

Curriculum Vitae

[Joana L. Rocha](#)

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EDUCATION AND TRAINING

- 2021-present: Postdoctoral researcher at University of California Berkeley. Department of Integrative Biology. Advisor: Peter H. Sudmant
- 2016-2021: PhD degree in Biodiversity, Genetics and Evolution at the University of Porto. Co-advised by Raquel Godinho (CIBIO-InBIO) Rasmus Nielsen (UC-Berkeley).
- 2015-2016: Research assistant in Conservation genomics (CIBIO-InBIO, UPorto).
- 2012-2014: MSc degree in Biodiversity, Genetics and Evolution, University of Porto.
- 2012: Internship at Max Plank Institute for Evolutionary Anthropology (MPI-EVA), Leipzig, Germany. Mentor: Matthias Meyer.
- 2009-2012: BSc degree in Biology from the Faculty of Sciences, University of Porto.

AWARDS AND SCHOLARSHIPS

- 2023 - Best runner-up talk at the Annual retreat for the Center for Computational Biology at UC-Berkeley – 100 USD
- 2016-2020 - PhD grant, Foundation for Science and Technology, FCT– 60,000 Euros.
- 2016 - Biodiversity, Genetics and Evolution Doctoral Programme Scholarship (awarded but not accepted to receive an FCT PhD grant).
- 2015-2016 - Research assistant scholarship, FCT – 9000 USD. Project: Conservation of the Giant Sable antelope of Angola (CIBIO-InBIO/UP; Vairão, Portugal).
- 2013-2014 - Award for outstanding academic achievement during MSc degree. University of Porto – 3000 Euros.

PUBLICATIONS

Peer-reviewed journals

2023 Tyler Linderoth, Diana AguilarGómez, Emily White, Evan Twomey, Adam Stuckert, Ke Bi, Amy Ko, Natalie Graham, **Joana L. Rocha**, Jason Chang, Matthew D. MacManes, Kyle Summers, Rasmus Nielsen (2023): Genetic basis of aposematic coloration in a

mimetic radiation of poison frogs (**bioRxiv**; DOI: <https://doi.org/10.1101/2023.04.20.537757>)

2022 **Joana L. Rocha**, Pedro Silva, Nuno Santos, Monia Nakamura, Sandra Afonso, Abdeljebbar Qninba, Zbyszek Boratynski, Peter H. Sudmant, Jose C. Brito, Rasmus Nielsen‡ and Raquel Godinho‡ (2023), North-African fox genomes show signatures of repeated introgression and adaptation to life in deserts (**Nature Ecology and Evolution**; DOI: <https://doi.org/10.1038/s41559-023-02094-w>).

2023 **Joana L. Rocha**, Pedro Vaz Pinto, Hans R. Siegismund, Matthias Meyer, Bettine Jansen van Vuuren, Luis Verismo, Nuno Ferrand, Raquel Godinho (2022) African Climate and geomorphology drive evolution and ghost introgression in sable antelope (**Molecular Ecology**, [cover](#); DOI: <https://doi.org/10.1111/mec.16427>)

2021 **Joana L. Rocha**, Raquel Godinho, Jose C. Brito and Rasmus Nielsen (2021), Life in deserts: the genetic basis of mammalian desert adaptation (**Trends and Ecology and Evolution**; DOI: <https://doi.org/10.1016/j.tree.2021.03.007>)

2021 **Joana L. Rocha**, Jose C. Brito, Rasmus Nielsen and Raquel Godinho (2021), Convergent evolution of increased urine concentrating ability in desert mammals (**Mammal Review**, DOI: <https://doi.org/10.1111/mam.12244>)

Popular Science Booklets

- Rocha J.L., Vaz Pinto P, Godinho R. (2016) Whole mitochondrial genome sequencing provides clues about the evolutionary history of the sable antelope and other savannah-adapted African ungulates. In: "Next Generation Sequencing projects at CIBIO-InBIO-Evolution". CIBIO-InBIO/UP, Porto, Portugal.
- Godinho R., Rocha J.L., Vaz Pinto P. (2016) Conservation of the Giant Sable Antelope of Angola. In: "Next Generation Sequencing projects at CIBIO-InBIO-Conservation & Metagenomics"; CIBIO-InBIO/UP, Porto, Portugal.

MEDIA HIGHLIGHTS AND PERSPECTIVES

2023 Genetic variation, selection and hybridization all contribute to desert adaptation in foxes, article by Justin Jackson in [Phys.org](#)
Fox Genomes Point to Adaptations to Extreme Sahara Desert Environment, featured in [genomeweb](#)

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- Genetics: How foxes adapted to life in the Sahara Desert, highlight by [Nature Japan](#)
- 2022 These rare adaptations help animals survive in the desert, article by Jason P. Dinh for [Discover Magazine, Planet Earth](#)
- 2020 Searching for adaptation secrets in the Sahara Desert, article by Diana Aguilar-Gomez for [Berkeley QB3 News](#)

INVITED TALKS AND PRESENTATIONS

- 2023 The Biology of Genomes (Cold Spring Harbor Laboratory, U.S.A). Talk: “PAN-PANGENOMICS: Unravelling structural variation, haplotype diversity and trans-species polymorphisms in humans, chimpanzees & bonobos”
- 2023 CTEG seminar, The Center for Theoretical and Evolutionary Genetics (University of California, Berkeley, U.S.A). Talk: “The role of structural variation in species diversification and adaptation to environmental change: insights from desert foxes and great apes”
- 2022 Annual Retreat for the Center of Computational Biology at University of California, Berkeley. Talk: “A Pan-pangenome captures the full spectrum of genetic variation and ancient trans-species structural polymorphism in humans, chimpanzees and bonobos”
- 2022 Invited Guest lecturer for “Berkeley connect in Computational Biology”.
- 2022 T2T meeting (UC Santa Cruz, U.S.A). Invited talk: “A Pan-pangenome captures the full spectrum of genetic variation and ancient trans-species structural polymorphism in humans, chimpanzees and bonobos.”
- 2021 Virtual Evolution. Talk: “North-African fox genomes reveal signatures of ancient introgression and adaptation to life in deserts”
- 2019 Bay Area Population Genetics (UC-Berkeley, California, U.S.A). Poster: “Life in the desert: the genetic basis of extreme-environment adaptation in North African foxes”
- 2015 Annual meeting of the Society for Molecular Biology and Evolution (Vienna, Austria). Poster: “The maternal history of the sable antelope inferred from the genomic analysis of complete mitochondrial sequences”.
- 2014 Student Conference on Conservation Science at the University of Cambridge, UK. Poster: “Mitogenomics of *Hippotragus niger*”.

PROFESSIONAL EXPERIENCE

[Academic peer reviewer](#)

Communications Biology, Nature Publishing Group.

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Nature Ecology and Evolution, Nature Publishing Group.

Scientific Skills

Field campaign organization; Field sampling of wild mammalian species; Ancient and high-quality genomic DNA extraction methods; Library preparation for Next Generation Sequencing; evolutionary genomic analyses of short-read/long-read datasets; Programming: Bash, Python and R.

Languages

Portuguese (Native) | English (Fluent) | Spanish (Fluent) | French (Basic)

Student Mentoring and Teaching

2022	Alexandre LeGrand, visiting PhD student from University of Lyon
2019-2021	Goncalo Ferraz, MSc student at University of Porto,
2015-2016	Teaching assistant for B4038 at the University of Porto