

## EDUCATION

- 2013 Promotion (PhD) magna cum laude in Biology (Paleontology) at Humboldt-Universität, Berlin, Germany.
- 2007 Master (MSc) in Systematic, Evolution and Paleontology at Université Pierre et Marie Curie (UPMC) coaccredited with Museum National d'Histoire Naturelle and École Normale Supérieure, Paris, France.
- 2004 Licence (BSc) in Earth and Space Sciences at Université Paul Sabatier, Toulouse, France.
- 2003 DEUG in Earth and Universe Sciences at Université Paul Sabatier, Toulouse, France.
- 2001 Baccalauréat in Science (Mathematics) at Lycée Pré de Cordy, Sarlat-la-Canéda, France.

## RESEARCH EXPERIENCE

- 2018–22 PostDoc research project (DAAD MOPGA-GRI) at the Museum für Naturkunde (MfN) with G. Asatryan and D. B. Lazarus on 'Polar Oceans, Phytoplankton and Oceanic Carbon Sequestration in a Warm, High  $pCO_2$  World'.
- 2015–17 PostDoc research project (DFG grant RE3470/3-1) at MfN on 'Diatoms, Radiolarians and the Cenozoic Silicon and Carbon cycles'.
- 2014–15 PostDoc research project at MfN with D. B. Lazarus and H. Pälike on 'Earthtime-EU: Integrated deep-sea microfossil chronostratigraphic database, website and analytic tools'.
- 2008–12 PhD research project (DFG grant LA1191/8-1,2) at MfN with D. B. Lazarus and B. Mohr on a 'Synthesis on Antarctic Neogene radiolarians: taxonomy, macroevolution and biostratigraphy'.
- 2007 MSc research project at UPMC with T. Danelian and S. Saint-Martin on 'Siliceous plankton paleoecology in the tropical Atlantic in relation with Middle Eocene climatic changes'.
- 2006 MSc research project at UPMC with T. Danelian on 'Radiolarian diversity and taphonomy during the critical warming interval of the Paleocene-Eocene boundary'.

## FIELDWORK

- 2019 IODP Expedition 379 'Amundsen Sea West Antarctic ice-sheet history': Radiolarian specialist.

## PUBLICATIONS

### Peer-reviewed articles

- 2019 Piazza V., Duarte L.V., Renaudie J., Aberhan A. Reductions in body size of benthic macro-invertebrates as a precursor of the Early Toarcian (Early Jurassic) extinction event in the Lusitanian Basin, Portugal. *Paleobiology*.
- 2018 Renaudie J., Drews E.-L., Böhne S. The Paleocene record of marine diatoms in deep-sea sediments. *Fossil Record*, 21(2), 183–205.  
Lazarus D.B., Renaudie J., Lenz D., Diver P., Klump J. Raritas: a program for counting high diversity categorical data with highly unequal abundances. *PeerJ*, 6, e5453.
- 2016 Renaudie J. Quantifying the Cenozoic marine diatom deposition history: links to the C and Si cycles. *Biogeosciences*, 13(21), 6003-6014.  
Wiese R., Renaudie J., Lazarus, D.B. Testing the accuracy of genus-level data to predict species diversity in Cenozoic marine diatoms. *Geology*, 44(12), 1051-1054.  
Renaudie J., Lazarus D.B. New species of Neogene radiolarians from the Southern Ocean - Part IV. *Journal of Micropalaeontology*, 35(1), 26-53.
- 2015 Renaudie J., Lazarus D.B. New species of Neogene radiolarians from the Southern Ocean - Part III. *Journal of Micropalaeontology*, 34(2), 181-209.
- 2014 Lazarus D.B., Barron J., Renaudie J., Diver P., Türke A. Cenozoic diatom diversity and correlation to climate change. *PLoS ONE*, 9(1), e84857.
- 2013 Renaudie J., Lazarus D.B. New species of Neogene radiolarians from the Southern Ocean - Part II. *Journal of Micropalaeontology*, 32(1), 59-86.  
Renaudie J., Lazarus D.B. On the accuracy of paleodiversity reconstructions: a case study in antarctic radiolarians. *Paleobiology*, 39(3), 491-509.
- 2012 Renaudie J., Lazarus D.B. New species of Neogene radiolarians from the Southern Ocean. *Journal of Micropalaeontology*, 31(1), 29-52.

2010 Renaudie J., Danelian T., Saint-Martin S., Le Callonec L., Tribovillard N. Siliceous phytoplankton response to a Middle Eocene warming event recorded in the tropical Atlantic (Demerara Rise, ODP Site 1260A). *Palaeogeography, Palaeoclimatology, Palaeoecology*, 286, 121–134.

#### Submitted

2018 Renaudie J., Gray R., Lazarus D.B. Accuracy of a neural net classification of closely-related species of microfossils from a sparse dataset of unedited images. *Submitted to PeerJ*.

