

Dr. Maevatiana N. RATSIMBAZAFINDRANAHAKA, PhD

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SUMMARY

- Field Biologist & Bioacoustician with interdisciplinary skills spanning animal communication, social interactions, cognition, behavioral ecology, conservation biology, programming, signal processing, biostatistics, method development, and science communication.
- Advanced understanding of biologging techniques.
- Proven ability to tackle complex challenges with creative and effective solutions and with interdisciplinary teams, continuously exploring new approaches and solutions.
- Skilled in conveying complex scientific concepts clearly through various mediums.

SKILLS

- **Language** – Malagasy (native), French (fluent, second language), English (professional proficiency), German (basic).
- **Animal handling** – Small mammal handling (measurements and specimen preparation), Frog handling (measurements and marking), Whale tagging and blow-sampling, Whale crossbow biopsy.
- **Computational/Software** – Programming/Signal processing (MATLAB, R, Python), Infographic/3D modelling (Inkscape, Blender), GIS (QGIS, ArcGIS).
- **Other** – Drone piloting (2021 French National Drone Pilot License).

RESEARCH AND WORK EXPERIENCE

Max Planck Institute of Animal Behavior (Germany), Department for the Ecology of Animal Societies, Prof. Dr. Meg Crofoot's team

Postdoctoral Research fellow | July 2024 – present

- Leading research on vocal signaling and group behavior of Verreaux's Sifaka (*Propithecus verreauxi*).
- Developing the accelerometry-based and acoustic components of the team's project as part of a collaborative project aimed at understanding the Collective Ecology of Sifaka and Fossa.

Cétamada Association (Madagascar)

Research Associate | Jan 2024 – present

- Active member of the scientific team, contributing to the development and execution of the association's research program.
- Conducting research on humpback whales, focusing on behavior, communication, and conservation.

Centre for Studies and Expertise on Risks, the Environment, Mobility and Urban Planning – Cerema (France), Dr. Charlotte Curé's team

Contractual Researcher | Feb 2024 – May 2024

- Contributed to a collaborative project assessing the impact of anthropogenic noise on marine mammals.
- Calibrating and testing acoustic equipment, processing data from animal-borne tags, and conducting preliminary analyses.

SEDNA (France), Prof. Olivier Adam's team

Scientific crew – Weddell Sea Scientific Mission | Dec 2022 – Jan 2023

- Conducted visual and acoustic cetacean survey in the Weddell sea, Antarctica.
- Engaged in scientific mediation activities to promote research findings and raise awareness about marine conservation.

Paris-Saclay Institute of Neuroscience – NeuroPSI (France), Dr. Isabelle Charrier's team

PhD researcher | Oct 2020 – Dec 2023

- Led a research project on humpback whale mother-calf interactions in collaboration with the Zoology and Animal Biodiversity department, University of Antananarivo, and the Cétamada association, for the fulfillment of a PhD degree at Paris-Saclay University and University of Antananarivo (Supervisors: Dr. Isabelle Charrier, Prof. Olivier Adam, Prof. Aristide Andrianarimisa, and Dr. Chloé Huetz).
- Served as the field team leader during tagging campaigns in Sainte Marie, Madagascar (2021-2023), with the Cétamada Association.

Ecofauna association, Dr. Zafimahery Rakotomalala & Dr. Fano Ratsoavina's team

Consultant Biologist in Batracology | 2020

- Conducted rescue and monitoring missions for endangered Mantella frog species in Ambatovy, Madagascar.
- Involved in study design, fieldwork, data analysis, and technical reporting.

Madagasikara Voakajy Association, Raphali Andriantsimanarilafy's team

Research Assistant in Mammalogy | 2018

- Conducted species inventory of small mammals in the rainforest of Ambalaomby, Madagascar.
- Involved in fieldwork, data analysis, and technical report preparation.

Cétamada Association (MG)

Research Assistant in Cetology (Master's degree internship) | 2017 – 2019

- Led a personal research project on humpback whale mother-calf pairs for the fulfillment of a Master's degree at the University of Antananarivo (Supervisor: Dr. Emilienne Razafimahatratra).
- Participated in various fieldwork campaigns in Sainte Marie, Madagascar, including humpback whale blow sampling, crossbow biopsy, song and video recordings, playback experiments, tagging, and drone aerial monitoring.

- Engaged in scientific mediation activities, including oral presentations to tourists, operators, and whale watching guides.

