Johan RENAUDIE
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born in Sarlat-la-Canéda (France), July the 26th, 1983
ORCID: 0000-0002-9107-1984

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 grant 57429681) at the Museum für Naturkunde (MfN) with G. Asatryan and D.B. Lazarus on 'Polar Paleogene Plankton and Productivity'.

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 M. Reductions in body size of benthic macroinvertebrates as a precursor of the Early Toarcian (Early Jurassic) extinction event in the Lusitanian Basin, Portugal. *Paleobiology*, 45(2), 296–316.

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.

Other publications

2019 Gohl K., Wellner J., Klaus A. and the Expedition 379 Scientists[1]. Expedition 379 Preliminary Report: Amundsen Sea West Antarctic Ice Sheet History. *International Ocean Discovery Program: Preliminary Reports*, 379:1–33.

Varela S., Sbrocco E.J., Tarroso P., Perez-Luque A.J., Renaudie J., Warnstädt N., Fandos G., Foster W.J., Tietje M. BioExtreme hackathon en el Museum für Naturkunde de Berlín, Alemania. *Ecosistemas*, 28(1):129.

Submitted

2019 Renaudie J., Lazarus D.B., Diver P. NSB: an expanded and improved database of marine planktonic microfossil data and deep-sea stratigraphy. *Submitted to Palaeontologia Electronica*.

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

2019 Museum für Naturkunde Magdeburg, Germany: Antarktisches Mikroplankton und vergangene Klimawandel. November, 6th.

GFZ-Potsdam, Germany: Cenozoic changes in the Si and C marine cycles from the point of view of diatoms. July, 23rd.

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: 'SSP4.6: Plankton in modern and past ecosystems' (convener: Thibault N.; co-conveners: Bottini C., Luciani V., Renaudie J., Noble P.).

Talks (speaker; last 5 years only)

2019 3rd International Congress on Stratigraphy in Milan, Italy: Renaudie J., Lazarus D., Diver P., NSB, a Big Data tool for chronostratigraphic syntheses of the deep-sea sediment record.

North American Paleontological Conference (NAPC) in Riverside, USA: Lazarus D., Renaudie J., Asatryan G. Diversity dynamics and climate change in Cenozoic marine siliceous plankton; Lazarus D., Renaudie J., Young J., Diver P., NSB and Mikrotax: Databases and software tools for fossil and living plankton research; Trubovitz S., Lazarus D., Renaudie J., Noble P., Tropical and polar plankton demonstrate contrasting sensitivities to climate change throughout the Late Neogene.

3rd International Conference of Continental Ichnology (ICCI) in Halle, Germany: Jansen M., Buchwitz M., Renaudie J., Voigt S., Reconstruction of an Ancestral Amniote Trackmaker based on Trackway Data, Track – Trackmaker Correlation and Phylogeny.

Biodiversity_Next in Leiden, Netherlands: Lazarus D., Renaudie J., Paleobiodiversity and Earth Science Environmental Data.

TMS Annual Meeting in Nottingham, UK: Young J.R., Lazarus D.B., Renaudie J., Bown P.R., Wade B.S., Huber B.T., Can we extract biostratigraphically useful data from large-scale occurrence-databases such as Neptune? Insights from development of the Mikrotax system.

AGU Fall Meeting 2019 in San Francisco, USA: Trubovitz S., Lazarus D.B., Renaudie J., Noble P.J., Neogene Radiolarian Climate Sensitivity and its Implications for Ocean Ecosystems and Geochemical Cycling; Wellner J., Gohl K., Klaus A. and the Expedition 379 Science Party[1], West Antarctic Ice Sheet and Ocean Dynamics in the Outer Amundsen Sea: Initial Results from IODP Expedition 379.

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[1]Gohl K., Wellner J., Klaus A., Bauersachs T., Bohaty S.M., Courtillat M., Cowan E.A., Esteves M.S.R., De Lira Mota M.A., Fegyveresi J.M., Frederichs T.W., Gao L., Halberstadt A.R., Hillenbrand C.-D., Horikawa K., Iwai M., Kim J.-H., King T.M., Klages J.P., Passchier S., Penkrot M.L., Prebble J.G., Rahaman W., Reinardy B.T.I., Renaudie J., Robinson D.E., Scherer R.P., Siddoway C.S., Wu L., Yamane M.

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., Diatoms, radiolarians and the Cenozoic Si and C cycles ; Lazarus D., Renaudie J., Reconstructing radiolarian diversity: what we don't know; and a new analysis of the Cenozoic.

since 2007 22 talks (including 11 as speaker) at 18 international conferences.

Posters (last 3 years only)

2019 EGU general meeting in Vienna, Austria: Asatryan G., Lazarus D., Renaudie J., The preliminary studies of plankton in the framework of the project "Paleogene Polar Plankton and Paleoproductivity".

NAPC in Riverside, USA: Trubovitz S., Lazarus D., Renaudie J., Noble P., New census of radiolarian communities in the Eastern Equatorial Pacific reveals unprecedented biodiversity throughout the Late Neogene

Society of Vertebrate Paleontologists (SVP) Annual Meeting in Brisbane, Australia: Jansen M., Buchwitz M., Renaudie J., Voigt S., Reconstruction of an ancestral amniote trackmaker based on trackway data, trackmaker correlation and phylogeny.

Paläontologisches Gesellschaft General Meeting in Munich, Germany: Özen V., Rodrigues de Faria G., Asatryan G., Renaudie J., Lazarus D., Investigating the role of Southern Ocean phytoplankton in the end Eocene climatic events.

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.

since 2006 31 posters at 24 international conferences.

SCIENTIFIC PROGRAMMING

Softwares

2017 NSB_ADP_wx – Age-Depth plot maker in Python (last update: version 0.7; 2019).

2016 Raritas – Micropaleontological counting software in Python (last update: version 0.7; 2018).

Packages

2014 NSBcompanion – R package to work with the NSB database (last update: version 2.1; 2019).

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

2020 InterRad XVI meeting Scientific Committee.

2019 Outside reader for an MSc defense (William Bugbee; University of Northern Illinois, USA).

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*; *Microorganisms*; *Journal of Plankton Research*; *Water*; *Bulletin de la Société Géologique de France*; *Revue de Micropaléontologie*; *Acta Palaeontologica Romaniae*.

WORKSHOPS

2018 BioExtreme 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' at Macquarie University, Sydney, Australia.

PUBLIC OUTREACH

2019 Public talk on 'Antarktisches Mikroplankton und vergangene Klimawandel' for the Fachgruppe Paläontologie at the Museum für Naturkunde Magdeburg, Germany.
'The ocean's plankton and climate change; how to see the future from the bottom of the ocean' booth at the MfN during the Lange Nacht der Wissenschaften and the Lange Nacht der Museen.
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 57429681 (PI: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.

MEDIA COVERAGE of projects I'm involved with (selection)

2019 The 'time machines' unlocking Antarctica's past, *BBC*. May, 31st.
Newly drilled sediment cores could reveal how fast the Antarctic ice sheet will melt, *Science*. April, 15th.
2018 "Make Our Planet Great Again – German Research Initiative": Forschung für die Zukunft der Erde, *DAAD Aktuell*. October, 11th.

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.

OTHER

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