### SEMINAR TALKS

#### Invited talks

2016 University of Leeds, UK : Diatoms, climate and the marine Silicon cycle. November, 10th.

#### In-house talks

2018 Evolutionsbiologisches Seminar (MfN): The Cenozoic evolution of the diatom-climate system. September, 27th.

2017 Wissenschaftstag 'Taxonomie' (MfN): Micropaleontology, between taxonomic backbone databases and alpha taxonomy. May, 31st.

### CONGRESS PARTICIPATIONS

#### Organization

2019 EGU general meeting in Vienna, Austria: co-convener of the session 'SSP4.6: Plankton in modern and past ecosystems' (Convener: N. Thibault; Co-conveners: C. Bottini, V. Luciani, J. renaudie, P. Noble).

#### Talks

2018 GEOBONN 2018 'Living Earth' in Bonn, Germany: Jansen M., Buchwitz M., Renaudie J., Voigt S., Reconstruction of an ancestral amniote trackmaker based on trackway data, track-trackmaker correlation and phylogeny.

2017 InterRad 15th meeting in Niigata, Japan: Renaudie J., Fontorbe G., Lazarus D., Salzmann S., Frings P., Conley D., Testing the vital effect on silicon isotope measurements in Late Eocene Pacific radiolarians.

2016 Lyell Meeting of the Geological Society in London, UK : Lazarus D., Renaudie J., Diver P., The NSB (Neptune) Database : current status and future development.

2015 InterRad 14th meeting in Antalya, Turkey: Renaudie J., Lazarus D.B., Diatoms, radiolarians and the Cenozoic Si and C cycles ; Lazarus D.B., Renaudie J., Reconstructing radiolarian diversity: what we don't know; and a new analysis of the Cenozoic.

2014 EGU general meeting in Vienna, Austria: Renaudie J., Lazarus D.B., A quantitative review of Cenozoic diatom deposition history.

2013 TMS Silicofossil Group meeting in Cambridge, UK: Renaudie J., Lazarus D.B., Cenozoic history of marine diatom deposition: a quantitative review.  
Deutscher Museumsbund Fachgruppe Dokumentation Herbsttagung in Berlin-Dahlem, Germany: Renaudie J. (on behalf of Lazarus D.B.), Taxonomic backbone databases for fossil and living marine microplankton.

2012 InterRad 13th meeting in Cadiz, Spain: Renaudie J., Lazarus D.B., On the accuracy of paleodiversity reconstructions: a case study using Antarctic Neogene radiolarians.  
Jubiläumstagung der Paläontologische Gesellschaft in Berlin, Germany: Renaudie J., Lazarus D.B., Macroevolutionary patterns in Antarctic Neogene radiolarians.  
TMS annual meeting in Nottingham, UK: Renaudie J., Lazarus D.B., Toward an high-resolution stratigraphy for Antarctic Neogene radiolarians.

2011 TMS Silicofossil Group meeting in Lille, France: Renaudie J., Lazarus D.B., Macro-evolutionary patterns in Antarctic Neogene radiolarians.

2007 Congrès de l'Association Française de Paléontologie in Dignes-les-Bains, France: Renaudie J., Danelian T., Saint-Martin S., Eocene diatoms in the tropical Atlantic (ODP Leg 207) and climate changes.

