Curriculum Vitae – M. Ny Aina Rakotoarivony
Department of Geography, Oklahoma State University
352 Social Sciences and Humanities, Stillwater, Oklahoma 74078
ny_aina.rakotoarivony@okstate.edu

My research interest focuses on using remote sensing to address ecological questions. I am currently focusing on using remote sensing, particularly imaging spectroscopy, coupled with *in situ* observations and modeling to assess invasive plants and their impacts on grassland ecosystems.

Education

Ecole Supérieure des Sciences Agronomiques	Antananarivo, Madagascar	Forestry and Environment	Agronomy Engineering	B.S.	2016
Ecole Supérieure des Sciences Agronomiques	Antananarivo, Madagascar	Environment – Territory and Development	Agronomy Engineering	Master 2	2018
Hungarian University of Agriculture and Life Sciences (former SZIE)	Gödöllő, Hungary	Soil and Water Conservation	Environmental Engineering	M.Sc.	2020
Oklahoma State University	Stillwater, Oklahoma, US		Geography	Ph.D.	2021-*present*

Appointments

08/2024 – *present* Teaching Assistant, Department of Geography, Oklahoma State University, Stillwater, US.
Topic: Remote Sensing lab

08/2021– *present* Research Assistant, Gholizadeh lab, Department of Geography, Oklahoma State University, Stillwater, US.
Theme: Using remote sensing to study invasive plants in grasslands

01/2020–06/2020 Graduate Student Researcher, Hungarian University of Agriculture and Life Sciences (former SZIE), Gödöllő, Hungary
Theme: Spatio-temporal variability assessment of water footprint of Maize in Rakos and Szilas stream watersheds area, Hungary

07/2017–02/2018 Graduate Student Researcher, Alaotra Resilience Landscape (AlaReLa), Madagascar
Theme: Modelization of wood demand and forest potentiality in Maningory watershed

Funded Grants

NASA FINESST Assessing the impacts of invasive plants on ecosystem characteristics using multi-scale imaging spectroscopy, Future Investigator **(FI) M. Ny Aina Rakotoarivony**, PI Hamed Gholizadeh, 01/01/2025 – 12/31/2027, $148,526.

Awards, Scholarships, and Honors

- Norris Conference Travel Award for 2023 – 2024, Department of Geography, Oklahoma State University, $1,000.
- Nebraska Chapter's J.E. Weaver Competitive Grants Program, 2022 – 2023, $1,500.
- Delores and Jerry Etter Graduate Research Scholarship, Tulsa Community Foundation, 2022 – 2023, $10,000.
- Norris Conference Travel Award for 2022 – 2023, Department of Geography, Oklahoma State University, $500.
- Robert F. Norris Scholarship for Outstanding First-Year Graduate Student, Department of Geography, Oklahoma State University, 2022, $2,500.
- Delores and Jerry Etter Graduate Research Scholarship, Tulsa Community Foundation, 2021 – 2022, $10,000.
- Food and Agriculture Organization (FAO) Scholarship with the Ministry of Agriculture of Hungary, 2018 – 2020, approx. $6,480.
- English Access Microscholarship Program by the US Embassy in Madagascar, 2010 – 2012.

Publications

Peer reviewed publications

Rakotoarivony, M. N. A., Gholizadeh, H., Hassani, K., McMahan, S., Struble, E., Fuhlendorf, S. D., Hamilton, R.G., & Bachelot, B. (2024). Using imaging spectroscopy to assess the impacts of invasive plants on aboveground and belowground characteristics. GIScience and Remote Sensing. 61(1). https://doi.org/10.1080/15481603.2024.2399388.

Gholizadeh, H., **Rakotoarivony, M. N. A.**, Hassani, K., Johnson, K. G., Hamilton, R. G., Fuhlendorf, S. D., Schneider, F. D., & Bachelot, B. (2024). Advancing our understanding of plant diversity-biological invasion relationships using imaging spectroscopy. Remote Sensing of Environment, 304, 114028. https://doi.org/10.1016/j.rse.2024.114028.

Rakotoarivony, M. N. A., Gholizadeh, H., Hammond, W. M., Hassani, K., Joshi, O., Hamilton, R. G., Fuhlendorf, S. D., Trowbridge, A. M., & Adams, H. D. (2023). Detecting the invasive *Lespedeza cuneata* in grasslands using commercial small satellite imagery. *International Journal of Remote Sensing*, 44(21), 6802–6824. https://doi.org/10.1080/01431161.2023.2275321.

Barros, V.D.D., Waltner, I., **Rakotoarivony, M. N. A.**, Halupka, G., Sándor, R., Kaldybayeva, D., Gelybó, G. (2022). SpatialAquaCrop, an R Package for Raster-Based Implementation of the AquaCrop Model. *Plants 11*, 2907. https://doi.org/10.3390/plants11212907.