EDUCATION

- **Double-Doctorate**, *Life Sciences and Health – Signaling and Integrated Networks in Biology*, Paris-Saclay University (France) & *Zoology – Life and Environmental Science*, University of Antananarivo (Madagascar), 2023
- **Master of Science**, *Animal Biology and Conservation*, University of Antananarivo (Madagascar), 2019
- **Licentiate**, *Organism and Ecosystem Biology*, University of Antananarivo (Madagascar), 2016

TEACHING AND MENTORING EXPERIENCE

Cerema (France)

PhD Student Mentor

- Mentored a first year PhD student in bioacoustics research, offering advice and support to address challenges in analyzing multi-sensor tag data.

Cétamada Association (Madagascar)

Field Intern Mentor and Supervisor

- Provided mentorship and supervision during fieldwork in Sainte Marie (2-3 interns per season), offering guidance on marine research methodologies and professional development.

Specialized Training Facilitator

- Trained a cohort of whale watching guides on marine mammal diversity, focusing on species identification, effective communication and ethical observation practices

Paris-Saclay Institute of Neurosciences (France)

Master's Student Supervisor

- Supervised a first year Master's student working on bioacoustics, providing guidance on acoustic analysis techniques and research methodologies.
- Offered support in data analysis, project development, and academic writing to ensure successful project completion.

University of Antananarivo (Madagascar)

Teaching Assistant

- Assisted in teaching undergraduate courses on animal diversity and classification, facilitating practical sessions and providing academic support.

AWARDS

Research Fellowships/Scholarships

- *Humboldt Postdoctoral Research Fellowship* (24 months), Alexander von Humboldt Foundation | 2024
- *ADI 2020 Scholarship* (18 + 12 months), IDEX Paris-Saclay | 2020

Research Grants

- *Best Student Presentation Award*, Society for Marine Mammalogy (SMM) | 2022
- *2021 SMM Research Grant* (1,400 USD), Society for Marine Mammalogy | 2021
- *MARG I: Marine Research Grant I* (7,000 USD), Western Indian Ocean Marine Science Association | 2021
- *ATBC Seed Grant 2021* (1,000 USD), Association for Tropical Biology and Conservation | 2021

Travel Grants

- *CATS Travel grant* (1,000 USD), Customized Animal Tracking Solutions | 2024
- *SMM International Travel Grant* (1,500 USD), Society for Marine Mammalogy (SMM) | 2024
- *IOC-UNESCO Travel Grant* (1,000 USD), UNESCO's Intergovernmental Oceanographic Commission | December 2019
- *Student Travel Grant Award* (800 USD), Society for Marine Mammalogy | December 2019
- *WIOMSA Travel Grant* (1,000 USD), Western Indian Ocean Marine Science Association | July 2019

PUBLICATIONS

Ratsimbazafindranahaka, M. N., Huetz, C., Saloma, A., Andrianarimisa, A., Charrier, I., & Adam, O. (2024). [Time budget and behavioral synchrony of humpback whale mother-calf pairs on a breeding ground in the southwestern Indian Ocean](#). *Marine Mammal Science*, e13129.

Ratsimbazafindranahaka, M. N., Huetz, C., Reidenberg, J. S., Saloma, A., Andrianarimisa, A., Charrier, I., & Adam, O. (2023). [Humpback whale suckling behavior: an insight into the mother-offspring strategy in mysticetes](#). *Behavioral Ecology and Sociobiology*, 77(8), 96.

Ratsimbazafindranahaka, M. N.*, Saloma, A.*, Martin, M., Andrianarimisa, A., Huetz, C., Adam, O., & Charrier, I. (2022). [Social calls in humpback whale mother-calf groups off Sainte Marie breeding ground \(Madagascar, Indian Ocean\)](#). *PeerJ*, 10, e13785. (*Co-first authors)

Ratsimbazafindranahaka, M. N., Huetz, C., Andrianarimisa, A., Reidenberg, J. S., Saloma, A., Adam, O., & Charrier, I. (2022). [Characterizing the suckling behavior by video and 3D-accelerometry in humpback whale calves on a breeding ground](#). *PeerJ*, 10, e12945.

Ratsimbazafindranahaka, M. N., Razafimahatratra, E., Mathevet, R., Adam, O., Huetz, C., Charrier, I., & Saloma, A. (2021). [Morphometric study of humpback whale mother-calf pairs in the Sainte Marie channel, Madagascar, using a simple drone-based photogrammetric method](#). *Western Indian Ocean Journal of Marine Science*, 20(2), 95-107.

CONFERENCES AND SEMINARS

Ratsimbazafindranahaka, M. N. Invited speaker. Mother-calf acoustic communication in humpback whales. [RAM-ANEXPLO-ZEFIX day 2024: Communication: an odyssey in the ocean of life](#), Montpellier, France, 28th Mar 2024.

