



Mathilde Martin, PhD

Postdoctoral researcher
in Animal Behaviour



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Communication and Cognition in Social Mammals
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RESEARCH EXPERIENCE

- Nov 2023 – Present: **Postdoctoral researcher** – Investigation of meerkats close calls within cohesive foraging groups
Department of Evolutionary Biology and Environmental Studies, Communication and Cognition in Social Mammals research group, University of Zurich, Switzerland
- Oct 2019 – April 2023: **PhD** – Acoustic Communication Network in Cape fur seals (*Arctocephalus pusillus pusillus*): deciphering information encoded in vocal signals
Acoustic Communications Team, NeuroPSI, Paris-Saclay University, Saclay, France
Sea Search Research and Conservation, Stellenbosch University, Cape Town, South Africa
- 2018: **Fieldwork volunteering** collection of acoustic, genetic and behavioural data on humpback whales (3-month program)
Cetamada scientific team (Non-profit organisation), Ambodiforaha, Sainte-Marie, Madagascar
- 2018: **Research internship** - Study of mother-young interactions in humpback whales of Madagascar: investigations of individual vocal signatures and song playback experiments on mother-calf pairs (6 months)
Acoustic Communications Team, NeuroPSI, Paris-Saclay University, France
- 2017: **Research internship** - Exploring the population structure of two amphiatlantic reef fishes across the Atlantic Ocean using molecular analyses (2 months)
BioGeMME laboratory, University of Western Brittany, Brest, France

RESEARCH GRANTS and PRIZES

- August 2024 – August 2025: **Postdoctoral fellowship** UZH Candoc/Postdoc Grant from University of Zürich (12 months – 73,786 CHF). Communication and Cognition in Social Mammals research group, University of Zurich
- Nov 2023 – Oct 2025: **Postdoctoral fellowship** from Fyssen Foundation (24 months – 90,000 €). Communication and Cognition in Social Mammals research group, University of Zurich
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- 2024: Prize of the **best PhD of the year 2023** from the French Society for the Study of Animal Behavior (SFECA).
- 2021: Prize of the **best oral communication**. Feel the beat: les mâles otarie à fourrure du Cap codent leur état d'excitation dans leurs barks. 50th colloquium of the French Society for the Study of Animal Behavior (SFECA).

EDUCATION

Sep 2023: International master of bioacoustics (MoBi) Terrestrial Mammals module (1-week training program). ENES Lab, Jean Monnet University, Saint-Etienne, France

May 2021: Use of wild animals for scientific experimentation e.g., captures, basic veterinary care, stress reduction, ethics (2-week training program). National Museum of Natural History, Paris, France

2016 – 2018: Master « Oceanography and Marine Environment » Sorbonne University, Paris, France (ranked 6/46)

2013 – 2016: Bachelor « Biology of organisms and populations » University of Burgundy, Dijon, France

FIELD METHODS & SKILLS

Bioacoustics:

- Audio recordings acquisition, editing and acoustic analyses e.g., acoustic features measurements, call categorization, extraction of individual information (softwares: Avisoft, Adobe Audition, PRAAT, Seewave and Soundgen R packages)
- Deployment of embedded acoustic tags (CATS-cam, Acousonde, Sorokas, BlackBox)
- Playback experiments design, implementation in the field and behavioural analyses (software: BORIS)
- Signal propagation experiments design, implementation, and analyses

Movement ecology:

- Deployment of embedded GPS trackers (CatLogs, AxyTrek)
- Analysis of GPS data at different scales: individual path (linearity, use of landmarks) and group movement (cohesion, speed, direction, collective decision-making)

Telemetry:

- Building, programming, synchronisation, and deployment of multi-sensor collars (VHF, audio and GPS)

Monitoring techniques:

- Deployment of passive acoustic monitoring devices: SongMeter, AudioMoth
- Deployment of trap cameras for individual monitoring and behavioural data collection

Personal skills/interests:

- Scuba-diving: 3 stars CMAS (60 meters autonomous diver) + Enriched Air Nitrox Certification
- Wildlife photography

TEACHING and STUDENT SUPERVISION

2023: University of Zürich – **Bio 386** Sociobiology of communication (eq. 8 hours)

2024: University of Zürich – **Bio 331** Frontiers in Animal Behaviour (eq. 6 hours)

University of Zürich – **Bio 387** Sociobiology in Animals (eq. 50 hours)

Main supervisor in student research projects:

