,500*

- 2023 Australian Institute of Nuclear Science & Engineering (AINSE) Early Career Researcher Grant ALNGRA2205 "*Understanding the nature and drivers of spatial and temporal variability in the isotopic composition of precipitation across Australia*". Chief investigator.
AU\$10,000 + analyses in kind
- 2015–2019 AINSE Postgraduate Research Award ALNSTU11873 "*Assessing terrestrial climate variability over the last glacial-interglacial transition*". Sole investigator.
AU\$30,000 + analyses in kind

Selected academic awards & scholarships

- 2025 South Australian Tall Poppy award
- 2024 KSC Campbell Prize for Excellence in Earth Sciences teaching at the Australian National University
- 2023 Australian Research Council Centre of Excellence for Climate Extremes prize for best paper published by an early-career researcher
- 2022 EarthCube Early Career Researcher award
- 2019 University of Adelaide Dean's Commendation for Doctoral Thesis Excellence
- 2019 Awarded competitive travel grants to attend AGU Fall Meeting, INQUA 2019, ICP13, and the US CLIVAR Water Isotopes and Climate Workshop
- 2019,2017 Fame-Lab Australia national semi-finalist
Science communication competition
- 2017 Esther Bright Prize (from Soroptimist International of Adelaide)
Merit-based award to fund international conference attendance
- 2017 Australian Institute of Nuclear Science & Engineering (AINSE) International Travel Scholarship + University of Adelaide Research Abroad Scholarship
Merit-based awards for international collaborations and laboratory work
- 2016 Geological Society of Australia prize for best student presentation (oral)
At the Australian Earth Sciences Convention
- 2016 Adelaide University Graduate Union R. C. Heddle Award
Merit scholarship awarded annually to one doctoral candidate at The University of Adelaide
- 2016 Walter and Dorothy Duncan Trust Award
Merit-based award for international conference attendance
- 2015–2019 Australian Postgraduate Award
Federal funding to support postgraduate training for students of exceptional research potential
- 2014 Cooperative Research Centre for Landscape Evolution scholarship
For outstanding undergraduate research in physical geography
- 2011 AusIMM-Playford Trust Honours Scholarship
Awarded to the three most outstanding students entering an earth science Honours year in South Australia
- 2010 James Barrans Scholarship
For the highest-achieving student in final-year earth science subjects at The University of Adelaide

Scientific leadership, service, and outreach

Scientific leadership

- 2025– Hydroclimate2k project leader
Facilitating compilation of a comprehensive multi-archive multi-proxy database of hydroclimate proxy records for the Common Era
- 2021– Past Global Changes (PAGES) 2k Network Coordinator
Planning and facilitating global collaborations to understand hydroclimate variability of the past 2000 years—informing anthropogenic changes to the climate system and hence likely future change.
- 2021–2024 PAGES Early Career Network (ECN) Steering Committee

The ECN supports research and development activities of >1000 early-career palaeoclimate scientists from >70 countries – with particular focus on researchers from countries not traditionally well-represented in international conferences and collaborations.

- 2020– Major grant reviewer for US NSF Paleoclimate Program (GEO directorate and P4CLIMATE) & Australian Research Council (Future Fellowships)
- 2020–2022 Scientific Program Committee for the [PAGES Young Scientists Meeting](#)

Service to academic community

- 2025– University of Adelaide Early to Mid Career Researcher committee
- 2021– Session chair/convenor at major international conferences
Including “Water Isotope Systematics: Improving Modern and Paleoclimate Interpretations” at AGU Fall Meeting; “Studying the climate of the last two millennia” at EGU General Assembly; “Terrestrial hydroclimates: towards quantification and climate model comparisons” at INQUA Congress
- 2019– Reviewer for *Nature*, *Nature Geoscience*, *Nature Communications*, *Journal of Hydrology*, *Geophysical Research Letters*, *Journal of Limnology*, *Boreas*, *Journal of Climate*, *Paleoceanography*, *Paleoceanography and Paleoclimatology*, *Climate of the Past*, *Communications Earth & Environment*.
- 2023–2025 Australian Research Council Centre of Excellence for Climate Extremes (ARC CLEX) Early Career Researcher Committee chair
- 2022–2024 Australian National University Research School of Earth Sciences Seminar Committee
- 2022–2023 ARC CLEX Culture & Diversity Committee
- 2022–2023 Mentor at Australian National University Women+ in STEM Leadership Conference
- 2022 Australian National University Research School of Earth Sciences Engagement Committee
- 2020–2022 PAGES Open Science Meeting Diversity Committee
- 2016–2019 Australasian Quaternary Association (AQUA) Treasurer
- 2018 AQUA Biennial Conference local organising committee

