Dr. ALEXANDRA AUDERSET
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RESEARCH INTERESTS

Paleoclimatology, paleoceanography, and biogeochemical cycles; ocean oxygen minimum zones; past ocean productivity; marine nitrogen and carbon cycling; lipid biomarkers; stable isotopes in foraminifera.

EDUCATION & PROFESSIONAL EXPERIENCE

Academic Positions:

- **2022 – Present**: Anniversary Fellow (Senior Researcher), University of Southampton, UK
  Independent research on past biological pump and marine biogeochemistry.
- **2021 – 2022**: SNSF Early Postdoc Mobility Fellow, Princeton University, USA
  Developed novel geochemical method for foraminifera-bound organic matter.
- **2020 – 2021**: Postdoctoral Researcher, Max Planck Institute for Chemistry, Germany
  Studied Miocene ocean biogeochemistry using foraminifera-bound nitrogen isotopes.
- **2013 – 2016**: Student Research Assistant & Tutor, ETH Zurich, Switzerland

Education:

- **2020**: PhD in Earth Sciences, ETH Zurich & Max Planck Institute for Chemistry
  Dissertation: "Nutrient cycling in the oligotrophic ocean over the past 65 Ma"
- **2015**: MSc in Earth Sciences, ETH Zurich, Switzerland
- **2013**: BSc in Earth Sciences, ETH Zurich, Switzerland

FUNDING & AWARDS

- **Anniversary Fellowship (2% success rate)**
  Independent fellowship at University of Southampton, "The marine carbon and nitrogen cycle– from plankton to global ocean and beyond"

- **Swiss National Science Foundation (SNSF) 92'918 CHF (97'917 EUR)**
  Early Postdoc Mobility Fellowship (51% success rate), Host University: Princeton University (Prof. Daniel Sigman), "The marine nitrogen cycle during past climate optima"

PROFESSIONAL ACTIVITIES

- **Invited Speaker & Keynote:** 16 invited seminar talks since 2019; Invited speaker at international conferences and workshops: ICP 2025 (upcoming), TIMES (upcoming), EGU25, AGU24, EGU24, TMS-CFFR Foraminifera Meeting 2024 (Keynote),

- **Conference & Seminar Organizer:** PAGES PO2 Workshops (2024 & 2025), TMS Annual Meeting (2023). Monthly seminars at University of Southampton, Princeton University, Max Planck Institute for Chemistry
- **Journal & Proposal Reviewer:** *Biogeosciences (3x), Geochimica et Cosmochimica Acta (1x), Geophysical Research Letters (1x), Global and Planetary Change (1x), Paleoceanography & Paleoclimatology (2x), Science Advances (1x), SNSF proposal (1x), NERC Large Grant (1x)*
- **Research Community:** "PAGES MioOcean": Steering committee member. Database management, interactive website generator, lead for TEX_{86} group.
  "PAGES PO2": Steering committee member. Data steward, co-organiser of workshop.
  "Micropaleoecology working group" member as climatic & environmental proxy expert
- **Teaching & Mentorship:** Guest lectures at University of Southampton, Bristol, Yale, Case Western, North Carolina State, Mainz; supervision of two MSc & co-supervision of one PhD students.
- **Outreach:** STEM ambassador, "Skype a Scientist," local public science festivals.

SELECTED PUBLICATIONS *Full list available upon request or online (Google Scholar),* *2nd author

1. **Auderset et al. (2022).** *Nature* – Enhanced ocean oxygenation during Cenozoic warm periods. DOI: 10.1038/s41586-022-05017-0
2. **Auderset et al. (2025).** *Biogeosciences* – Effects of photosymbiosis and related processes on planktic foraminifera-bound nitrogen isotopes in South Atlantic sediments. (DOI: 10.5194/egusphere-2024-2291)
3. **Auderset et al. (2024).** *Paleoceanography & Paleoclimatology* – Sea level modulation of Atlantic nitrogen fixation over glacial cycles. DOI: 10.1029/2024PA004878
4. **Auderset et al. (2020).** *Organic Geochemistry* – Simultaneous extraction and chromatographic separation of *n*-alkanes and alkenones from GDGTs via selective Accelerated Solvent Extraction. DOI: 10.1016/j.orggeochem.2020.103979
5. **Auderset et al. (2019).** *EPSL* – Gulf Stream intensification after the early Pliocene shoaling of the Central American Seaway. DOI: 10.1016/j.epsl.2019.05.022
6. ***Moretti et al. (2024).** *Science* – Oxygen rise in the tropical upper ocean during the Paleocene-Eocene Thermal Maximum. DOI: 10.1126/science.adh4893
7. **Woodhouse et al. (2024).** *Ecology & Evolution* – The Micropaleoecology Framework: Evaluating biotic responses to global change through paleoproxy, microfossil, and ecological data integration. DOI: 10.1002/ece3.70470
8. ***Hess et al. (2023).** *Nature* - A well oxygenated eastern tropical Pacific during the warm Miocene. DOI: 10.1038/s41586-023-06104-6
9. **Wang et al. (2022).** *PNAS* - Oceanic nutrient rise and the late Miocene inception of Pacific oxygen-deficient zones. DOI: 10.1073/pnas.2204986119
10. ***Leutert et al. (2020).** *Nature Geoscience* - Coupled Southern Ocean cooling and Antarctic ice sheet expansion during the middle Miocene. DOI: 10.1038/s41561-020-0623-0