- Matéa Rossi – **Master** (Jan 2025 – June 2025): How to get back? Identifying navigation mechanisms and acoustic signals used by meerkats in a homing experiment. University of Rennes (FR)
- Matteo Ubaldi – **Bachelor** (Nov 2022 – Nov 2023): Behavioral study of perinatal period and maternal attendance in Cape fur seals, *Arctocephalus pusillus pusillus*. University of Bologna (IT).
- Blanche Colonna – **Bachelor** (April-May 2022): Comparaison acoustique des cris de deux sous-espèces de Pinnipèdes : l'otarie à fourrure du Cap et l'otarie à fourrure Australienne. Paris Saclay University (FR).
- Jessica Stow - **Honours** (March-Nov 2021): Microgeographic variation of the in-air vocalisations of Cape fur seals in South Africa. Stellenbosch University (SA)

Supervisor of **research assistants** (data cleaning and processing):

Marion Ramona von Burg (bachelor student, University of Zurich), Almedina Causevic (bachelor student, University of Zurich).

Advisory role in student research project:

Santana Schneider (master student, University of Zurich), Elisa Protopapa (PhD student, University of Zurich), Dusan Domeniconi (master student, University of Zurich)

REVIEWING ACTIVITIES and COMMITTEES

Peer-review in Marine Mammal Science, Mammal Research, Behavioral Ecology and Sociobiology

PhD progress committees:

2024 – Vanessa Rüegg, University of Zurich. Investigating social influences on the ontogeny and complexity of the vocal repertoire in the yellow mongooses (*Cynictis penicillata*). 1st year PhD

2024 – Elisa Protopapa, University of Zurich. Meaning in meerkats' vocalisations. 1st year PhD

Other committees:

2024 – MNF Appointments University of Zurich (UZH) – Promotion committee

INVITED SEMINARS

2024 – Martin M. Acoustic communication network in the Cape fur seal. 28th of October, **CASCB Seminar Series, Konstanz University**, Germany

2024 – Martin M. Inter-site variability in the Cape fur seal's behavioural response to boat noise exposure. 24th of May, Prize of the best PhD of the year 2023 at the **French Society for the Study of Animal Behaviour (SFECA)** annual colloquium, Albi, France

2024 – Martin M. A first investigation of geographical variation in Cape fur seals' in-air vocalizations. 21st of March, **Marine Mammal Science Editors' Select Webinar Series**

2024 – Martin M. Mother-pup vocal communication and individual recognition in a highly colonial pinniped species, the Cape fur seal. 20th of March, **UZH Bioacoustics Community, University of Zürich**, Switzerland

2022 – Martin M. Mother-pup acoustic communication in a highly colonial pinniped species, the Cape fur seal: call stereotypy, vocal recognition and ontogeny. 13th of October, **University of Zürich**, Switzerland

2022 – Martin M. Acoustic communication network in the Cape fur seal: deciphering the information encoded in their vocalizations. 8th of April, **University of Bologna**, Cesenatico, Italy

WORKSHOPS

2024 (June 27th) – "Setting-up a playback experiment" at the Second edition of the Emerging Bioacousticians Days conference. 25th to 28th of June 2024, Brest, France

CONFERENCE PRESENTATIONS

11 conference presentations (as first-author) between 2021 and 2024. **Full list** [here](#)

SCIENTIFIC CONFERENCES ORGANISATION

2024 – European Conference on Behavioural Biology (ECBB). 16th to 19th of July 2024, Zurich, Switzerland
Scientific abstracts evaluation

2024 – Second edition of the Emerging Bioacousticians Days conference. 25th to 28th of June 2024, Brest, France
Funding acquisition, event organisation, scientific abstracts evaluation

OUTREACH

Outreach events organisation:

« Plongée sonore au cœur des océans » 25th of June 2024, Atelier des Capucins 70.8, Brest, France. A day of encounter with researchers to discover underwater bioacoustics.

Articles in journals:

- ECR (early-career researchers) Spotlight JEB (Vol. 227, Issue 13). 2nd of July 2024. Mathilde Martin.
<https://doi.org/10.1242/jeb.248147>
- Inside JEB (Vol. 227, Issue 13). 2nd of July 2024. How Cape fur seal mums and pups reunite by ear.
<https://doi.org/10.1242/jeb.248167>
- Scoop.it! Life Sciences Université Paris-Saclay. October 2023. Variabilité dans la réponse comportementale des otaries à fourrure du Cap à l'exposition à du bruit de moteur de bateau entre différents sites d'étude en Namibie et en Afrique du Sud – Mathilde Martin.
- Conservation and the Environment in Namibia 2021. NCE. Conversations in the cacophony – Mathilde Martin, Isabelle Charrier, Simon Elwen and Tess Gridley.