Outreach, policy, public science writing, and other contributions

- 2025– Science and Technology Australia 'Superstar of STEM' (one of 60 female and non-binary STEM professionals selected to a) become high-profile role models inspiring future generations and b) shift the public perception of STEM experts) [Link to profile](#)
- 2023– Participant in '[Letters to a Pre-scientist](#)' pen pal program
- Feb. 2024 Co-author of annual Australian 'The State of Weather and Climate Extremes 2023' report
Links to [report](#) and [my contribution](#)
- 2023–2024 *The Conversation* articles about [atmospheric influences on extreme rainfall events](#) and [the possibility of Australian megadroughts](#)
- Dec. 2023 European Geosciences Union blog post about the Pacific Walker Circulation.
[Link to blog post](#). *Shortlisted for EGU Best Blog Post of 2023*
- Aug. 2023 Pacific Walker Circulation explainer videos and article, including impacts of Walker Circulation changes on Australians. [Explainer article](#) and [summary of research paper](#).
- Jun. 2023 Submission to Australian Government Climate Change Authority Issues Paper.
- Sep. 2021 Panellist on Washington University in St. Louis 'Climate Conversation: Extreme Weather Events' public Q&A event
- Dec. 2018 Australian National Youth Science Forum 'Meet a Scientist' program
- Aug. 2018 Australian National Science Week: exhibitor at 'Science in ACTION' school event

Media presence

- Regular radio, television, and online media presence regarding various climate science topics, including:
- Global and regional weather and climate change

- Nature and causes of regional droughts
- Individual extreme weather events
- Long-term climate variability
- Nature and causes of Australian droughts
 - o For one recent example: [Guardian article about my research into Australian droughts](#)

Teaching and supervision

Undergraduate and postgraduate teaching

- 2025– University of Adelaide GEOLOGY3505 – *Earth Systems History*.
Third-year undergraduate course focusing on interactions between the atmosphere, biosphere, and geosphere.
- 2025– University of Adelaide GEOLOGY2505 – *Geochemistry*.
Second-year undergraduate course focusing on the chemistry of the natural world, including practical and theoretical geochemistry.
- 2022–2024 Australian National University EMSC1006 – *The Blue Planet*.
First-year undergraduate course providing a broad introduction to Earth system science, with typical enrolment ~160-180 students. I taught approximately one quarter of this course, through a mix of flipped-format lectures, tutorials, and practicals. I co-led a two-day field trip, including field lectures and mentoring of teaching assistants. My average Student Evaluation of Learning and Teaching (SELT) score for overall teaching quality was 4.5 out of 5.
- 2022–2024 Australian National University EMSC3019 – *Coral Reef Field Studies*.
Third-year intensive field course providing students with advanced knowledge of coral reef environments. I taught approximately one third of this course, with most content delivered in the field (on the Great Barrier Reef). This took the form of ~4 hours of formal lectures, as well as student guidance and education throughout the week. My average SELT score for overall teaching quality was 4.9 out of 5.
- 2024 Australian National University ARCH8032 – *Introduction to Archaeological Science* (guest).
Masters course introducing students to archaeological methods. I taught oxygen isotope methods for constraining climate variability (in an archaeological context).
- 2023–2024 Australian National University EMSC4122 – *Analytical Methods* (guest).
Postgraduate course in laboratory methods for physical geography. I taught advanced water isotope systematics, analysis of water isotopes, and use of water isotopes for understanding water cycle processes.
- 2023 ARC Centre of Excellence for Climate Extremes Winter School.
Intensive course for Australian climate science graduate students (~70 attendees). I co-taught one day of the winter school, focussed on long-term climate dynamics (lectures and two practical activities).
- 2019 Washington University in St. Louis EPSc486 – *Paleoclimatology* (guest).
Advanced paleoclimatology course for postgraduate students & fourth-year undergraduate students. I prepared and delivered course material covering the last deglaciation.

