

Dr. Anta-Clarisse Sarr

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Update - JUL 2024

Research interests :

Earth System science, Cenozoic paleoclimate & ocean, Orbital variability, Numerical modeling

RESEARCH EXPERIENCE

Postdoctoral Scholar, Paleoclimate modeling From Nov. 2023
Department of Earth Sciences, University of Oregon, Eugene (USA)

◦ *Project : Modeling past warm climate with water isotope-enabled Earth System modeling* | Supervision : C. J. Poulsen

LabEX Research Fellow, Earth System Sciences Nov. 2022 - Oct. 2023
ISTerre, Grenoble (France)
Laboratoire d'Ecologie Alpine (LECA), Grenoble (France)

Postdoctoral Research Associate, Paleoclimate modeling Oct. 2020- Sep. 2022
CEREGE/Aix-Marseille Université, Aix-en-Provence (France)

◦ *Project : Effect of orbital variations on ocean biogeochemistry* | Supervision : Dr. Y. Donnadieu

Postdoctoral Research Associate, Paleoclimate modeling Sep. 2019- Sep. 2020
CEREGE/CNRS, Aix-en-Provence (France)

◦ *Project : Paleogeography forcing on the Miocene climate evolution* | Supervision : Dr. Y. Donnadieu

Ph.D., Earth System Sciences
LSCE, Paris Saclay (France) - Convention d'accueil LSCE/CEA (**2 years**) Jan. 2017- Dec. 2018
ISTerre, Grenoble (France) (**1 year**) Sep. 2015- Dec. 2016

◦ *Project : Quaternary subsidence in Southeast Asia: from mantle dynamics to atmospheric circulation - Geomorphology, Geodynamics and Climate modeling.* | Supervision : Dr. Laurent Husson, Dr. Pierre Sepulchre

MsC., Geomorphology and geochronology 2014 – 2015
ISTerre, Chambéry (France)

◦ *Project: Estimating sidewalls erosion in the Mont-Blanc massif: insights from in-situ produced ¹⁰Be erosion rates.* | Supervision : Dr. Jean-Louis Mugnier, Dr. Julien Carcaillet

EDUCATION

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

FELLOWSHIPS GRANTS

- **BQR research project** (Internal call ISTERre lab.) 2024
An update on Bering biogeography and environmental evolution [co-PI ; 4 k€]
- **BQR research project** (Internal call ISTERre lab.) 2023
Inter-model comparison for Miocene climate [PI ; 3 k€]
- **LabEX OSUG Fellowship (U. Grenoble Alpes)** (Call for strategic projects) 2022 – 2024
Geology and Biosphere in Panama and Bering Strait region (GeoBioClim)
[103 k€, design and write the proposal]
- **PhD Scholarship** (French Ministry of Education and Research) 2015 – 2018
[~ 90 k€]
- ECORD Scholarship to attend the Urbino Summer School in Paleoclimatology [1.2 k€] 2018
- Grant for international mobility (ED TUE - U. Grenoble Alpes) [500 €] 2016

High Performance Computing projects :

- > 11 millions computing hours on national HPC facilities (TGCC/GENCI - CEA)
(Project PI: P. Sepulchre, LSCE) 2017 – 2022
- Computing Project on regional HPC facilities (CIMENT - GRICAD) 2023

PUBLICATION, COMMUNICATION

- 23 publications (6 first author + 1 corresponding author) in peer-reviewed journals (*see publication list*)
- 4 publications in revision or under review (1 first author) (*see publication list*)
- 1 book chapter (*see publication list*)
- 4 open-access datasets (*see publication list*)
- 14 first author communications at national and international conferences (1 invited talk at EGU 2022)
+ 2 invited talks declined for AGU 2023 in Hydroclimate and Monsoon variability sessions due to moving to another position
- 1 invited keynote at international workshop ([Magellan+, IO:DIP 2022](#))