Conference presentations

Rakotoarivony, M. N. A., Hassani, K., Kamaraj, N.P., Hamilton, R.G., Fuhlendorf, S. D., Bachelot, B., Gholizadeh, H. (2024). "Using imaging spectroscopy to assess the impacts of invasive plants on aboveground and belowground characteristics," American Geophysical Union (AGU) Fall Meeting, December 9–13, Washington D.C., US.

Rakotoarivony, M. N. A., Hassani, K., Kamaraj, N.P., Hamilton, R.G., Fuhlendorf, S. D., Bachelot, B., Gholizadeh, H. (2024). "Using imaging spectroscopy to assess the impacts of invasive plants on aboveground and belowground properties and productivity," International Association for Landscape Ecology – North American Regional Chapter (IALE), April 1–5, Oklahoma City, Oklahoma, US.

Rakotoarivony, M. N. A., Hassani, K., Zhai, L., Rossi, C., Gholizadeh, H. (2023). "Trait-based Species Distribution Modeling Using Airborne and Spaceborne Imaging Spectroscopy: A Case Study of Invasive Plants," American Geophysical Union (AGU) Fall Meeting, December 11–15, San Francisco, California, US.

Rakotoarivony, M. N. A., Hassani, K., McMillan, N.A., Kamaraj, N.P., Hamilton, R.G., Fuhlendorf, S.D., Bachelot, B., Gholizadeh, H. (2023). "Using remote sensing to determine the impact of invasive species on plant characteristics, soil properties, and primary productivity," Ecological Society of America (ESA) Fall Meeting, August 6–11, Portland, Oregon, US.

Rakotoarivony, M. N. A., Gholizadeh, H., Hassani, K., Hamilton, R.G., Fuhlendorf, S.D., Charles, M., Garrett, D., Friedman, M.S., Hammond, W.M., Trowbridge, A.M., Adams, H. D. (2022). "How Do Spatial and Spectral Resolutions Affect Our Ability to Detect Grassland Invasive Plants," American Geophysical Union (AGU) Fall Meeting, December 12–16, Chicago, Illinois, US.

Rakotoarivony, M. N. A., Gholizadeh, H., Friedman, M., McMillan, N.A., Hammond, W.M., Hassani, K., Sams, A.V., Charles, M.D., Garrett, D., Joshi, O., Hamilton, R.G., Fuhlendorf, S.D., Trowbridge, A.M., Adams, H.D. (2022). "Detecting an invasive species in grasslands using PlanetScope CubeSat time-series," Ecological Society of America (ESA) and Canadian Society for Ecology and Evolution (CSEE) Meeting, August 14–19, Montreal, Quebec, Canada.

Teaching Experience

- Guest speaker, 2024, Department of Geography, Oklahoma State University, GEOG/GLST 1713 class, Regions and Nations in Global Context: Madagascar and Sub-Saharan Africa.
- Guest lecturer, 2024, Department of Geography, Oklahoma State University, Seminar course GEOG 5001, Professional development: I shared my experience as a graduate student researcher and gave a talk on "Things I wish I had remembered and realized were important during graduate studies."
- Guest lecturer, 2023, Department of Geography, Oklahoma State University, Seminar course GEOG 5001, Professional development: I shared my experience as a graduate student researcher and gave a talk on "Things I wish I had remembered and realized were important during graduate studies."

Other Professional Development Activities

- ALEOS Hyperspectral/ Lidar Drone Training, Stillwater, Oklahoma, August 2024.
- Graduate Teaching Assistant Conference, Empowering Effective Teaching, Oklahoma State University, Stillwater, Oklahoma, August 2024.
- Spectral Ecology Summer School (SPEC School), March – July 2023.
- Environmental Data Science Summit, National Center for Ecological Analysis and Synthesis, February 2023.

Synergistic Activities

- Member of *Ikala STEM-Chapter America*, 2021 – *present*: Empowering the next generation of Malagasy women in STEM by sharing knowledge and expertise, organizing talk series, and assisting with providing financial support for selected graduate students in Madagascar.

- Mentor with *Stipendium Hungaricum Mentorship program, HOOK Hungary*, 2019 – 2020: Assisted ten freshman students with their administrative and educational tasks and helped them get used to Hungarian education system.
- Member of *Ikala STEM-Chapter Europe*, 2019 – 2021.
- Volunteer at *Malagasy Youth Biodiversity Network-Global*, 2016 – 2021: Spreading information related to biodiversity and increasing awareness of biodiversity loss through projects such as "Trees Project" conducted in public primary schools in Antananarivo, Madagascar.
- Leader of *KOLO EPP Project, Teach for Madagascar*, 2018: Leading and monitoring English teaching activities of Teach for Madagascar.

Professional membership

International Association for Landscape Ecology (IALE) – North America	2024 – *present*
Gamma Theta Upsilon (GTU)	2022 – *present*
American Geophysical Union (AGU)	2022 – *present*
Ecological Society of America (ESA)	2022 – 2023
American Society for Photogrammetry and Remote Sensing (ASPRS)	2022 – 2023