Undergraduate tutoring

- 2015–2018 The University of Adelaide.
Tutor and teaching assistant various earth science and physical geography subjects.

Undergraduate researcher supervision

- 2024–2025 Dine Yoo, The Australian National University
Earth science, Honours, co-supervisor
- 2024 Moss Thompson, The Australian National University
Earth science, Honours, co-supervisor
- 2023– Bridget Leibold, The Australian National University
Climate dynamics, undergraduate research intensive, primary supervisor
- 2023 Ashley Huang, The Australian National University

- 2023 *Climate dynamics, Honours, co-supervisor (awarded First Class Honours)*
Lachie Nicholls, The Australian National University
Climate dynamics, undergraduate research intensive, primary supervisor
- 2021–2022 Anastasia-Filia Morfiadakis, The Australian National University
Earth science, undergraduate research intensive, primary supervisor
- 2021–2022 Flora Perlmutter, Washington University in St. Louis
Earth science, undergraduate research intensive, primary supervisor (won department prize for best thesis; now PhD student at Dartmouth)

PhD supervision

- 2025– Abby Matthias, Adelaide University (Earth science, PhD, associate supervisor)
Understanding the long-term climate history of Kangaroo Island (Australia) with new speleothem records
- 2023– Oliver Medd, The Australian National University (Earth science, PhD, associate supervisor)
Developing and applying novel dendrochronological methods to understand snowgum dieback in the Australian alpine region
- 2023– Jarrah Harrison, The University of Melbourne (Climate science, PhD, associate supervisor)
Developing and testing novel data assimilation algorithms for direct integration of palaeoclimate and climate model data, at monthly temporal resolution
- 2022–2025 Patrick Cho, University of Notre Dame (Earth science, PhD, associate supervisor)
Quantifying and understanding the imprint of the Indian Walker Circulation on precipitation isotopic variability in the Indian Ocean basin

Professional development

- 2024 Australian National University (ANU) Exploring Learning and Teaching course
- 2023 ANU Science, Health and Medicine Colloquium 'The Human Face of Teaching'
- 2022–2023 ANU Research School of Earth Sciences Education Forum

Academic and professional development

Scientific workshops & short courses

†denotes event with competitive selection process

- Apr. 2023 Lake System Modelling workshop, virtual
- Feb. 2021 †LinkedEarth PaleoHackathon (Pyleoclim) workshop, virtual
- Oct. 2019 US CLIVAR Water Isotopes and Climate workshop, Boulder, USA
- Dec. 2019 † Early Career Researcher workshop 'Water cycle in a 1.5° warmer world: interdisciplinary approaches', San Francisco, USA
- Oct. 2018 'Southern Hemisphere Assessment of PalaeoEnvironments' workshop, Wollongong, Australia
- Sep. 2017 †Advanced Climate Dynamics Course 'The Dynamics of the Seasonal Cycle', Rondane National Park, Norway
- Aug. 2017 †GeoChronR Development Workshop, Northern Arizona University, USA
- May 2017 †3rd Past Global Changes Young Scientists Meeting, Zaragoza, Spain
- Mar. 2017 'Numerical Analysis for Palaeoenvironmental Research' with Gavin Simpson, Adelaide, Australia
- Sep. 2016 †15th annual Swiss Climate Summer School, Grindelwald, Switzerland
- Aug. 2015 Advanced Isotope Geochemistry Course, University of Wollongong, Australia

Learned society membership

- 2019– American Geophysical Union
- 2022– European Geosciences Union
- 2023– Australian Meteorological and Oceanographic Society

Referees

Contact details available on request.