Anta-Clarisse Sarr
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Update - AUG 2026

Research interests :
Ocean-Atmosphere interactions , Numerical modeling, Neogene paleoclimate, Orbital variability

APPOINTMENTS

Chargé de Recherche CNRS *(Research Scientist)* 02.2026-
CNRS, CEREGE, Aix-en-Provence (France)

Courtesy Research Associate 2026-
Poulsen Group, University of Oregon, Eugene (USA)

Associated Researcher 2023- 2025
ISTerre, Grenoble (France)

Postdoctoral Research Associate
- Poulsen Group, Department of Earth Sciences, University of Oregon, Eugene (USA) 2023- 2025
- LabEX Research Fellow, ISTerre, Grenoble (France) 2022- 2023
- Donnadieu Group, CEREGE, Aix-en-Provence (France) 2019- 2022

EDUCATION

Ph.D. Earth Sciences, Grenoble Alpes University, Grenoble, France 2015-2018
MsC. Earth Sciences, Grenoble Alpes University, Grenoble, France 2014-2015
MsC. Geology and Geophysics, Unilasalle, Beauvais, France 2010-2015

FUNDING

- BQR research project (Internal call ISTerre) [PI ; **4 k€**] 2024
- BQR research project (Internal call ISTerre) [PI ; **3 k€**] 2023
- LabEX OSUG Fellowship (U. Grenoble Alpes) (Call for strategic projects) 2022 – 2024
  GeoBioClim : Geology, Biosphere and Climate in Seaways regions
  [design and write the proposal, not officially PI because of internal rules ; **103 k€**]

High Performance Computing projects :

- Computing Project on regional HPC facilities (CIMENT - GRICAD, FR) 2023
- > 11 million hours on TGCC HPC (GENCI - CEA, FR) 2017 – 2022

AWARDS

- AGU Outstanding Reviewer Award - Geophysical Research Letters 2025
- Travel grant, Workshop *"Exploring New Direction on Miocene Earth System Connections"* (USA) 2024
- Travel grant, MagellanPlus Workshop *"Indian Ocean: Devling into the Past"* (Austria) 2022
- ECORD Scholarship to attend the Urbino Summer School in Paleoclimatology (Italy) [1.2 k€] 2018
- U. Grenoble Alpes Mobility Grant to support Research stay at UTIG Austin (USA) [500 €] 2016
- PhD Scholarship from French Ministry of Education and Research 2015 – 2018

SEMINARS & TALKS

Invited keynotes and Plenary talks

2025/09. **ICP15,** Bengaluru, India. *An Indian Ocean perspective on Neogene South-Asian Monsoon.*

2022/09. **Magellan+ Workshop** "Indian Ocean: Devling into the Past", Graz, Austria. *Indian Ocean Climate, (Paleo-)Circulation, and Model Integration.*

- *Invitation declined due to personal circumstances*

2025/08. Tibetan plateau uplift and Asian Aridification Workshop, Lanzhou, China.

Seminars

2026/04. Münster Universtät, Germany
2026/04. LSCE, France
2025/10. University of Arizona, USA
2025/05. Oregon State University, USA
2024/12. CEREGE, France. (*online*)
2024/05. University of Oregon, USA.
2022/11. National Oceanographic Center Southampton, UK.
2022/11. ISTerre, France.
2022/11. IISER Pune, India. (*online*)
2022/11. Monsoon Seminar Series. (*online*)
2022/09. Zhejiang University, China. (*online*)
2022/03. IPGP, France (GDR-climats anciens).
2019/03. CEREGE, France.
2019/01. ISTerre Grenoble, France.
2016/08. UTIG, UT Austin, USA.

Invited contribution at conferences

2022. EGU, Wien, Austria. *Orbital-scale deoxygenation trends driven by ventilation in Cretaceous ocean.*

- *Invitation declined due to personal circumstances*

2026. EGU, Wien, Austria. 1 invited contribution in *Asian Monsoons* session.
2023. AGU, San Francisco, USA. 2 invited contributions in *Hydroclimat* and *Monsoon variability* sessions.

MENTORING

PhD students

- 2026-*now* Nicolas Tharaud (Paris Saclay University, FR), *Co-supervisor 33%*
  Co-advisors - P. Sepulchre, J-B. Ladant. Funding - Paris-Saclay Graduate School.

- 2020-2024 Quentin Pillot (Aix-Marseille University, FR), *Co-supervisor 25% | Invited Committee Member*
  Co-advisors - B. Suchéras-Marx, Y. Donnadieu. Funding - ANR project MIOCARB.