**Posters** (selection, out of 28)

- 2018 TMS Annual meeting in Leeds, UK: Asatryan G., Lazarus D., Renaudie J., Paleogene polar phytoplankton and oceanic carbon sequestration; Renaudie J., Drews E.-L., Böhne S., The Paleocene fossil record of marine planktonic diatoms in deep-sea sediments; Renaudie J., Gray, R., Lazarus D., Testing the accuracy of the MobileNet convolutional neural network to identify closely-related radiolarian species based on a sparse dataset.  
25th International Diatom Symposium in Berlin, Germany: Renaudie J., Lazarus D., Macroevolutionary patterns in Cenozoic marine diatoms from deep-sea sediments, and their relationship with climate and marine geochemical cycles.
- 2017 Kolloquium der DFG-Schwerpunkte ICDP/IODP in Braunschweig, Germany: Renaudie J., Fontorbe G., Drews E.-F., Böhne S., Lazarus D., Constraining the history of the Cenozoic marine silicon cycle with siliceous microfossils.  
Evolution 2017 in Portland, Oregon: Renaudie J., Lazarus D., Diver P., The NSB (Neptune) marine microfossil occurrences database.
- 2016 International Conference on Paleoceanography in Utrecht, Netherlands: Renaudie J., Quantifying the Cenozoic marine diatom record; Renaudie J., Lazarus D., Diver P., Expanding the NSB database for paleoceanographical research.
- 2015 GSA annual meeting in Baltimore, USA: Renaudie J., Diver P., Lazarus D., NSB: a new, expanded and improved database of marine planktonic microfossil data.
- 2014 EGU general meeting in Vienna, Austria: Lazarus D.B., Renaudie J., Diversity history of Cenozoic marine siliceous plankton.
- 2012 InterRad 13th meeting in Cadiz, Spain: Renaudie J., Lazarus D.B., Advances in Antarctic Neogene radiolarian high-resolution stratigraphy; Lazarus D.B., Renaudie J., Taxonomic documentation of Southern Ocean Neogene radiolarians.
- 2010 Kolloquium der DFG-Schwerpunkte ICDP/IODP in Frankfurt, Germany: Renaudie J., Lazarus D.B., Weinkauf M., Marine micropaleontology, round two: whole faunal surveys and their use in biostratigraphy and macroevolutionary research.  
Third International Paleontological Congress in London, UK: Renaudie J., Lazarus D.B., Macroevolutionary patterns in Antarctic Neogene radiolarians.
- 2009 InterRad 12th meeting in Nanjing, China: Lazarus D.B., Renaudie J., Synthesis on Antarctic Neogene Radiolaria: preliminary results.
- 2006 Paleontological Association 50th Annual Meeting in Sheffield, UK: Danelian T., Renaudie J., Blanc-Valleron M.-M., The radiolarian record of the equatorial Atlantic during the Paleocene/Eocene Thermal Maximum event.

## SCIENTIFIC PROGRAMMING

### Softwares

- 2017 NSB\_AD\_Pwx – Age-Depth plot maker in Python.  
2016 Raritas – Micropaleontological counting software in Python.

### Packages

- 2014 NSBcompanion – R package to retrieve data from NSB database.  
2013 CONOP9companion – R package to integrate software CONOP9 in a statistical workflow.  
dendextend – R package for dendrogram visualizations (as contributor only).

### Databases

- since 2013 Maintainer and developer of the NSB database, successor of the legacy Neptune database.

## SERVICES TO PROFESSION

- 2018 Remote reviewer for an ERC Advanced Grant proposal.  
2015–18 Organizer of the MfN ‘Code Clinic’ Scientific Programming Club (on-the-job training for ECR).  
since 2013 Reviews for *Proceedings of the Royal Society B*; *Paleoceanography*; *Paleobiology*; *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology*; *Journal of Plankton Research*; *Revue de Micropaléontologie*; *Acta Paleontologica Romaniaae*.

## WORKSHOP PARTICIPATIONS

- 2018 BioExtremes hackathon at MfN.  
2017 ‘Access to Geosciences: sharing and publishing data related to paleontological, mineralogical, and petrological objects using a common data standard’ workshop at MfN.

2010 'Paleobiology Database Intensive Workshop in Analytical Paleobiology' at Macquarie University, Sydney, Australia.

## PUBLIC OUTREACH

2014 'Tiefenzeit Geschichten der Zukunft: von Plankton, Muscheln und Klimawandel' booth at the MfN during the Lange Nacht der Wissenschaften.  
2011 Guided tour of the MfN Micropaleontology Collection during the Lange Nacht der Museen.

## GRANTS & AWARDS

### Grants

2018 DAAD 'Make Our Planet Great Again – German Research Initiative' grant (PI: Gayane Asatryan).  
2015 DFG Grant RE3470/3–1: 'Eigene Stelle' grant in the Priority Program 527 (IODP).

### Awards

2012 TMS Student Prize for best Poster at InterRad 13th meeting in Cadiz, Spain.

## WORK EXPERIENCE

09/2018–06/2022 Postdoctoral researcher (DAAD MOPGA-GRI) at the MfN.  
11/2015–05/2017 Postdoctoral researcher (DFG) at the MfN.  
03/2014–06/2015 Postdoctoral researcher (Earthtime-EU) at the MfN.  
05–07/2013 Programmer at the MfN for the Neptune Database web interface.  
11/2008–09/2012 Scientific assistant at the MfN.  
07–08/2008 Bartender at the brasserie 'Le Jardin Gourmand', Castelnaud-la-Chapelle.  
10/2007–07/2008 Library assistant at the Bibliothèque Centrale of Université Paris VII.  
07–08/2003–2007 Bartender at the restaurant 'Le Bouffon', Sarlat-la-Canéda.

## PROFESSIONAL MEMBERSHIP

European Geosciences Union (EGU)  
International Association of Radiolarian Scientists (InterRad)  
The Micropalaeontological Society (TMS)

## OTHER

Fluent in French (native) and English, intermediate level in Latin and German.  
Advanced programming skills in R, python (including Django and wxPython), postgresSQL (and other SQL derivatives) and  $\text{\LaTeX}$ . Familiar with Unix shell and Apache Webserver.