INVITED SEMINARS

10. **May 2024.** Department of Earth Sciences, U. Oregon, USA (Dep. Seminar). *Modeling past climate and oceans.*
9. **November 2022.** National Oceanographic Center Southampton, UK (Group. Seminar, invited by P. Wilson). *Neogene evolution of South Asian Monsoon and western Indian Ocean paleoceanography are forced by paleogeographic evolution.*
8. **November 2022 (online).** IISER Pune, India (Dep. Seminar, invited by D. Chattopadhyay). *Paleogeographic control on South Asian Monsoon dynamics and western Indian Ocean circulation during the Miocene.*
7. **November 2022 (online).** Monsoon Seminar Series (invited by T.Jonnell, U. Glasgow, Scotland). *Paleogeography and Neogene South Asian Monsoon winds and rainfall evolution.*
6. **September 2022 (online).** Zhejiang University, China (Dep. Seminar, invited by J. ZhangZhou). *Reconciling South Asian Monsoon Winds and Rainfall ... Miocene stories.*
5. **September 2022 (solicited keynote).** MagellanPlus Workshop "Indian Ocean: Devling into the Past", Graz, Austria. *Indian Ocean Climate, (Paleo-)Circulation, and Model Integration.*
4. **July 2022.** Urbino Summer School in Paleoclimatology and Paleoceanography, University of Urbino, Italy (invited by A.Sluijs, C.Bolton, S.Galleotti and A.Paytan). *Paleogeography and Neogene South Asian Monsoon winds and rainfall evolution.*
3. **March 2022.** IPGP, Paris, France (GDR-climats anciens, invited by G. LeHir). *IPSL-CM5A2, A climate model for deep time paleoclimate studies.*
2. **March 2019.** CEREGE, Aix en Provence, France (Group Seminar, invited by Y. Donnadieu). *Quaternary evolution of the Sunda shelf paleogeography : impact on the atmospheric circulation in SE Asia.*
1. **January 2019.** ISTerre, Grenoble, France (Lab. Seminar, invited by L. Husson). *Quaternary subsidence in SE Asia : from mantle dynamics to atmospheric circulation.*

MENTORING

Master students

- Julie Le Merrer (MsC. 2nd year, University Grenoble Alpes, 2024). *Tempo and direction of terrestrial organisms dispersal across the Bering Land Bridge: insights from dated phylogenies.* Principal Advisor (50%). Co-advisor : S. Lavergne, L. Husson (Duration : 5 months).
- Cédric Dobin (MsC. 1st year, University Grenoble Alpes, 2023). *Evolution of continental environment in response to Miocene change in paleogeography.* Principal Advisor (Duration : 2 months).
- Quentin Pillot (MsC. 2nd year, University of Lyon, 2020). *Evolution of North Atlantic oceanic circulation during the Miocene.* Co-advisor (50%). Principal Advisor : Y. Donnadieu (Duration : 5 months).

PhD students

- Quentin Pillot (University Aix-Marseille, France, 2020-2024) | *co-advisor & invited committee member*
- Daeun Lee (University of Michigan, USA, 2024-2025) | *significant mentoring involvement & technical support*

TEACHING

- Urbino Summer School on Paleoclimate and Paleoceanography (Italy) | Invited instructor 2022-2024
 - *Climate of the Miocene*
 - *Climate modeling*
 - *Climate modeling 101*
- University Grenoble Alpes (France) | MsC degree in Earth System Sciences 2023
 - *Solid Earth and Atmosphere*
 - *Solid Earth and Oceans*

SKILLS

Languages | python (eg. xarray, numpy, pandas, matplotlib, cartopy), NCL, pyferret, Generic Mapping Tool (GMT), Fortran (basics).

Computing | Linux/Unix environment, Jupyter notebooks, High Performance Computing, Shell/Bash scripting.

Tools | Paraview, VIM text editor, NetCDF Operators (NCO), Climate Data Operators (CDO), ESRI ArcGIS, Illustrator.

Earth System Models | *Water isotope enabled* : iCESM1.2 ; *Ocean and atmosphere* : IPSL-CM5A2 (Earth System Model) ; *Atmosphere-Vegetation* : LMDz-ORCHIDEE ; *Marine biogeochemistry* : PISCESv2.

Field Experience - 3 weeks (2016) - Indonesia [GPS, coral sampling] ; 2 days (2014) - Mont-Blanc massif [supra-glacial sediments sampling] ; 4 weeks (2012) - Vosges massif [sampling, tectonic mapping].

SERVICES

Reviewer for : *Climate of the Past*, *Geophysical Research Letters (GRL)*, *Nature*, *Paleoceanography & Paleoclimatology*.

Outreach :

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

Conferences convener . Seminars organizer :

- 2024/12 AGU session - *Miocene Climate Dynamics*. Co-convener, with Xiaoqin Liu, Heather Stoll
- 2023/04 EGU session - *Data and models constraining Earth's deep-time paleogeography*. Co-convener, with Sabin Zahirovic, Maelys Arnould, Jono Leonard and Alexandre Pohl.
- 2023/03 Seminar series on Geology-Ecology trans-disciplinary research at Grenoble Alpes University (1 day, 17 speakers). Organizer.