Master students

- 2025 Evan Manley (University of Oregon, USA - 6 months). *Co-advising w/ C.J. Poulsen*
- 2024 Julie Le Merrer (Grenoble Alpes University, FR - 5 months). *Co-advising w/ S. Lavergne, L. Husson*
- 2023 Cédric Dobin (Grenoble Alpes University, FR - 2 months).
- 2020 Quentin Pillot (University of Lyon, FR - 5 months). *Co-advising w/ Y. Donnadieu*

TEACHING

- Urbino Summer School (USSP) (Italy) 2022, 2023, 2024, 2026
  - *Climate of the Miocene*
  - *Neogene Warm Climate*
  - *Climate modeling*
  - *Climate modeling 101*

- CNRS PALEOS Summer school (France) 2026
  - *Past change in ocean circulation and monsoon*
  - *Model-data approach to assess dynamics of Past Warm periods*

- Post-ICP15 workshop on Monsoon, NPCOR Goa (India) | Invited Lecturer 2025
  - *Topography & Asian Monsoons*

- University Grenoble Alpes (France) | MsC in Earth System Sciences 2023, 2025
  - *Solid Earth and Atmosphere*
  - *Solid Earth and Oceans*

SERVICES

National and International level Leadership

- MioMIP **Steering Committee Member** 2026-Present

- **Co-lead** of Working Group 7 "Climate modeling" for TIMES 2026-Present
  (Time Integrated Matrix for Earth Science initiative - coordinator T. Westerhold, MARUM)

Editorial Services

- **Associate Editor** at Paleoceanography and Paleoclimatology (AGU) 2026-Present

Reviewing :

- Research Grants : *National Science Foundation (NSF).*
- Journal articles: *Climate of the Past, Communication Earth & Environment, Earth and Planetary Science Letters, Geophysical Research Letters, Global and Planetary Change, Geochemistry Geophysics Geosystems, Nature, Nature Communication, Nature Geoscience, Paleoceanography & Paleoclimatology, Science Advances.*

PhD defense committees :

2024 | Q. Pillot (U. Aix-Marseille, FR - invited member)

Workshop organising :

- 2023. Meeting on Geology-Ecology trans-disciplinary research at Grenoble Alpes University (France) [1 day, 17 speakers]. Organizer.

Conferences co-convener :

- 2025. *Miocene Climate Dynamics: from poles to tropics and land to sea*. AGU, New Orleans, USA.
- 2025. *Deep-time climate change and carbon cycle: insights from models and proxies*. EGU, Vienna, Austria.
- 2024. *Miocene Climate Dynamics*. AGU, Washington DC, USA.
- 2023. *Data and models constraining Earth's deep-time paleogeography*. EGU Vienna, Austria.

Science communication :

- Scientific animation for Primary and Highschool students
  - Forum Météo-Climat [LSCE-IPSL - Paris]) (2017, 2018)
  - Fête de la Science [CEREGE] (2020, 2021)
- Podcast - CycloPod by D. de Vleeschouwer Episod 11 (June 2022)
  https://rss.com/podcasts/cyclopod/521228/

PUBLICATIONS UNDER CONSIDERATION

30. Burls, N., Bradshaw, C.D, Wright, N. M., Acosta, R.P., Gasson, E., Stap, L., Ramstein, G., Halberstadt, A. R. **et al.**, MioMIP2: Experimental design for Phase 1 & 2 of the Miocene component of the CMIP7/PMIP7 Deep-time Model Intercomparison Project (DeepMIP-Miocene). *in discussion at* GMD.

PUBLICATIONS

29. Courtial-Manent, L., Mugnier, J-L., **Sarr, A-C.**, Ravanel, L., Carcaillet, J., Vassallo, R., Schwing, A., Rockwall erosion rate inferred from in-situ ^{10}Be concentration of supra-glacial clasts: a review, Geographica Helvetica, 80, 339–362 (2025)

28. Maffre, P., Godderis, Y., Le Hir, G., Nardin, E., **Sarr, A-C.**, Donnadieu, Y., GEOCLIM7, an Earth System Model for multi-million years evolution of the geochemical cycles and climate, Geoscientific Model Developments, 18, 6367–6413 (2025).

27. *Lee, D., **Sarr, A-C.**, Acosta, R.P., Poulsen, C.J. *(*PhD student)*, Multiple ocean equilibria and decoupling of Miocene atmospheric pCO2 and regional sea surface temperatures, Paleoceanography and Paleoclimatology, 40(5) (2025).