Ratsimbazafindranahaka, M. N. Invited seminar. Who's talking? Vocal communication in humpback whale mother-calf pairs. *Zoology and Animal Biodiversity department, University of Antananarivo*, Antananarivo, Madagascar, 17th Jul 2023.

Ratsimbazafindranahaka, M. N., Huetz, C., Reidenberg, J. S., Andrianarimisa, A., Saloma, A., Adam, O., Charrier, I. Talk. Humpback whale suckling behavior in the breeding ground: duration, rate, spatial context, and activity context. [Humpback Whale World Congress 2023](#), Santo Domingo, Dominican Republic, 6–10th Mar 2023.

Ratsimbazafindranahaka, M. N. Invited seminar. An insight into the mother-offspring interactions in mysticetes: Humpback whale suckling behavior. *BEPS group, School of Natural Sciences, Bangor University*, Bangor, Wales, United Kingdoms, 20th Feb 2023.

Ratsimbazafindranahaka, M. N., Huetz, C., Reidenberg, J. S., Andrianarimisa, A., Saloma, A., Adam, O., Charrier, I. Poster. Using kinematic data from suction cup tags to identify suckling events in humpback whales: an opportunity to study mother calf behaviors comprehensively. [ASAB Winter Meeting 2022](#), Edinburgh, Scotland, United Kingdoms, 6–7th Dec 2022.

Ratsimbazafindranahaka, M. N., Huetz, C., Adam, O., Charrier, I. Poster. Characterizing the Nursing Behavior by Video and 3D-Accelerometry in Humpback Whales. [24th Biennial Conference on the Biology of Marine Mammals](#), Online, 1–5th Aug 2022.

Ratsimbazafindranahaka, M. N. Invited seminar. Machine Learning: concepts and applications in animal biology. *Zoology and Animal Biodiversity department, University of Antananarivo*. Antananarivo, Madagascar, 16th Jun 2022.

Ratsimbazafindranahaka, M. N., Huetz, C., Adam, O., Charrier, I. Talk. Characterizing the Nursing Behavior by Video and 3D-Accelerometry in Humpback Whales. [7th Bio-Logging Symposium](#), Online, 18–22nd Oct 2021.

Ratsimbazafindranahaka, M. N., Huetz, C., Andrianarimisa, A., Reidenberg, J. S., Saloma, A., Adam, O., Charrier, I. Talk. Characterizing the Nursing Behavior by Video and 3D-Accelerometry in Humpback Whales. [58th Annual Conference of the Animal Behavior Society](#), Online, 3–6th Aug 2021.

Ratsimbazafindranahaka, M. N., Huetz, C., Adam, O., Charrier, I. Identification et caractérisation du comportement d'allaitement par vidéo et accélérométrie 3D chez les baleines à bosse du canal de Sainte Marie, Madagascar. Talk. [50ème Colloque de la Société Française pour l'Etude du Comportement Animal](#), Online, 30th May–1st Jun 2021.

Ratsimbazafindranahaka, M. N., Razafimahatratra, E., Mathevet, R., Adam, O., Huetz, C., Charrier, I., Saloma, A. Swimming Dynamics of Humpback Whale (*Megaptera novaeangliae*) calves accompanied by their mother. Poster. [World Marine Mammal Conference 2019](#), Barcelona, Spain, 9–12th Dec 2019.

Ratsimbazafindranahaka, M. N., Razafimahatratra, E., Mathevet, R., Adam, O., Huetz, C., Charrier, I., Saloma, A. Swimming Dynamics of Humpback Whale (*Megaptera novaeangliae*) calves accompanied by their mother. Poster. [56th Annual meeting of the Association for Tropical Biology and Conservation](#), Antananarivo, Madagascar, 30th July–3rd Aug 2019.

Ratsimbazafindranahaka, M. N., Razafimahatratra, E., Mathevet, R., Adam, O., Huetz, C., Charrier, I., Saloma, A. Photogrammetric Analysis and Swimming Dynamics of Humpback Whale (*Megaptera novaeangliae*) calves accompanied by their mother. Poster. [11th WIOMSA Scientific Symposium](#), Réduit, Mauritius, 1–6th Jul 2019.

EXTRA-ACADEMICAL ACTIVITIES

IT and logistic manager of the Association of Scientific Students of Antananarivo FMSA | 2016 – 2017

Volunteer for the organization of the Mouse Lemur Workshop 2019, University of Antananarivo | 2019

Self-taught musician (Drummer)