26. **Sarr, A.-C**., Poulsen, C.J., Do, E.L., Revisiting the early Late Cretaceous Equable Climate Problem through model-data perspective, Paleoceanography and Paleoclimatology, 40(4), e2024PA005002 (2025).

25. Lyu, J., Barragan Montilla, S., Auer, G., Bialik, O., Del Gaudio, A., **Sarr, A-C.**, de Vleeschouwer, D. Oxygenated bottom water conditions on Broken Ridge (central Indian Ocean) since at least 9 million years ago, Frontiers in Earth Sciences: Paleontology, 13. (2025).

24. *Pillot, Q., †**Sarr, A-C.**, Donnadieu, Y., Gramoullé, A., Suchéras-Marx, B., (**PhD student*, †*corresponding author*). Impact of dust and temperature on primary productivity in Late Miocene oceans, Paleoceanography and Paleoclimatology, 40, e2023PA004838 (2025).

23. Zhang, Z., Nie, J., Licht, A., Cogné, N., **Sarr, A-C.**, Shen, T., Liu, X., Wang, W., Gao, P., Li, L. Poujol, M., Hao, L. Anti-phase variation of long eccentricity and precipitation in inland Asia during the middle Miocene Climatic Optimum (MMCO). Geological Society of America Bulletin, (2025).

22. Beaufort, L., & **Sarr, A-C.**. Eccentricity forcing on Tropical Ocean Seasonality. Climate of the Past, 20:1283-1301 (2024).

21. Acosta, P., Burls, N., Bradshaw, C. **et al.**, A model-data comparison of the hydrological response to Miocene warmth: leveraging the MioMIP1 opportunistic multi-model ensemble. Paleoceanography and Paleoclimatology, 39:e2023PA004726 (2024).

20. †Tardif, D., † **Sarr, A-C.**. Fluteau, F., Licht, A., Kaya, M., Ladant, J-B., Meijers, N., Donnadieu, Y., Dupont-Nivet, G., Bolton, C.T., Le Hir G., Pillot, Q., Poblete, F., Sepulchre, P., Toumoulin, A., Banfield, W. (†*both are corresponding authors*). The role of paleogeography in Asian monsoon evolution: a review and new insights from climate modelling, Earth-Science Reviews, 23:104464 (2023).

19. *Pillot, Q., Succhéras-Marx, B., **Sarr, A-C.**, Bolton, C., Donnadieu, Y., (**PhD student)*. A global reassessment of the spatial and temporal expression of the Late Miocene Biogenic Bloom, Paleoceanography and Paleoclimatology, 38:e2022PA004564 (2023).

18. **Sarr, A-C.**, Donnadieu, Y., Laugié, M., Ladant, J-B., Suchéras-Marx, B., Raisson F., Ventilation changes drive orbital-scale deoxygenation trends in the late Cretaceous ocean, Geophysical Research Letters, 49:e2022GL099830 (2022).

17. Martinot, C., Bolton, C., **Sarr, A-C.**, Donnadieu, Y., Garcia, M., Gray, E. and Tachikawa, K. Drivers of late Miocene tropical sea surface cooling: a new perspective from the equatorial Indian Ocean. Paleoceanography and Paleoclimatology, 37: e2021PA004407 (2022).

16. *Pillot, Q., Donnadieu, Y., **Sarr, A-C.**, Ladant, J-B., Suchéras-Marx, B., (**PhD student)*. Evolution of ocean circulation in the North Atlantic Ocean during the Miocene : impact of the Greenland Ice-Sheet and the Eastern Tethys seaway, Paleoceanography and Paleoclimatology, 37:e2022PA004415 (2022).

15. **Sarr, A-C.**, Donnadieu, Y., Bolton, C., Ladant, J-B., Licht, A., Fluteau, F., Laugié, M., Tardif, D., Dupont-Nivet, G. Neogene South Asian Monsoon Rainfall and Wind Histories diverged due to topographic effects, Nature Geoscience, 15:314-319 (2022).

14. Bolton, C.T., Gray, E., Kuhnt, W., Holbourn, A., Lübbers, J., Grant, K., Tachikawa, K., Marino, G., Rohling, E.J., **Sarr, A-C.**, Andersen, N. Secular and orbital-scale variability of equatorial Indian Ocean summer monsoon winds during the late Miocene, Climate of the Past, 18:713:738 (2022).

13. Husson, L., Riel, N., Aribowo, S., Authemayou, C., DeGelder, G., Kaus, B., Mallard, C., Natawidjadja, D.H., Pedoja, K., **Sarr, A-C.**, Slow geodynamics produces morphotectonic extremes in the far East Tethys, Geochemistry, Geophysics, Geosystems, 23(1):e2021GC010167 (2022).

12. Beaufort, L., Bolton, C., **Sarr, A-C.**, Sucheras-Marx, B., Rosenthal, Y., Donnadieu, Y., Barbarin, N., Bova, S., Cornuault, P., Gally, Y., Gray, E., Mazur, J-C., and Tetard, M. Cyclic evolution of phytoplankton forced by tropical seasonality. Nature, 601:79-84 (2022).

11. Salles, T., Mallard, C., Husson, L., Zahirovic, S., **Sarr, A-C.**, Sepulchre, P. Quaternary landscape dynamics boosted species dispersal in SE Asia, Communications earth & environment, 2(240) (2021).

10. Burls, N.J., Bradshaw, C.D., De Boer, A.M., Herold, N., Huber, M., **et al.**, Simulating Miocene warmth: insights from an opportunistic Multi-Model ensemble (MioMIP1). Paleoceanography and Paleoclimatology, 35(6):e2020PA004054 (2021).

9. Sepulchre, P., Caubel, A., Ladant, J-B., Bopp, L., Boucher, O., **et al.**. IPSL-CM5A2: An Earth System Model designed for long simulation of past and future climates. Geoscientific Model Development, 13:3011-3053 (2020).

8. Husson, L., Boucher F., **Sarr, A-C.**, Sepulchre, P., Cahyarini S.Y., Evidence of Sundaland's subsidence requires revisiting its biogeography. Journal of Biogeography, 47(4):843-853 (2020).

7. **Sarr, A-C.**, Mugnier, J-L., Abrahami, R., Carcaillet, J., Ravanel, L., Sidewall erosion: insights from in situ-produced ^{10}Be concentrations measured on supraglacial clasts (Mont Blanc massif, France). Earth Surface and Planetary Landform, 44:1930-1944 (2019).

6. **Sarr, A-C.**, Husson, L., Sepulchre, P., Pastier, A.-M, Pedoja, K., Elliot, M., Arias-Ruiz, C., Solihuddin, T., Aribowo, S., Susilohadi, Subsiding Sundaland: REPLY. Geology, 47(7):e470 (2019).

5. **Sarr, A-C.**, Sepulchre, P., Husson, L., Impact of Sunda shelf exposure on the climate of the Maritime Continent. Journal of Geophysical Research: Atmospheres, 124 (2019).

4. **Sarr, A-C.**, Husson, L., Sepulchre, P., Pastier, A.-M, Pedoja, K., Elliot, M., Arias-Ruiz, C., Solihuddin, T., Aribowo, S., Susilohadi, Subsiding Sundaland. Geology, 47:119-122 (2019).

3. Husson, L., Pastier, A-M., Elliot, M., Pedoja, K., Paillard, D., Authemayou, C., **Sarr, A-C.**, Schmitt, A., Cahyarini, S. Y., Hantoro, W. S. Reef carbonate productivity during Quaternary glacial oscillations, Geochemistry, Geophysics, Geosystems, 19:1148-1164 (2018).

2. Pedoja, K., Husson, L., Bezos, A., Pastier, A-M., Imran, A-M., Arias, C., **Sarr, A-C.**, Elliot, M., Pons-Branchu, E., Regard, E., Nexer, M., Regard, V., Hafidz, A., Robert, X., Benoit, L., Delcaillau, B., Authemayou, C., Dumoulin, C., Choblet, G. On the long-lasting sequences of coral reef terraces from SE Sulawesi (Indonesia): distribution, formation, and global significance, Quaternary Science Reviews, 188:37-57 (2018).

1. Potel, S., Maison, T., Maillet, M., **Sarr, A-C.**, Dublier M. P., Trullenque, G. and Ferreiro Mahlmann, R., Reliability of very low-grade metamorphic methods to decipher basin evolution: Case study from the Markstein basin (Southern Vosges, NE France). Applied Clay Science, 134:175-185 (2016).

Book chapter

1. Fluteau F., Tardif, D., **Sarr, A-C**, Le Hir, G., Donnadieu, Y. Orogenesis and climate. *In*: Cattin, R and Epard, J-L. Himalayas, Dynamics of a Giant 3 : Current Activity of the Himalayan Range (2023).